GLENN-COLUSA IRRIGATION DISTRICT

SPRING CREEK SIPHON REPLACEMENT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

COLUSA COUNTY
OCTOBER 2026

PREPARED FOR:
Glenn-Colusa Irrigation District
344 East Laurel Street, Willows, California 95988

PREPARED BY:
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ACRONYMS & ABBREVIATIONS

AB ---------- Assembly Bill
ARD ---------- Aquatic Resources Delineation
BMP ---------- Best Management Practices
BUOW ---------- Burrowing Owl
CalEEMod ---------- California Emissions Estimator Modeling (software)
CalFIRE ---------- California Department of Forestry and Fire
Cal/OSHA ---------- California Division of Occupational Safety and Health
CARB ---------- California Air Resources Board
CCAA ---------- California Clean Air Act
CCAPCD ---------- Colusa County Air Pollution Control District
CCR ---------- California Code of Regulations
CDFW ---------- California Fish and Wildlife
CEQA ---------- California Environmental Quality Act
CFC ---------- chlorofluorocarbons
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 ---------- Carbon Monoxide
CO_2 ---------- Carbon dioxide
Cortese ---------- Hazardous Waste and Substances Sites List
County ---------- Colusa County
Creek ---------- Siphon Creek
CRHR ---------- California Register of Historical Resources
DOC ---------- Department of Conservation
DTSC ---------- Department of Toxic Substances Control
EIR ---------- Environmental Impact Report
°F ---------- Fahrenheit
FEMA ---------- Federal Emergency Management Agency
FMMP ---------- Farmland Mapping and Monitoring Program
FRAQMD ---------- Feather River Air Quality Management District
GCID ---------- Glenn-Colusa Irrigation District
GGS ---------- Giant Garter Snake
GHG ---------- Greenhouse Gas
GSA ---------- Groundwater Sustainability Agency
GSP ---------- Groundwater Sustainability Plan
GWP ---------- Global Warming Potential
HDPE ---------- High Density Polyethylene
HFC ---------- hydrofluorocarbons
I-5 ---------- Interstate 5
IPaC ---------- (USFWS) Information for Planning and Consultation system
IS ---------- Initial Study
IS/MND ---------- Initial Study/Mitigated Negative Declaration
ITP ---------- Incidental Take Permit
MMRP ---------- Mitigation Monitoring and Reporting Program
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
NO_2 ---------- Nitrogen dioxide
NOx ---------- Oxides of nitrogen
NRHP ---------- National Register of Historic Places
OHP ---------- California Office of Historic Preservation
OHWM ---------- ordinary high water mark
O_3 ---------- Ozone
Pb ---------- Lead
PCAQCD ---------- Place County Air Quality Control District
PFC ---------- perfluorocarbons
PG&E ---------- Pacific Gas & Electric
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 ---------- Spring Creek Siphon Project
ROG ---------- Reactive Organic Gases
RWQCB ---------- Regional Water Quality Control Board
Siphon ---------- Spring Creek Siphon
SLF ---------- Sacred Lands File Search
SO_2 ---------- Sulfur Dioxide
SR ---------- State Route
SRA ---------- State Responsibility Area
SVAB ---------- Sacramento Valley Air Basin
SWHA ---------- Swainson's hawk
SWPPP ---------- Storm Water Pollution Prevention Plan
SWRCB ---------- State Water Resources Control Board
USEPA ---------- United States Environmental Protection Agency
USFWS ---------- United States Fish and Wildlife Service
USGS ---------- United States Geological Survey
UST ---------- underground storage tank
WEAP ---------- Worker Environmental Awareness Program

CHAPTER 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) to address the potential environmental impacts of the Glenn-Colusa Irrigation District Spring Creek Siphon Replacement Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. GCID is the CEQA lead agency for the proposed Project.

The site and the proposed Project are described in detail in Chapter 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, a 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 Chapter 1 Introduction, provides an overview of the proposed Project and the CEQA process Chapter 2 Project Description, provides a detailed description of proposed Project components and objectives. Chapter 3 Determination, the Lead Agency's determination based upon this initial evaluation. Chapter 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 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 Mitigation, Monitoring, and Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The Air Quality and Greenhouse Gas Emissions CalEEMod Model, Biological Evaluation, and Cultural Resources Inventory Report, are provided as technical Appendix A, Appendix B, and Appendix C, respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 PROJECT TITLE

Glenn-Colusa Irrigation District Spring Creek Siphon Replacement Project

2.1.2 LEAD AGENCY NAME AND ADDRESS

Glenn-Colusa Irrigation District
344 East Laurel Street
Willows, California 95988

2.1.3 CONTACT PERSON AND PHONE NUMBER

Jeffrey P. Sutton
Glenn-Colusa Irrigation District General Manager
(530) 934-8881

2.1.4 CEQA CONSULTANT

Provost & Pritchard Consulting Group
Briza Grace Sholars, Environmental Project Manager
(559) 449-2700

2.1.5 PROJECT LOCATION

The proposed Project is located in Colusa County, California, approximately 55 miles northwest of Sacramento and 45 miles southwest of Chico (see Figure 2-1 and Figure 2-2). The Project site is located on Assessor's Parcel Number(s) 016-130-008, 016-300-004, 016-300-010, and 016-280-022. The centroid of the Project site is 39° 07' 58.82" N, 122° 11' 22.62" W. The Project site for the proposed Project is approximately 5.4 acres in size, which includes the siphon site, all construction staging, and access areas needed for construction equipment.

2.1.6 GENERAL PLAN DESIGNATION AND ZONING

Table 2-1: General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	AG – Agricultural General	EA – Exclusive Agriculture
ADJACENT LANDS	AG – Agricultural General	EA – Exclusive Agriculture

2.1.7 DESCRIPTION OF THE PROJECT

2.1.7.1 PROJECT BACKGROUND AND PURPOSE

Glenn-Colusa Irrigation District (GCID) 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's office is based in Willows, the county seat of Glenn County, approximately 90 miles north of Sacramento along Interstate 5 (I-5). 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.

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 Glenn-Colusa Canal (Main 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.

2.1.7.2 PROJECT PURPOSE

GCID proposes the Spring Creek Siphon Replacement Project (proposed Project) to replace the existing Spring Creek Siphon in order to improve long-term water supply reliability and reduce ongoing needed maintenance. The existing aging structure is beyond its useful life and has experienced several significant leakage events in recent years, requiring repeated temporary repairs. Failure of the siphon would cut off water supply to a substantial portion of productive agricultural lands in the District. The siphon is located along the GCID Main Canal, approximately 2.5 miles southwest of the City of Williams. The siphon conveys irrigation flows across (below) the Spring Creek (Creek) natural channel and is used as a safety spill to prevent Main Canal water levels from increasing beyond the design elevation. An existing headgate and pipeline deliver water into Spring Creek for irrigation deliveries downstream. Given that the Spring Creek Siphon serves as critical infrastructure for delivering water into the District, GCID aims to be proactive and replace it before a major problem occurs and to avoid the repeated repairs, ongoing maintenance activities, or failure of the structure itself.

2.1.7.3 PROJECT DESCRIPTION

The District is proposing the construction of a new siphon to replace the existing siphon, as well as the associated facilities, in the same approximate current location along the Main Canal. The initial phase would involve clearing and grubbing any vegetation present within the Project work area. The next phase would include the demolition and removal of the existing siphon, inlet and outlet headwalls and wingwalls, and Spring Creek headgate and pipeline. Prior to commencing the demolition and removal, a bypass would be constructed for Spring Creek. While the Canal would be dry during construction, the proposed construction window occurs during the Creek's peak winter flows. A temporary bypass channel would be built to divert flows around the work site and back into Spring Creek so as to not impact the Creek's water flow. The bypass would be constructed as an earthen channel with a High-Density Polyethylene (HDPE) lining. 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 when necessary.

Construction of the new, concrete structure would occur after the bypass is operational and the demolition is complete. The siphon would then be built by excavating an open trench for the cast-in-place concrete box siphons to be constructed. New inlet and outlet headwalls and wingwalls as well as the Spring Creek headgate and pipeline would also be constructed. An overflow weir will be incorporated into the upstream south wingwall with a side channel and pipeline to Spring Creek (shared pipeline with the Spring Creek headgate). Subsequent to installation, the trench would be backfilled. Rock slope protection would be placed within the channel to further prevent scour and erosion around the newly constructed siphon and associated facilities. Once these construction steps are completed, Spring Creek would be returned to its original alignment with the Main Canal flows to run below the Creek.

Earthwork cut and fill volumes are expected to approximately balance on site after construction. The Project site is approximately 5.4 acres including the structure footprint, construction staging, and access. The staging area would be located northeast of the structure construction near the bank of the Main Canal.

The proposed Project includes standard practices and best management practices to avoid or minimize cultural resources impacts and would be required to follow all applicable federal, State, and local requirements set for the existing built environment and 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.

2.1.7.4 CONSTRUCTION

An existing, District-maintained gravel road that runs along the Main Canal would be used for access to the Project site and would not require additional improvements. Construction would take place over the course of approximately six months beginning in the Fall 2027. This period coincides with the District's winter shutdown period before needing to, again, deliver water to landowners.

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

- Excavators,
- Backhoes,
- Bulldozers,
- Graders,
- Skid steers,
- Loaders,
- Compactors,
- 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, in the adjacent field northeast of the existing canal.

2.1.7.5 OPERATION AND MAINTENANCE

Operation and maintenance of the siphon 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 other similar District structures.

2.1.8 SITE AND SURROUNDING LAND USES AND SETTINGS

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

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Agriculture	AG – Agricultural General	EA – Exclusive Agriculture
EAST	Agriculture; Canal	AG – Agricultural General	EA – Exclusive Agriculture
SOUTH	Agriculture	AG – Agricultural General	EA – Exclusive Agriculture
WEST	Agriculture; Canal	AG – Agricultural General	EA – Exclusive Agriculture

2.1.9 OTHER PUBLIC AGENCIES WHOSE APPROVAL MAY BE REQUIRED

Approvals and discretionary permits that may be required:

- State Water Resources Control Board
- California Department of Fish and Wildlife
- Colusa County Air Pollution Control District
- United States Fish and Wildlife Service
- United States Army Corps of Engineers

2.1.10 CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

Public Resources Code Section 21080.3.1, *et seq. (codification of Assembly Bill (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 notice, 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. See Tribal Cultural Resources Section 4.18 for additional information.

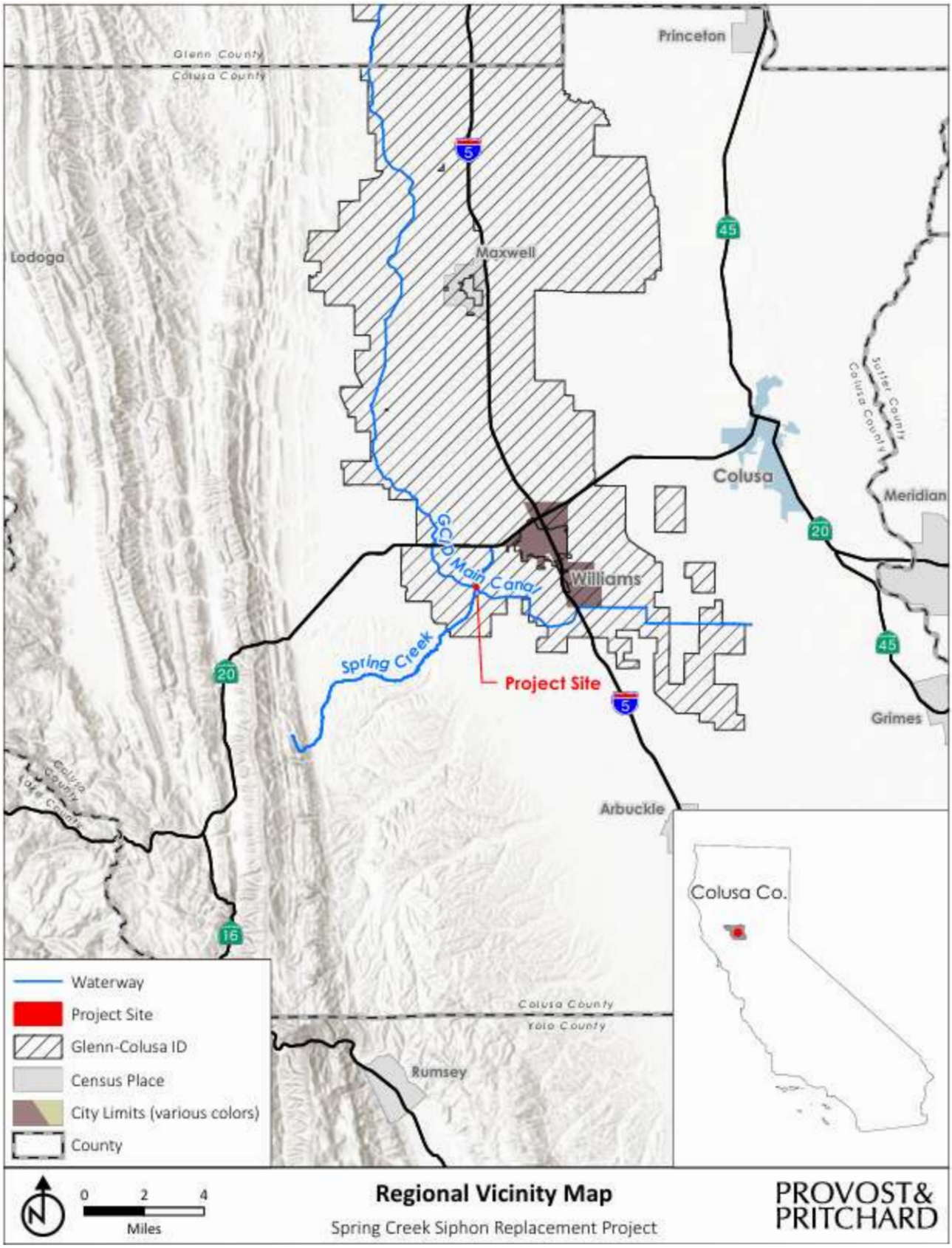


Figure 2-1: Regional Location Map



Figure 2-2: Aerial Site Map

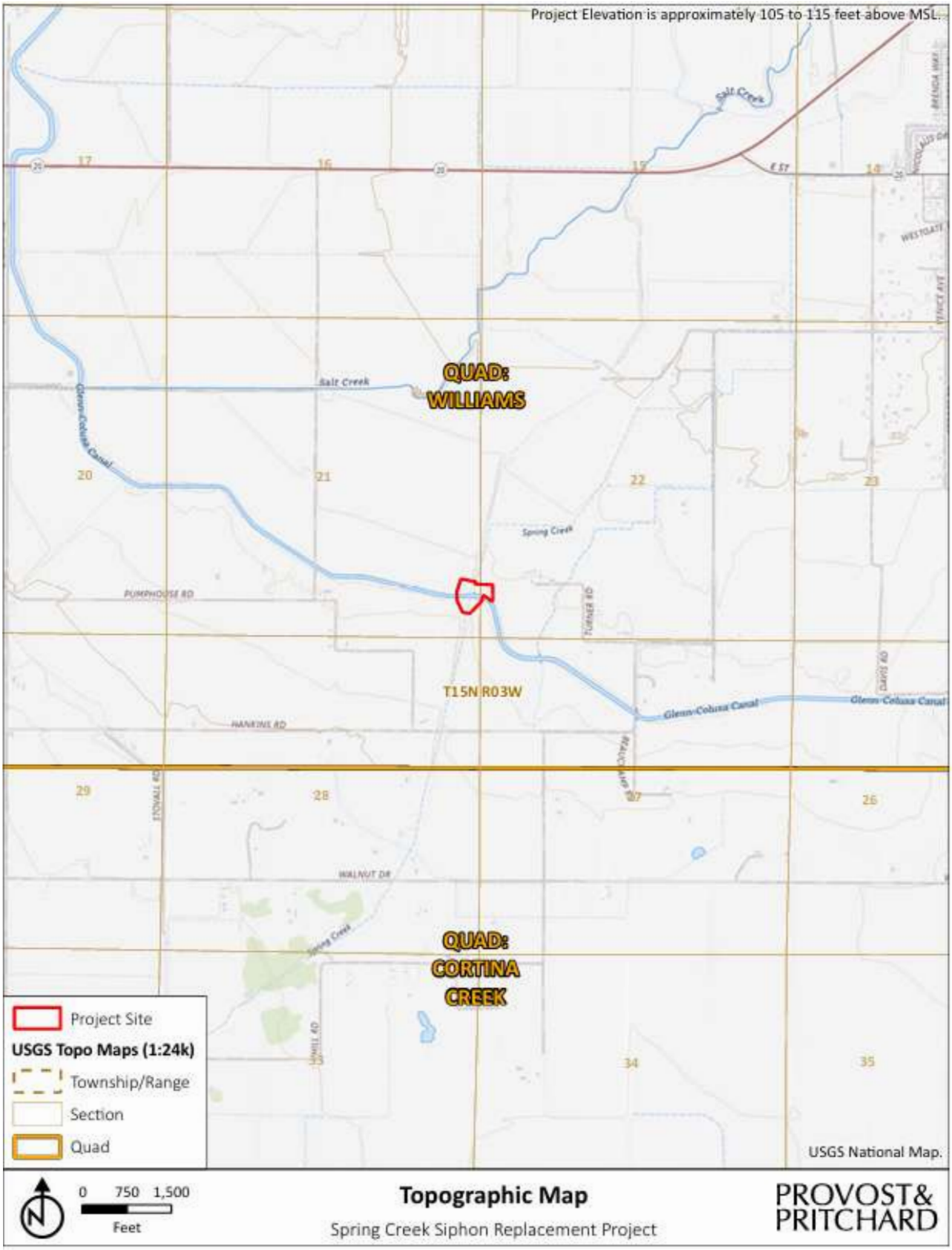


Figure 2-3: Topo Quad Map

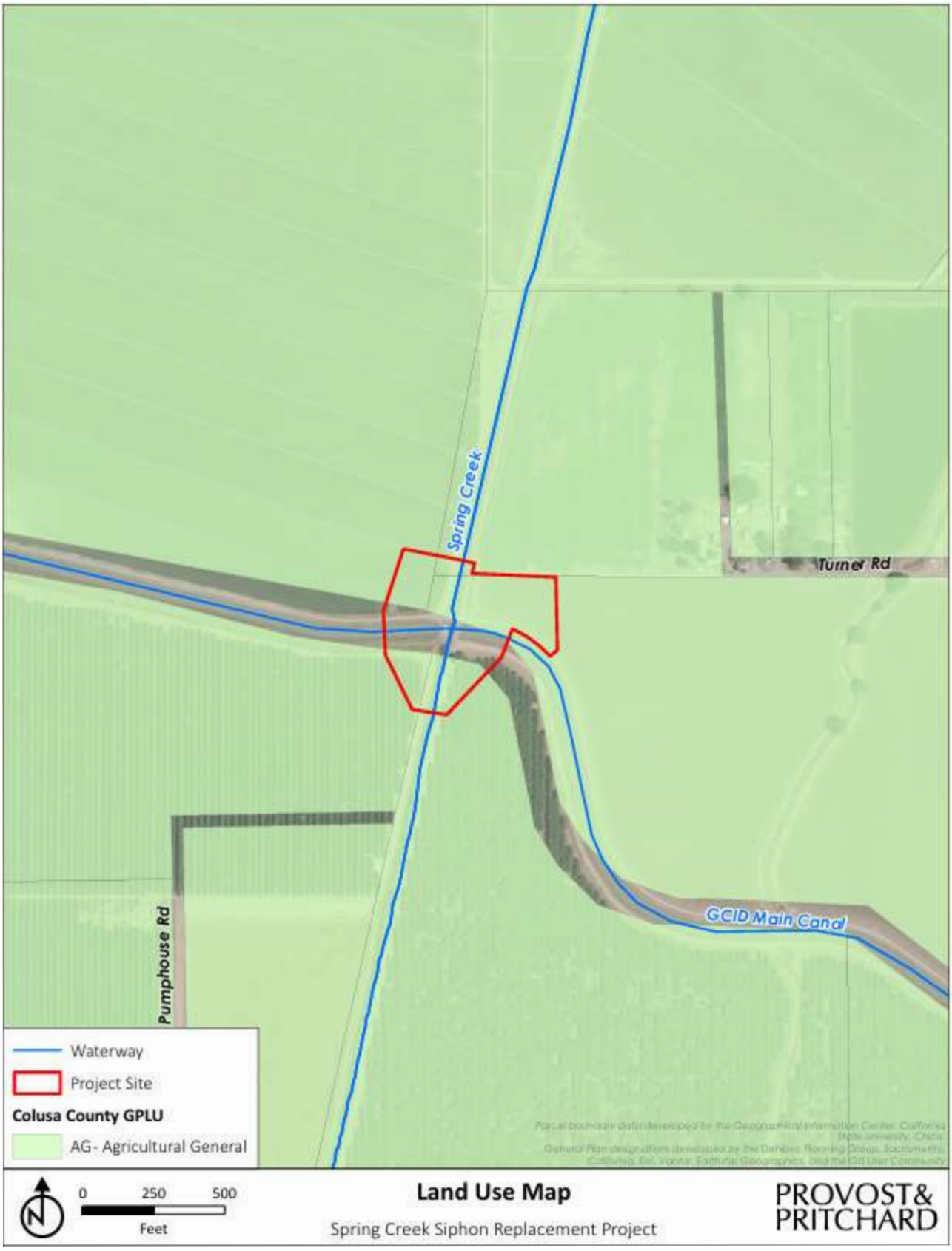


Figure 2-4: General Plan Land Use Designation Map



Figure 2-5: Zone District Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions and impact analyses that follow 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.

RJ Mattson — 10-7-26

Signature — Date

Brad Mattson Asst General Manager

Printed Name/Position

CHAPTER 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, agricultural infrastructure, and very sparse rural residences. As such, scenic features in the area mainly include the vast expanse of agricultural uses; however, there are also distant views of the Mendocino National Forest to the west. In the County, portions of State Route (SR) 16 and SR 20 have been designated by Caltrans as "Eligible" to be a "State Scenic Highway;" however, the closest section is approximately 12 miles southwest of the Project site.[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 Spring Creek Siphon would be constructed at approximately the same level as the existing siphon structure, resulting in no potential views being newly obstructed due to the proposed Project. As such, the proposed Project would not obstruct the viewshed of a scenic vista during construction or implementation. 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. The proposed Project activities would be taking place approximately 12 miles northeast of the closest eligible or officially designated State Scenic Highway segment and, as such, do not have the potential to cause any adverse effects.[2] Moreover, the Project site is not visible from the segment. In addition, 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. 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 an access road, the Glenn-Colusa Canal, Spring Creek, and agricultural lands. The site and surrounding lands are zoned for agriculture and are located in rural Colusa County. The new Spring Creek Siphon 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. 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.

[2] Ibid.

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.

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 Department of Conservation's (DOC) 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, summarized below:[3]

- 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.

[3] (California Department of Conservation 2016)

- 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 California DOC designates the Project site as Unique Farmland and Farmland of Local Importance surrounding the Glenn-Colusa Canal, as shown in Figure 2-4.[4]

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 land currently under Williamson Act.

4.2.2 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 California DOC designates the Project site as Unique Farmland and Farmland of Local Importance.[5] However, the proposed Project would replace the existing siphon that serves to help District

[4] (California Department of Conservation, 2022)
[5] Ibid.

operations of providing irrigation water to growers in the area. As such, the proposed Project would not convert such lands but, rather, would encourage continued agricultural use in the area. There would be no impact.

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 on the Project site. 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 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 as it would simply replace the existing siphon. 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.

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

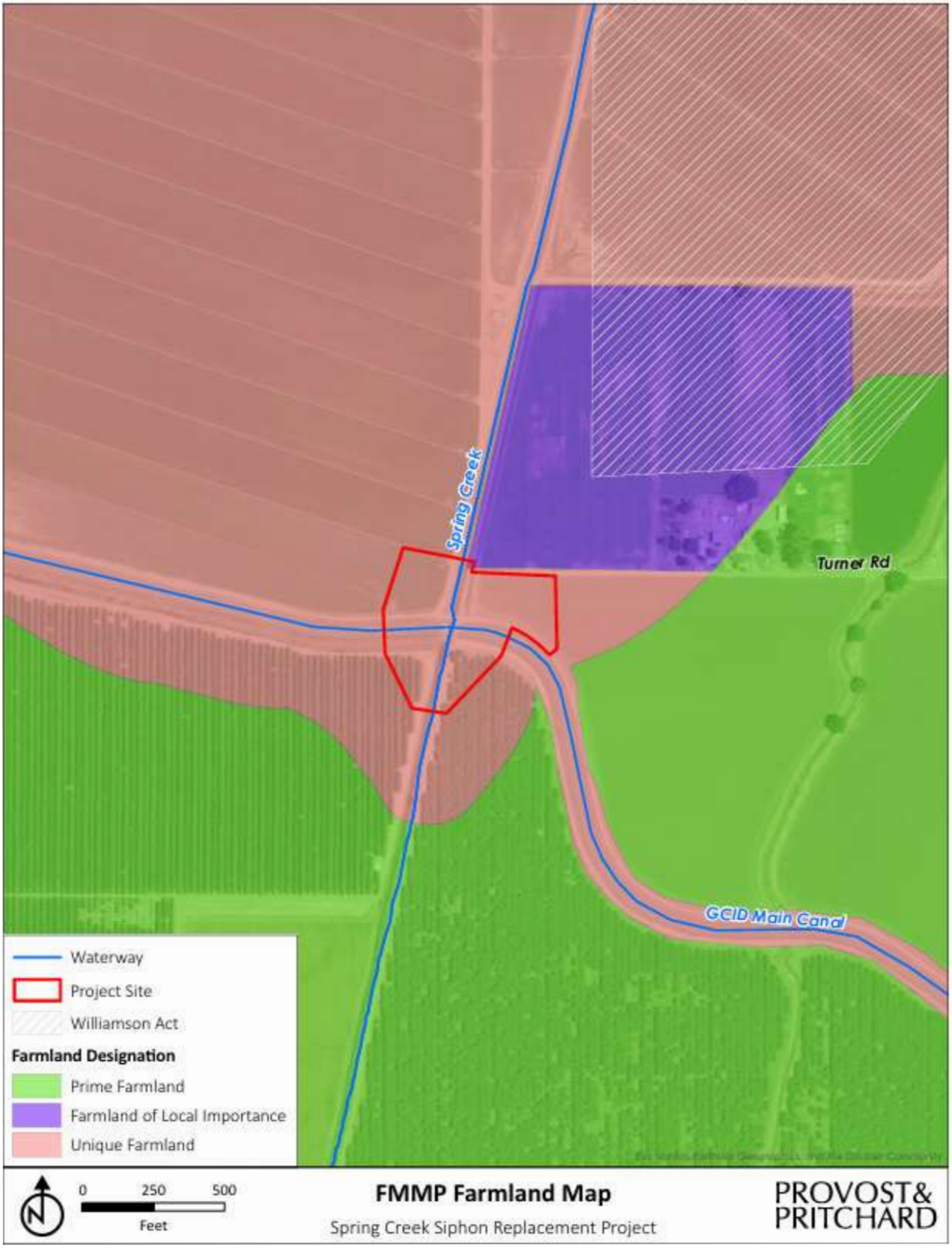


Figure 4-1: Farmland Designation Map

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, carbon monoxide (CO), and nitrogen dioxide (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (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 (see Table 4-4).[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 [July 2026].*
****Secondary Standard*
Source: CARB 2015.

4.3.1.2 THRESHOLDS OF SIGNIFICANCE

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

[7] (United States Environmental Protection Agency 2023)

Management District (FRAQMD) have been utilized as the applicable thresholds for the proposed 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 are contained in Table 4-5, below.

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

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 CONSTRUCTION-GENERATED EMISSIONS

Construction of the proposed Project is assumed to be completed over approximately six months. Emissions associated with the proposed Project were calculated using California Emissions Estimator Modeling (CalEEMod) Air Quality Model, Version 2022.1. 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. Operational emissions of the proposed Project would be considered negligible due to the type of improvements proposed. The replacement of existing infrastructure with the new infrastructure would result in emissions that would be similar to or less than existing emissions due to newer, more efficient infrastructure. Replacing the existing, aging structure would reduce the need for ongoing maintenance such as those that have resulted from several significant leakage events in recent years, which required repeated temporary repairs of the existing siphon. Moreover, water conveyance infrastructure does not generate emissions continuously. Operational emissions would result from pumping and conveyance related activities utilizing gates, valves, and other related infrastructure. 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. Modeling assumptions and output files are included in Appendix A.

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	0.0975	0.852	1.0653	0.0018	0.1662	0.0865
FRAQMD Threshold	*4.5*	*4.5*	-	-	-	-
Threshold Exceeded?	No	No	N/A	N/A	No	N/A

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

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction (Occurs Only over Winter)	3.1199	28.045	29.045	0.0489	18.8251	9.9740
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 have been set by the CCAPCD or FRAQMD (see Table 4-6 and Table 4-7). 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 compared to existing conditions due to newer, more efficient infrastructure. As mentioned, replacing the existing, aging structure would reduce ongoing needed maintenance resulting from several significant leakage events in recent years that required repeated temporary repairs of the existing siphon. Moreover, water conveyance infrastructure does not generate emissions continuously. Operational emissions would result from pumping and conveyance related activities utilizing gates, valves, and other related infrastructure, consistent with existing operations functions. 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?

Less than Significant 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 500 feet from the nearest potential sensitive receptor, a residence east of the Project site. Operational emissions would be similar to or lower than existing conditions due to the nature of the proposed Project involving replacement of an existing siphon. Therefore, impacts would be less than significant.

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

Less than Significant Impact. Heavy-duty equipment in the Project area during construction could emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after construction is completed. No other sources of objectionable odors have been identified for the proposed Project. The proposed Project operations are not anticipated to emit any objectionable odors. Moreover, the proposed Project is in a rural, agricultural-focused area with few people anticipated to be near the siphon on a routine basis, and only one residence near (approximately 500 feet) the Project site. Therefore, the Project would not result in emissions, including those leading to objectionable odors, affecting a substantial number of people. There would be a less than significant 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

A reconnaissance-level field survey of the Project site was conducted on July 15, 2026, by a Provost & Pritchard biologist. The survey consisted of walking and driving throughout the Project site and visually surveying areas outside of the site while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Habitats were also assessed to help with determining if they could be suitable for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in Appendix B. The pedestrian survey was conducted on the approximately 5.4 acre Project site.

4.4.1.1 TOPOGRAPHY

The Project site is located within the *Williams* United States Geological Survey (USGS) 7.5-minute quadrangle at the southeast corner of Section 21 and the southwest corner of Section 22, Township 15 North, Range 3 West. The topography of the Project site is relatively flat with elevations ranging from approximately 106 to 124 feet above mean sea level, with the onsite waterways were 6 – 12 feet lower than the surrounding areas.

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 98-degrees Fahrenheit (°F), but do not often exceed 105 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, the City of Williams receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between October 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 convergence of Glenn-Colusa Canal and Spring Creek near the center of the Project site. Two unnamed irrigation ditches are also present within the Project site, one of which is south of the Glenn-Colusa Canal and the other is east of Spring Creek.

The headwaters for Spring Creek are located at La Coma Tallac and flow northeast down from the mountain into cropland. Once within cropland, Spring Creek intercepts the Glenn-Colusa Canal, where the Project activities will occur. Shortly after, Spring Creek branches into multiple smaller irrigation ditches.

The Glenn-Colusa Canal starts at the Sacramento River and flows southwest until intercepting Spring Creek. From there, the Glenn-Colusa Canal flows east until it branches into various irrigation ditches.

4.4.1.4 SOILS

Two soil mapping units representing one soil type and water were identified within the Project site and are listed in the table below. The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. The soils are primarily used for crops including rice and sugar beets.

Table 4-9: List of Soils Located on the Site and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Willows	Silty clay, 0 to 1 percent slopes, occasionally flooded	69.6	Predominantly Hydric	Poorly drained	Very low to moderately low	Low
	Silty clay, 0 to 1 percent slopes	16.8	Predominantly Hydric	Poorly drained	Very low to moderately low	Low
Wat	-	13.6	-	-	-	-

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. Hydric soil ratings are derived from specific soil properties as well as climate, parent material, vegetation, landform type, and biological activity of a certain location. Both of the major soil mapping units are predominately hydric and make up 86.4% of the site. Water identified on the site is within the Glenn-Colusa Canal and makes up 13.6% of the site.

4.4.1.5 BIOTIC HABITATS

Five biotic habitats were observed within the Project site and included agriculture, canal, riverine, ditch, and ruderal. These habitats and their constituent plant and animal species are described in more detail in the following sections.

4.4.1.5.1 AGRICULTURE

The agricultural habitat within the Project site is composed of submerged rice (*Oryza sativa*) fields and other cropland that was recently tilled prior to the survey. Vegetation was present along the outer boundaries of this habitat type and included field bindweed (*Convolvulus arvensis*), Johnson grass (*Sorghum halepense*), prickly lettuce (*Lactuca serriola*), puncture vine (*Tribulus terrestris*), round leaf mud plantain (*Heteranthera rotundifolia*), and dried, unidentifiable grasses (*Poaceae*).

Wildlife was observed foraging at this habitat and included house finches (*Haemorhous mexicanus*), house sparrows (*Passer domesticus*), yellow-billed magpies (*Pica nuttallii*), and hoverflies (*Syrphidae*). The inundated rice fields provide habitat for giant garter snakes (*Thamnophis gigas*), which are known to occur within the region, and as a water source for a variety of terrestrial species such as birds, mammals, reptiles, and insects. The other types of cropland within and adjacent to the Project site are heavily disturbed by agricultural activities and provide little value to wildlife outside of foraging use.

4.4.1.5.2 CANAL

The canal habitat includes the Glenn-Colusa Canal, which bisects the Project site west to east. Vegetation found along the banks included cheeseweed (*Malva parviflora*), horseweed (*Erigeron canadensis*), Italian thistle (*Carduus pycnocephalus*), Johnson grass, milk thistle (*Silybum marianum*), prickly lettuce, ribwort plantain (*Plantago lanceolata*), rose clover (*Trifolium hirtum*), and short-pod mustard (*Hirschfeldia incana*). Long leaf pondweed (*Potamogeton nodosus*) was present within the channel during the survey. An Aquatic Resources Delineation (ARD) was performed on this Glenn-Colusa Canal to determine the Ordinary High Water Mark (OHWM) and potential jurisdictional limits.

Wildlife observed at this habitat included a black phoebe (*Sayornis nigricans*) and a variety of dragonflies (*Anisoptera*) and damselflies (*Zygoptera*). The canal habitat within the Project site provides moderate habitat to a variety of wildlife, year-round. This habitat likely provides foraging opportunity and acts as a water source for birds and raptors during the day and similarly for bats, coyotes, and other nocturnal animals at night.

4.4.1.5.3 RIVERINE

The riverine habitat was mapped along the top of bank for Spring Creek, which bisects the Project site south to north. Vegetation found along the banks was similar to the canal habitat and included California wild oat (*Avena fatua*), cheeseweed, horseweed, Italian thistle, Johnson grass, milk thistle, prickly lettuce, ribwort plantain, rose clover, short-pod mustard, tall flatsedge (*Cyperus eragrostis*), and dried, unidentifiable grasses. No trees or shrubs were present along the waterway outside of a sapling tree of heaven (*Ailanthus altissima*), which was not large enough to provide canopy cover over Spring Creek. An ARD was performed on the Glenn-Colusa Canal anal to determine the OHWM and potential jurisdictional limits.

The survey of the riverine habitat resulted in the observation of a snowy egret (*Egretta thula*), dragonflies, and damselflies. While Spring Creek was very channelized and surrounded by active cropland, Spring Creek can still provide reproductive and mobility opportunity for aquatic herpetofauna. Like the canal habitat within the Project site, various bird and mammal species can utilize Spring Creek for foraging and as a water source.

4.4.1.5.4 DITCH

The ditch habitat includes two irrigation ditches within the Project site, and both contained water during the survey. Vegetation in this section of the Project site included curly dock (*Rumex crispus*), horseweed, short pod mustard, water primrose (*Ludwigia peploides*), and dried, unidentifiable grasses. The survey of the ditch habitat did not result in the observation of any wildlife species.

4.4.1.5.5 RUDERAL

The ruderal habitat of the site contained the existing siphon, hard packed dirt access roads, the bridge suspended over Spring Creek, and the adjacent mowed/bare areas along the Glenn-Colusa Canal, Spring Creek, and agricultural areas. Vegetation in this section of the site included alfalfa (*Medicago sativa*), field bindweed, perennial ryegrass (*Lolium perenne*), prickly lettuce, and dried, unidentifiable grasses. Small mammal burrows and a singular red swamp crawfish (*Procambarus clarkii*) carcass was observed along the access roads. Killdeer (*Charadrius vociferus*), yellowjackets (*Vespinae*), and western honeybees were present within this habitat type.

4.4.1.6 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 (see Section 4.4.1.9), these natural communities of special concern can be found within the CNDDB. There are no recorded observations of a natural community of special concern mapped within the site, and no natural communities of special concern were observed during the field survey.

4.4.1.7 DESIGNATED CRITICAL HABITAT

The United States Fish and Wildlife Services (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's Information for Planning and Consultation System (IPaC), designated critical habitat is absent from the Project site.

4.4.1.8 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. Spring Creek, Glenn-Colusa Canal, and ditches within the Project site can act as a corridor for aquatic wildlife, while the bridge and access roads provide dispersal access for terrestrial species.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The waterways within the Project site including Spring Creek, Glenn-Colusa Canal, and irrigation ditches (when water is present) can be used as wildlife nursery sites for amphibian species such as Sierran treefrogs (*Pseudacris sierra*) and western toads (*Anaxyrus boreas*) as well as invertebrates who reproduce in water such as dragonflies and damselflies.

4.4.1.9 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 habitats 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 mechanisms 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 maintains a 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 *Williams* USGS 7.5-minute quadrangle that contains the site and for the eight surrounding USGS quadrangles: *Arbuckle*, *Colusa*, *Cortina Creek*, *Manor Slough*, *Maxwell*, *Moulton Weir*, *Salt Canyon*, and *Sites*. A query of the IPaC was also completed for the Project site. These species, and their potential to occur within the Project site, are listed in Table 4-10 and Table 4-11. 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 4-10 and Table 4-11. Species lists obtained from CNDDB and IPaC are available in Appendix B.

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

Species	Status*	Habitat	Occurrence within the Site
Adobe-lily (*Fritillaria pluriflora*)	CNPS 1B	Found in chaparral, cismontane woodland, valley, and foothill grasslands. Usually on clay soils; sometimes serpentine. Found at elevations between 145 and 3,100 feet. Blooms February –April.	**Absent.** The Project site does not provide suitable habitat to support this species.
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.	**Absent.** The Project site does not provide suitable habitat to support this species.
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.** The Project site does not provide suitable habitat to support this species.
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 May – September.	**Absent.** The Project site does not provide suitable habitat and is outside the current known elevational range of this species.

Species	Status*	Habitat	Occurrence within the Site
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadow or annual grassland habitats at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** The Project site does not provide suitable habitat to support this species.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin 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.** The Project site does not provide suitable habitat to support this species.
Colusa layia (Layia septentrionalis)	CNPS 1B	Found in chaparral, cismontane woodland, valley, and foothill grasslands. Generally occurs on grassy slopes in sandy or serpentine soil at elevations between 50 and 3,600 feet. Blooms April – June.	**Absent.** The Project site does not provide suitable habitat to support this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pool and playas in grassland habitats at elevations below 4,500 feet. Blooms April – May.	**Absent.** The Project site does not provide suitable habitat to support this species.
Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*)	CNPS 1B	Found in meadows, seeps, valley grasslands, 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 March – June.	**Absent.** The Project site does not provide suitable habitat to support 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 in grassland or openings in chaparral at elevations between 580 and 3,300 feet. Blooms April – June.	**Absent.** The Project site does not provide suitable habitat and is outside the current known elevational range of this species.
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 Project site does not provide suitable habitat and is outside the current known elevational range of 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.** The Project site does not provide suitable habitat to support this species.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	CNPS 1B	Found in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley, and foothill grassland. Occurs in vernally mesic, often alkaline sites at elevations below 1,310 feet. Blooms June – October.	**Absent.** The Project site does not provide suitable habitat to support this species.

Species	Status*	Habitat	Occurrence within the Site
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	CNPS 1B	Found in chaparral, cismontane woodland, meadows and seeps, valley grasslands, and foothill grasslands. Often found on serpentine soil at elevations from 65 and 3,000 feet. Blooms April – June.	**Absent.** The Project site does not provide suitable habitat to support this species.
San Joaquin spearscale (*Extriplex joaquinana*)	CNPS 1B	Found in alkali wetlands, sinks, and scrublands in the San Joaquin Valley and Delta-Bay region of California. Associated with *Distichlis spicata*, *Frankenia*, and other scrub species at elevations below 1,200 feet. Blooms April – September.	**Absent.** The Project site does not provide suitable habitat to support this species.
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 Project site does not provide suitable habitat and is outside the current known elevational range of this species.
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.** The Project site does not provide suitable habitat to support this species.
Water star-grass (*Heteranthera dubia*)	CNPS 2B	Found in marshes and swamps in alkaline, 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.	**Absent.** The Project site does not provide suitable habitat to support this species.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	CNPS 2B	Found in marshes and swamps, riparian forest, meadows and seeps, and vernal pools. Occurs in mud flats of vernal lakes, drying riverbeds, and alkali meadows at elevations below 1,640 feet. Blooms May – September.	**Absent.** The Project site does not provide suitable habitat to support this species.

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

Species	Status*	Habitat	Occurrence within the Site
American badger (*Taxidea taxus*)	CSSC	Prefers 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.	**Unlikely.** The Project site and surrounding areas are frequently cultivated agricultural lands that are unsuitable for this species. An American Badger could potentially pass through the Project site, but it is unlikely they would forage or live within the area. No large burrows or dens were observed during the survey. The nearest recorded observation of this species within the vicinity was a carcass resulting from a vehicle strike observed in 2016 approximately 2.8 miles northeast of the Project site along Interstate 5.
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	**Unlikely.** While this species can possibly use the area to forage, large trees for nesting were absent from within and adjacent to the Project site. The nearest recorded observation of this species

Species	Status*	Habitat	Occurrence within the Site
		and winters along ocean shores, lake margins, and rivers.	within the vicinity was an active nest observed approximately 15.2 miles northeast of the Project site near the Sacramento River during 2014.
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.** While this species could potentially forage from the various waterways within the Project site, no vertical banks or bluffs were present onsite to provide nesting opportunities. The nearest recorded observation of this species within the vicinity was approximately 11.1 miles northeast of the Project site in 2009 along the Sacramento River.
Burrowing owl (*Athene cunicularia*)	CCE, 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**. While signs of this species were absent from the Project site, small mammal burrows and areas with low-growing vegetation within the Project site can provide adequate habitat for this species. The nearest recorded observation of this species within the vicinity was active burrows observed approximately 2.2 miles southwest of the Project site in 1992 within cropland.
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.** The Project site does not provide suitable habitat to support this species.
Crotch's bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. This species overwinters under leaf litter or soft soil.	**Unlikely.** While this species could travel through the site, nectar sources were scarce. The agricultural activities within and adjacent to the Project site would inhibit this species from establishing within the immediate area. The nearest recorded observation of this species within the vicinity was approximately 8.7 miles south of the Project site in 2026 along Sand Creek.
Foothill yellow-legged frog – north coast Distinct Population Segment (*Rana boylii*)	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 Project site lacked suitable upland habitat, and the surrounding areas are frequently disturbed by cropland. The waterways within the Project site did not contain rocky substrate suitable for this species. The nearest recorded observation of this species within the vicinity was a historical specimen collected approximately 7.7 miles south/southeast of the Project site in 1942 from Sand Creek.
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	**Likely.** Various aquatic habitats, submerged rice fields, and small mammal burrows were present within the Project site, making the area suitable habitat for this species. The nearest recorded observation of this

Species	Status*	Habitat	Occurrence within the Site
		habitats for hibernation in the winter and to escape from excessive heat in the summer.	species within the vicinity was approximately 1.8 miles northwest of the Project site within the Glenn-Colusa Canal during an unknown date.
Golden eagle (*Aquila chrysaetos*)	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.** Suitable foraging and nesting habitat were absent within the Project site and this species would likely only fly over the site. The nearest recorded observation of this species within the vicinity was an active nest approximately 9.1 miles west of the Project site in 1986 within oak woodland habitat.
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.** The Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Longfin smelt San Francisco Bay-Delta DPS (*Spirinchus thaleichthys* pop. 2)	FE, CT	Pelagic and anadromous within the Sacramento-San Joaquin River Delta, San Francisco Bay, and Gulf of the Farallones. Spawns in lower freshwater reaches of Sacramento and San Joaquin Rivers. Occurs in salinities ranging from pure freshwater to pure saltwater; typical salinities ranging from 14-28 parts per thousand (ppt). Generally occupies water temperatures from 61-68F, with spawning occurring in water temperatures from 41-58F.	**Absent.** The Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Monarch butterfly (*Danaus plexippus*)	FPT	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds. Winter roost sites extend along the Pacific Coast from northern Mendocino to Baja California, Mexico.	**Unlikely**. While this species could travel through the site, roosting habitat was absent and the site is outside the overwintering range for this species. No milkweed plants were observed within/adjacent to the Project site during the survey, but the survey was conducted outside the blooming period for regionally common milkweed species. While milkweed species could potentially grow within or adjacent to the Project site, the disturbance from onsite/adjacent agriculture activities and competition from non-native species would inhibit enough to sustain a monarch butterfly population. The nearest recorded observation of this species within the vicinity was on iNaturalist approximately 4.4 miles northwest of the Project site in 2023 at a private residence amongst cropland.

Species	Status*	Habitat	Occurrence within the Site
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 Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
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.** The canal, ditch, and riverine habitat, while disturbed, provide suitable aquatic habitat for this species. The banks along the waterways can provide both basking and egg deposition habitat. The nearest recorded observation of this species within the vicinity was a nesting site approximately 6.9 miles southeast of the Project site in 2025 along Cortina Creek.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley from the Grapevine north into the inner South Coast Ranges and to Alameda County. Relies on mammal burrows for refuge and oviposition sites.	**Absent.** The Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Song sparrow ("Modesto" population) (*Melospiza melodia*)	CSSC	This population is endemic to the north-central portion of the Central valley of California. This species has an affinity for emergent freshwater marshes and is associated with Scirpus *spp*. and *Typha spp*. Known to nest in riparian oak forests (Gardali, 2008).	**Unlikely.** While freshwater waterways were present within the Project site, nesting habitat was absent. The area surrounding the Project site experiences frequent disturbance from agricultural activities, thus would prevent this species from establishing within the area. The nearest recorded observation of this species within the vicinity were historical specimens collected approximately 10.5 miles northeast of the Project site in 1923 from Colusa, CA.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows during 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, submerged clay, undercut banks, and large woody debris.	**Absent.** The Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
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.** While there were no trees within the Project site, suitable trees and utility structures were present within a 0.5-mile proximity of the site. The nearest recorded observation of this species within the vicinity was a nesting site approximately 2.6 miles southeast of the Project site in 2009 within cropland habitat.

Species	Status*	Habitat	Occurrence within the Site
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.	**Unlikely.** While it is possible for this species to utilize the surrounding cropland to forage, there is marginal nesting habitat to support a full colony. CNDDB lists this species as "possibly extirpated" from the immediate region. The nearest recorded observation of this species within the vicinity were multiple colonies observed approximately 0.4 miles northeast of the Project site in 1936 near Williams, CA.
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, which are required by this species, were absent from the Project site.
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.** The Project site does not provide suitable habitat to support this species.
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.** The Project site does not provide suitable habitat to support this species.
Western red bat (*Lasiurus frantzii*)	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.** While possible for this species to forage within the Project site and surrounding area, trees for roosting were absent from the Project site. The nearest recorded observation of this species within the vicinity was approximately 11.1 miles northeast of the Project site in 1999 within the riparian corridor of the Sacramento River.
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.	**Unlikely.** The Project site contained marginal aquatic and upland habitat for this species. While small mammal burrows were present, the habitat is consistently disturbed by agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 7.6 miles south/southeast of the Project site in 2026 within Sand Creek.
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 California 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.	**Absent.** The Project site is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.

***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	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CT	California Threatened
		CFP	California Fully Protected
		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.

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 19 regionally occurring special status plant species, all 19 are considered absent from or unlikely to occur within the Project site due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is unlikely that these species would occur onsite, implementation of the proposed Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat.

Of the 25 regionally occurring special status animal species, 21 are considered absent from or unlikely to occur within the Project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: American badger, bald eagle, bank swallow, conservancy fairy shrimp, Crotch bumble bee, foothill yellow-legged frog, golden eagle, green sturgeon, longfin smelt, monarch butterfly, northern spotted owl, San Joaquin coachwhip, song sparrow, steelhead, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western red bat, western spadefoot, and western yellow-billed cuckoo. Since it is unlikely that these species would occur onsite, implementation of the proposed Project should have no impact on these 21 special status species through construction mortality, disturbance, or loss of habitat.

The following mitigation measures are related to the rest special status animal species that are possibly or likely present on the Project site.

GENERAL PROJECT-RELATED IMPACTS

The proposed 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. In addition to specific mitigation discussed in the following paragraphs, implementation of Mitigation Measures BIO-1 and BIO-2 will be applied through the entire Project site to reduce potential impacts to these resources to a less than significant level under CEQA and will help with complying with State and federal laws protecting these resources. These mitigation measures are identified in Section 4.4.3.

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

The site and adjacent areas contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds and raptors, and state-listed birds including Swainson's hawk (SWHA). It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs and trees within, and adjacent to, the site and forage within the site. Protected birds located within or adjacent to the site during construction have the potential to be injured or killed by Project-related activities. In addition to "take" of protected birds within the site and 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.

While foraging habitat for protected birds, such as SWHA, is present on the site, suitable foraging habitat is located adjacent to the site and within the vicinity of the site. Loss of the foraging habitat from implementation of the proposed Project is not considered a significant impact as the foraging habitat within the surrounding areas would remain intact during and after Project activities.

Implementation of Mitigation Measures **BIO-3**, **BIO-4**, and **BIO-5** will reduce potential impacts to migratory birds, raptors, and special status birds, including direct take and nest abandonment, to a less than significant level under CEQA. These mitigation measures are identified in the subsequent Section 4.4.3.

PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO BURROWING OWL

The site contains suitable foraging habitat for Burrowing owl (BUOW), and this species also may nest or roost within burrows within, or adjacent to, the site. Construction activities that cause nest failure or result in the mortality of individuals constitute a violation of State and federal laws and would be considered a significant impact under CEQA. While Project activities may remove some potential nesting/roosting and foraging habitat for BUOW, there is abundant habitat adjacent to the site that could be used, and implementation of the proposed Project would not significantly reduce potential nesting, roosting, and foraging habitat for this species. Therefore, no mitigation measures are warranted for loss of BUOW foraging habitat.

Implementation of Mitigation Measures **BIO-6**, **BIO-7**, and **BIO-8** will reduce potential impacts to nesting and roosting BUOW to a less than significant level under CEQA. These mitigation measures are identified in the subsequent Section 4.4.3.

PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO NORTHWESTERN POND TURTLE

The Project site contains aquatic habitat, in the form of Spring Creek, Glenn-Colusa Canal, and the two irrigation ditches, which could be used by northwestern pond turtle for dispersal and basking. The banks along the waterways within the Project site could be used by northwestern pond turtle for nesting and foraging. Noise, vegetation removal, movement of workers, construction, and ground disturbance as a result of Project activities have the potential to significantly impact northwestern pond turtle. Potentially significant impacts associated with Project activities could include inadvertent entrapment or direct mortality. Project activities that impact northwestern pond turtles would be considered a potentially significant impact under CEQA.

Implementation of Mitigation Measures **BIO-9**, **BIO-10**, and **BIO-11** will reduce potential impacts to northwestern pond turtle to a less than significant level under CEQA. These mitigation measures are identified in the subsequent Section 4.4.3.

PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO GIANT GARTER SNAKE

The Project site contains suitable giant garter snake (GGS) 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 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 a violation of State and federal laws.

Implementation of Mitigation Measures BIO-12 will reduce potential impacts to GGS to a less than significant level under CEQA. These mitigation measures are identified in the subsequent Section 4.4.3.

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?

No Impact. Riparian habitat is absent from the Project site and adjacent lands. There are no CNDDB-designated "natural communities of special concern" recorded within the Project site or surrounding lands. There would be no impact.

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?

Less than Significant Impact with Mitigation Incorporated. The proposed Project involves the replacement of the siphon along the Glenn-Colusa Canal that will flow into Spring Creek. The USFWS National Wetlands Inventory Map classifies Spring Creek and Glenn-Colusa Canal as riverine. Project-related impacts to some or all of these waters would be considered a potentially significant impact under CEQA. Impacts to waters of the U.S. are also subject to the permit requirements of Sections 401 and 404 of the Clean Water Act and impacts to waters of the state are subject to the permit requirements of Porter-Cologne Water Quality Act and section 1600 et seq. of the California Fish and Game Code. The placement of fill within any wetlands or other jurisdictional waters will require a 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), 404 permit from the United States Army Corp of Engineers (USACE), and a Lake or Streambed Alteration Agreement from CDFW. An ARD was performed for the proposed Project and identified Spring Creek as both Waters of the State and Waters of the United States. There are no federally protected wetlands within the Project site.

There are no designated wild and scenic rivers within the Project site; therefore, the proposed Project would not result in direct impacts to wild and scenic rivers.

If construction involves ground disturbance over an area greater than one acre, the proposed Project will need to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) to ensure construction activities do not adversely affect water quality. This plan will need to be prepared in support of the Construction General Permit application.

Permits with USACE, RWQCB, and CDFW (Mitigation Measure BIO-13) would include mitigation to protect or fully mitigate any impacts to riverine habitat.

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. The Project site does contain waterways (Spring Creek, Glenn-Canal, and the two irrigation ditches) that would be likely to function as wildlife movement corridors for aquatic species. However, the Project site and surrounding lands are open and expansive, that it is unlikely construction would affect animal dispersion for terrestrial species as the surrounding area is as accessible as the Project site itself. Furthermore, the Project is in a region often disturbed by human activities related to agricultural activities which may discourage dispersal and migration for terrestrial species and possibly aquatic species.

The Project site has suitable waterways (Spring Creek, Glenn-Colusa Canal, and both irrigation ditches) that could be used by amphibians to lay eggs as native wildlife nursery sites. The potential impacts to amphibians have been addressed in Mitigation Measures **BIO-1**, **BIO-2**, and **BIO-13.**It is unlikely other native species (especially terrestrial species) would utilize any other features of the Project as a wildlife nursery site. Mitigation measures included with the proposed Project would reduce potential impacts to a less than significant level.

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 MITIGATION

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 (someone familiar with the identification and habitats of burrowing owl, giant garter snake, Swainson's hawk, northwestern pond turtle, and nesting migratory birds/ raptors), to aid workers in identifying special status resources that may occur in the Project site. 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 Project site, 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 (BMPs): The Project proponent will require that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped.
- 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 or relevant experience) 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, candidate, species of special concern, threatened, or endangered) species is prohibited without the necessary federal or state take permit(s).
- The presence of any special status species adjacent to and within the Project site will be reported to the Project's qualified biologist, who will submit the occurrence to the CNDDB. the biologist will report the occurrence to CDFW and/or USFWS as required.

Migratory Birds, Raptors, and Special Status Birds

BIO-3 (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-4 (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for SWHA nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This survey will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The survey would also include inspecting for nesting migratory birds within up to 50 feet outside of the Project site and for other nesting raptors within up to 450 feet outside of the Project site. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.

BIO-5 (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 and implement using flagging.

Burrowing Owl

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 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 will include the proposed work area and surrounding lands up to 500 feet. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for BUOW will be conducted. If no BUOW individuals or active burrows are observed, no further mitigation is required.

BIO-7 (Avoidance): If an active BUOW burrow is detected, avoidance buffers will be implemented. A qualified biologist will determine appropriate avoidance buffer distances based on CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*, the biology of BUOW, 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 Project area.

BIO-8 (ITP and Passive Relocation): If an active BUOW burrow is detected within the proposed work area and cannot be avoided, GCID will consult with CDWF regarding an Incidental Take Permit (ITP) and implement all measures identified by CDFW as necessary to reduce impacts to a less than significant level, including but not limited to passive relocation. CDFW. If recommended by CDFW, 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.

Northwestern Pond Turtle

BIO-9 (Pre-construction Survey and Avoidance Buffers): Within seven (7) days prior to the start of construction, a qualified biologist (someone familiar with the identification and habitat of this species) will conduct a pre-construction survey for northwestern pond turtle within the Project site and surrounding areas 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), or current guidance. If no northwestern pond turtles 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 northwestern pond turtle will be conducted. If the survey results in the identification of a northwestern pond turtle or an individual is found on the Project site during construction activities, it will be allowed to leave the Project site on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).

BIO-10 (Monitor): If northwestern pond turtles are observed within the Project site, 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 left the Project site.

BIO-11 (Formal Consultation): Should northwestern pond turtles get listed in this area and the Project/qualified biologist needs to move an individual, GCID shall consult with the appropriate agencies (USFWS and CDFW) to develop protection plans and/or relocation plans to avoid take and GCID will implement all protective measures identified by the agencies. Measures required through agency consultation may include a relocation plan prepared by a qualified biologist.

Giant Garter Snake

BIO-12 (ITP): GCID shall consult with CDFW and USFWS about how to implement the Project and avoid and minimize take of giant garter snake. GCID shall obtain take authorization pursuant to CESA and ESA and comply with all permit requirements. Potential protective measures which are expected to be required through the take authorization process include pre-construction surveys, exclusion fencing, and daily monitoring of the site by qualified biologists.

Aquatic Resources

BIO-13 (Permits): GCID shall obtain permits from USACE, RWQCB, and/or CDFW as applicable to comply with State and federal regulations and comply with all permit conditions. These permits, certifications, and agreements would ensure impacts to waters and sensitive aquatic resources are minimized to the extent possible and permanent impacts would be offset by compensatory mitigation.

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 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 on July 7, 2026, 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 (NRHP), the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources (CRHR), California Inventory of Historic Resources, and California Points of Historical Interest.

A response letter from NCIC, dated July 16, 2026, 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 on July 9, 2026. 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 (see Section 4.18).

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 July 2026. This search identified that no cultural resources and no cultural reports were previously recorded within the Project site. ECORP Consulting completed a Cultural Resources Inventory Report (see Appendix C), which identified an unrecorded segment of a historic-period cultural resource – the GCID Main Canal, including the Spring Creek Siphon – within the Project site. However, as discussed in Appendix C, an evaluation of the potential resources found it to be ineligible for NRHP or CRHR. Therefore, the GCID Main Canal is not a historical resources or historic property. As such, no Historic Properties as defined by Section 106 of the National Historic Preservation Act or Historical Resources as defined by CEQA will be affected by the proposed Project.

The proposed Project is located on land that has been previously disturbed and, as such, it is unlikely that the proposed Project would encounter an as-yet undiscovered 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 (see Appendix C for a full discussion of applicable requirements) set for archaeologic resource recovery. In the unlikely event that a historical or archaeological resource is uncovered during the construction of the proposed Project, implementation of mitigation measure CUL-1, outlined below, would reduce impacts to less than significant. 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 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. The proposed Project would adhere to all applicable federal, State, and local requirements regarding the discovery of human remains due to Project activities. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of mitigation measure CUL-2 outlined below, impacts resulting from the discovery of remains interred on the Project site would be less than significant. Any impacts would be considered less than significant.

4.5.3 MITIGATION

CUL-1 (Archaeological Remains). Should archeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

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

- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined by CEQA or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

- If the find represents a Native American or potentially Native American resource that does not include human remains, then he or she shall further notify [tribe]. The agencies shall consult with the tribes on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Preservation in place is the preferred treatment, if feasible. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction.

CUL-2 (Human Remains). In the event that human remains are discovered on the Project site, the Colusa County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the NAHC in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American (Public Resource Code Section 5097.98).

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 southwest 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 (CCR) 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. Construction activities are estimated to consume energy in the form of motor vehicle fuel (diesel fuel) for off-road construction equipment. Vehicle trips include workers and vendors traveling to and from the proposed Project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. CCR Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than five 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 not be ongoing as they would be limited to the duration of Project construction. During operations, energy use would be anticipated to decrease from the existing conditions as there would not be as many vehicle trips for maintenance. As such, 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, AB 1493 – Light-Duty Vehicle Standards; CCR 24, Part 6 – Energy Efficiency Standards; and CCR 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. The proposed Project would be constructed according to applicable State Building Code standards, ensuring that the proposed Project is constructed as energy efficiently as is required. The proposed Project would comply with both State law and the policies of the County's General Plan. Therefore, there would be no impact.

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.[8]

The soils present and their characteristics at the Project site can be found in Table 4-9 and 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 48 miles southwest of the site. A smaller fault zone, the Resort fault zone, is located approximately 13 miles southwest of the proposed Project, according to the California DOC's Fault Activity Map of California.[9]

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.

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.[10] The Project site is dominated by water and Willows silty clay soils.[11] According to the United States Geological Survey (USGS), the proposed Project is not within an identified area of land subsidence in the State.[12]

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?

[8] Harden, D.R. 1998, California Geology, Prentice Hall, 479 pages
[9] (California Department of Conservation 2015)
[10] (Colusa County 2010)
[11] (United States Department of Agriculture 2023)
[12] (United States Geological Survey)

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 13 miles southwest of the Project site. The nearest major active fault, the Maacama Fault – south section, is located approximately 48 miles southwest of the site.[13] 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, as mentioned, no habitable structures are associated with the proposed Project. Any such 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 Spring 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, impacts 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 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. In addition, 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. 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

[13] (California Department of Conservation 2015)

on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Since the Project site has relatively flat terrain with only 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?

No 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 siphon construction and operation would expose people or structures to potential substantial adverse effects onsite or offsite, such as landslides, lateral spreading, or collapse. As such, there would be no impact.

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. Based on soil types identified on the Project site, there is potential for the presence of expansive soils. Expansive soils can pose significant risks to life and property due to their tendency to undergo volume changes in response to variations in moisture content. However, according to USGS, the proposed Project is not within an identified area of land subsidence.[14] In addition, the proposed Project does not include any habitable structures and is a replacement infrastructure project for the District. Moreover, as mentioned earlier, 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. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation. Due to the lack of habitable structures and with compliance with the SWRCB requirements, 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?

Less than Significant Impact with Mitigation Incorporated. Paleontological resources are fossilized remains of flora and fauna and associated deposits. Most fossils are found in sedimentary rock. Sedimentary rock is formed by dirt (sand, silt, or clay) and debris that settles to the bottom of an ocean or lake and compresses for such a long time that it becomes hard as a rock. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)).

The proposed Project would comply with California Public Resources Code (PRC) Section 5097.5, which pertains to the protection of paleontological resources. The proposed Project would require grading and excavation activities; however, the Project site is heavily disturbed, and the proposed Project involves

[14] (United States Geological Survey)

replacing an existing siphon. As such, the likelihood of directly or indirectly disturbing a unique paleontological resource or site or unique geological feature is low. Nonetheless, if a paleontological resource is found, incorporation of mitigation measure **GEO-1** would reduce impacts to less than significant.

4.7.3 MITIGATION

GEO-1 The proposed Project will comply with California PRC Section 5097.5, which pertains to the protection of paleontological resources. Should a unique paleontological resource, site, or unique geological feature be unearthed during any stage of Project activities, work in the area of discovery will cease until the area is evaluated by a qualified geologist and/or paleontologist to assess if the find is unique and, if necessary, develop appropriate treatment measures.

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.

GHGs impact the environment over time as they increase and contribute to climate change. 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 2022.1. 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. 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	188.873
PCAPCD Thresholds [15]	10,000
Threshold Exceeded?	No

Construction-related generation of GHGs would be a maximum of 188.873 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 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 MTCO2e annually during both construction and operational activities. Long-term operational activities would result in negligible quantities of GHG emissions being generated, and the 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 proposed 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. Therefore, there would be no impact.

[15] (Placer County Air Pollution Control District 2017)

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

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 Department of Toxic Substances Control (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 on July 12, 2026, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediately surrounding area.[16] [17]

4.9.1.2 AIRPORTS

The Colusa County Airport is located approximately 11 miles east of the 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; the nearest sensitive receptor is a residence more than 500 feet from the 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?

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. Although equipment used during construction activities has the potential to contain various hazardous materials, these materials would be used in accordance with the manufacturers' specification and all applicable regulations in order to reduce the potential for incidental release of pollutants or hazardous substances on site. Applicable regulations include the Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation. 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, such as diesel fuel for construction equipment, during Project construction will be remediated in accordance with industry BMPs and State

[16] (California Department of Toxic Substances Control, 2026)
[17] (California State Water Resources Control Board, 2026)

and County regulations. The proposed siphon replacement project will require a 401 Permit from the California State Water Resources Control Board which will include standard BMPs and water quality protective measures. 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. Williams Elementary School is the closest school to the site approximately 1.6 miles to the northeast. 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. There are no such sites within the Project site nor within the immediately surrounding area. 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 11 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.

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 Spring 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 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 Groundwater Basin and Colusa subbasin. CGAGSA has completed the Colusa Subbasin Groundwater Sustainability Plan (GSP). In February 2025, DWR approved the Revised GSP for the Colusa Subbasin. The Revised GSP includes enhanced programs to address subsidence, initiate a demand management program, and mitigate domestic wells impacted by declining water levels below GSP targets. According to the most recent GSP implementation report, degraded water quality is currently limited in

scope for the subbasin but remains a monitored issue, particularly with respect to nitrate concentrations and naturally occurring salinity in some areas.[18]

Portions of the Project site are located within a 100-Year Flood Zone (see Figure 4-2). In addition, the Glenn-Colusa Canal and Spring Creek run through the Project site.

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. Impacts to waters of the U.S. are also subject to the permit requirements of Sections 401 and 404 of the Clean Water Act. The placement of fill within any wetlands or other jurisdictional waters will require a 401 Water Quality Certification from the RWQCB and 404 permit from the USACE. Compliance with these permits would ensure compliance with water quality standards.

The intent of the proposed Project is to replace an existing siphon along the Glenn-Colusa Canal. 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 siphon, replacing the existing structure, in the County to improve water supplies by reducing leakage and to reduce repeated maintenance. 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 Groundwater Sustainability Plan (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;

[18] (Colusa Groundwater Authority, 2025)

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

iv. impede or redirect flood flows?

Less than Significant Impact. The proposed Project does not propose significant alteration of the topography of the site. The proposed Project involves the construction and installation of a new siphon to replace the existing siphon. 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 be required to comply with all applicable California Division of Occupational Safety and Health (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. 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 zones, but portions of the Project site are located within a 100-Year Flood Zone (see Figure 4-2). However, the Project site is within rural and agricultural Colusa County. 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 proposed Project would also comply with all applicable federal, State, and local laws and regulations regarding the use of hazardous materials on site. 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, such as the RWQCB's Water Quality Control Plan for the Sacramento River and San Joaquin Rivers Basins. The proposed Project would help maintain the steady water supply during the irrigation season by better controlling water within the Glenn-Colusa Canal but would not change the quality of water delivered through the Canal or require the use of groundwater. 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.

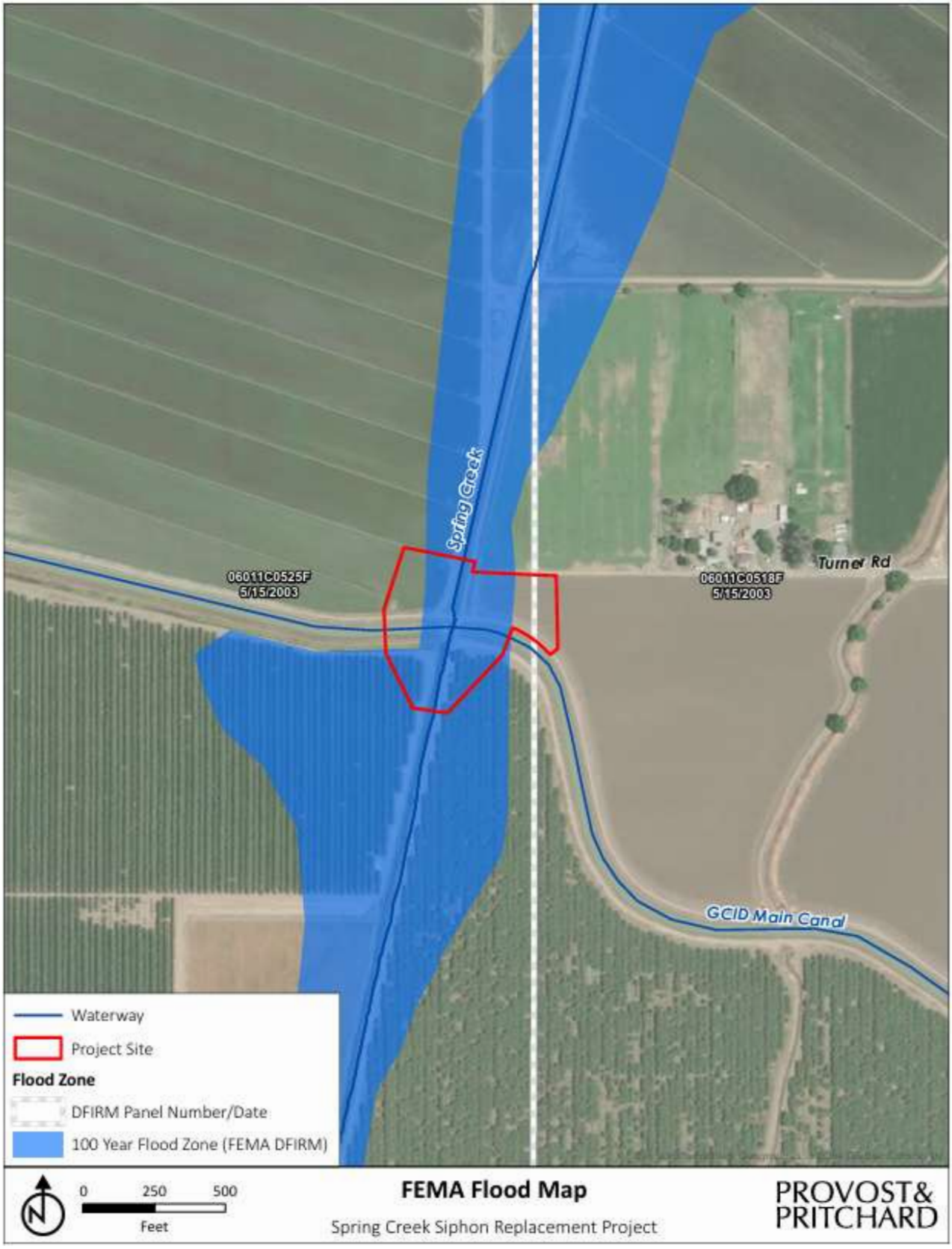


Figure 4-2: FEMA Flood Map

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.[19] According to the Colusa County General Plan Background Report, the site is planned for Agriculture General Use.[20]

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.

[19] (Colusa County n.d.)
[20] (Colusa County 2010)

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.[21] Neither is the site zoned for mineral extraction or preservation. 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.[22]

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. As mentioned, 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.[23] 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 impact.

[21] (California Department of Conservation 2022)
[22] (California Divison of Oil, Gas and Geothermal Resources)
[23] (California Divison of Oil, Gas and Geothermal Resources)

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

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.[24]

Colusa County Noise Control Ordinance[25]: 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 7:00 a.m. or after 7:00 p.m. on any day except Saturday or Sunday or before 8:00 a.m. or after 8:00 p.m. on Saturday or Sunday.

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?

[24] (Colusa County, 2012)
[25] (Colusa County California Code of Ordinances 2023)

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. In addition, 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. Such maintenance activities would be in line with existing noise produced by maintenance on the existing siphon. 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 siphon. 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.[26] The Colusa County Airport is located approximately 11 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.

[26] (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 or city to the proposed Project is Williams, about two 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.[27]

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 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.

[27] (United States Census Bureau, 2025)

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 protection districts, and fire protection authorities, as well as United States Forest Service and California Department of Forestry and Fire (Cal FIRE) protection stations. The Williams Fire Protection Authority is the closest fire station to the Project site located approximately 2.4 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 2.5 miles northeast of the Project site, and the closest station serving the proposed Project area is the Colusa County Sheriff's Office situated 11 miles to the east.

Schools: Public school services are provided throughout the County by four school districts, all of which are unified districts.[28] The closest school is LIDZKIDS Academy, a preschool and daycare, located approximately 1.6 miles to the northeast in Williams, California.

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 Venice Park, situated approximately 1.8 miles northeast of the Project site.

Landfills: The Maxwell Transfer Station is the closest to the Project site at approximately nine miles to the north.

[28] (Colusa County Office of Education 2023)

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:

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 Spring Creek Siphon along the Glenn-Colusa Canal. The proposed Project would not result in an increase of population that would require additional public service 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 has established 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 Venice Park, situated approximately 1.8 miles northeast 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 would 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. There are no State or interstate highways in the immediate vicinity; I-5 is the nearest highway and is located approximately 2.8 miles east of the site. The Colusa County Airport, the closest airport to the proposed Project, is located approximately 11 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 siphon at the Glenn-Colusa Canal near where it intersects with Spring Creek with a new 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 Spring Creek Siphon 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. As such, impacts would be less than significant.

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 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.

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. An AB 52 consultation letter was sent by the District on September 1; 2026, no response has been received to date.

4.18.1.2 NATIVE AMERICAN OUTREACH

The NAHC in Sacramento was contacted in July 2026 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 July 9, 2026, showed results were negative and confirms there are no known records associated with the proposed 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.

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 September 1, 2026:

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. *Grindstone Rancheria of Wintun-Wailaki, Ronald Kirk, Chairperson*
5. *Yocha Dehe Wintun Nation, Anthony Roberts, Chairperson*
6. *Yocha Dehe Wintun Nation, James Kinter, Tribal Secretary*
7. *Yocha Dehe Wintun Nation, Yvonne Perkins, THPO, Cultural Resources Chairman*
8. *Yocha Dehe Wintun Nation, Leland Kinter, Tribal Treasurer*

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

4.18.2 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:

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.

Less than Significant Impact with Mitigation Incorporated. As discussed in Section 4.5, an SLF search completed for the Project area, dated July 9, 2026, 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. No tribal responses have been received. Nonetheless, with the incorporation of mitigation measures CUL-1 and CUL-2, impacts would be less than significant.

4.18.3 MITIGATION

See CUL-1 and CUL-2 outlined in Section 4.5.3.

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.[29] 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 Williams Wastewater Treatment Plant is the closest wastewater facility approximately three miles northeast of the Project site.

[29] (California Department of Water Resources 2018)

4.19.1.3 LANDFILLS

The Maxwell Transfer Station is the closest landfill to the Project site approximately nine miles to the north.

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?

No Impact. The proposed Project would not require construction of new or relocation or expansion of existing facilities for water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. The proposed Project includes the replacement of an existing siphon with a new siphon at approximately the same location. As such, there would be no impact.

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 siphon. The proposed Project would have the same purpose as the existing siphon. 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 removed and disposed 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. As mentioned, 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. As such, 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 northeast of the nearest State Responsibility Area (SRA) and approximately 3.6 miles northeast of the nearest Very High Fire Hazard Severity Area according to Cal FIRE.[30] 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 Williams Fire Protection Authority is the closest fire station to the Project site located approximately 2.4 miles to the northeast.

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

[30] (CalFIRE, 2026)

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 proposed Project is within a Local Responsibility Area. The nearest SRA Fire Hazard Zone is located more than two miles southwest of the Project site and is considered a Moderate Fire Hazard Severity Zone. 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 impact.

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 with Mitigation Incorporated. The potential for impacts to biological resources, cultural resources, geological 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 with Mitigation Incorporated. 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 siphon structure to replace an existing structure. No wetlands or agricultural land would be converted as a result of the proposed 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 would not result in direct or indirect population growth. However, the potential for impacts to biological resources, cultural resources, geological 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. 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 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. The proposed Project would include the construction of a new 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 insubstantial and would be considered less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the IS/MND for the proposed Project in the District. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements.

Table 5-1: Mitigation, Monitoring, and Reporting Program presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of Table 5-1: Mitigation, Monitoring, and Reporting Program identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored.

Table 5-1: Mitigation, Monitoring, and Reporting Program

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
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 (someone familiar with the identification and habitats of burrowing owl, giant garter snake, Swainson's hawk, northwestern pond turtle, and nesting migratory birds/ raptors), to aid workers in identifying special status resources that may occur in the Project site. 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 Project site, 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.	Prior to initiating construction activities and for new construction workers	Once, prior to initiating construction activities	District and Contractor	All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-2	**(BMPs)**: The Project proponent will require that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species: • Vehicles will observe a 15-mph speed limit while on unpaved access routes. • All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped. • 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 or relevant experience) 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, candidate. Species of special concern, threatened, or endangered) species is prohibited without the necessary federal or state take permit(s). • The presence of any special status species adjacent to and within the Project site will be reported to the Project's qualified biologist, who will submit the occurrence to the CNDDB. The biologist will report the occurrence to CDFW and/or USFWS as required.	Prior to the start of and during any construction activities	Throughout Project construction duration	District and Contractor	Written reporting/photos if required by biologist in accordance with requirements	
Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds						

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-3	**(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.	September 16 to January 31	Once, as determined by qualified biologist during construction activities	District with assistance of a qualified biologist	Biological Memo	
BIO-4	**(Pre-construction Surveys)**: If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for SWHA nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This survey will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The survey would also include inspecting for nesting migratory birds within up to 50 feet outside of the Project site and for other nesting raptors within up to 450 feet outside of the Project site. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.	Ten days prior to the start of construction activities	Once, as determined by qualified biologist during construction activities; whenever construction is delayed or halted for more than 10 days, it will need to occur again	District with assistance of a qualified biologist	Biological Memo	
BIO-5	**(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 and implement using flagging.	Upon discovery of any active nests or breeding colonies	During construction activities	District with assistance of a qualified biologist	Biological Memo	
Project-Related Mortality and/or Disturbance to Burrowing Owl						

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
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 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 will include the proposed work area and surrounding lands up to 500 feet. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for BUOW will be conducted. If no BUOW individuals or active burrows are observed, no further mitigation is required.	Seven days prior to the start of construction activities	Once, as determined by qualified biologist during construction activities; whenever construction is delayed or halted for more than seven days, it will need to occur again	District with assistance of a qualified biologist	Biological Memo	
BIO-7	**(Avoidance)**: If an active BUOW burrow is detected, avoidance buffers will be implemented. A qualified biologist will determine appropriate avoidance buffer distances based on CDFW's 2012 Staff Report on Burrowing Owl Mitigation, the biology of BUOW, 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 Project area.	Upon discovery of any active BUOW burrow	During construction activities	District with assistance of a qualified biologist	Biological Memo; 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 Project area	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-8	**(ITP and Passive Relocation)**: If an active BUOW burrow is detected within the proposed work area and cannot be avoided, GCID will consult with CDWF regarding an Incidental Take Permit (ITP) and implement all measures identified by CDFW as necessary to reduce impacts to a less than significant level, including but not limited to passive relocation. CDFW. If recommended by CDFW, 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.	Upon discovery of any active BUOW burrow that cannot be avoided	During construction activities	District with assistance of a qualified biologist	Acquisition of ITP	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Project-Related Mortality and/or Disturbance to Northwestern Pond Turtle						
BIO-9	**(Pre-construction Survey and Avoidance Buffers)**: Within seven (7) days prior to the start of construction, a qualified biologist (someone familiar with the identification and habitat of this species) will conduct a pre-construction survey for northwestern pond turtle within the Project site and surrounding areas 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), or current guidance. If no northwestern pond turtles 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 northwestern pond turtle will be conducted. If the survey results in the identification of a northwestern pond turtle or an individual is found on the Project site during construction activities, it will be allowed to leave the Project site on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).	Seven days prior to the start of construction activities	Once, as determined by qualified biologist during construction activities; whenever construction is delayed or halted for more than seven days, it will need to occur again	District with assistance of a qualified biologist	Biological Memo	
BIO-10	**(Monitor):** If northwestern pond turtles are observed within the Project site, 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 left the Project site.	Upon discovery of northwestern pond turtles	Each day during construction activities	District with assistance of a qualified biologist	Biological Memo	
BIO-11	**(Formal Consultation):** Should northwestern pond turtles get listed in this area and the Project/qualified biologist needs to move an individual, GCID shall consult with the appropriate agencies (USFWS and CDFW) to develop protection plans and/or relocation plans to avoid take and	Upon discovery of northwestern pond turtles and should northwestern pond turtles get listed in the area	Each day during construction activities should northwestern pond turtles get listed in the area	District with assistance of a qualified biologist	Consultation for protection plans and/or relocation plans with the appropriate	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	GCID will implement all protective measures identified by the agencies. Measures required through agency consultation may include a relocation plan prepared by a qualified biologist.				agencies will be completed to avoid take	
Project-Related Mortality and/or Disturbance of Giant Garter Snake						
BIO-12	**(ITP):** GCID shall consult with CDFW and USFWS about how to implement the Project and avoid and minimize take of giant garter snake. GCID shall obtain take authorization pursuant to CESA and ESA and comply with all permit requirements. Potential protective measures which are expected to be required through the take authorization process include pre-construction surveys, exclusion fencing, and daily monitoring of the site by qualified biologists.	Prior to construction	As finalized with CDFW	District with assistance of a qualified biologist	Acquisition of ITP	
Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality						
BIO-13	**(Permits):** GCID shall obtain permits from USACE, RWQCB, and/or CDFW as applicable to comply with State and federal regulations and comply with all permit conditions. These permits, certifications, and agreements would ensure impacts to waters and sensitive aquatic resources are minimized to the extent possible and permanent impacts would be offset by compensatory mitigation.	If impacts to occur to jurisdictional waters, monitoring to occur beforehand	Prior to any identified impacts to jurisdictional waters	Contractor and District	Acquisition of necessary permits, certifications, and/or agreements	
Cultural Resources						
CUL-1	**(Archaeological Remains):** Should archeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment.	Daily during construction activities	Continuously	District with a professional archaeologist	Compliance with regulations	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	The following notifications shall apply, depending on the nature of the find: • If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required. • If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined by CEQA or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction. • If the find represents a Native American or potentially Native American resource that does not include human remains, then he or she shall further notify [tribe]. The agencies shall consult with the tribes on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical					

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Preservation in place is the preferred treatment, if feasible. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction.					
CUL-2	**(Human Remains):** In the event that human remains are discovered on the Project site, the Colusa County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the NAHC in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American (Public Resource Code Section 5097.98).	Daily during construction activities	Continuously	District	Compliance with regulations	
			Geological and Soils			
GEO-1	The proposed Project will comply with California PRC Section 5097.5, which pertains to the protection of paleontological resources. Should a unique paleontological resource, site, or unique geological feature be unearthed during any stage of Project activities, work in the area of discovery will cease until the area is evaluated by a qualified	Daily during construction activities	Continuously	District with a qualified geologist and/or paleontologist	Compliance with regulations	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	geologist and/or paleontologist to assess if the find is unique and, if necessary, develop appropriate treatment measures.					
Tribal Cultural Resources						
See **CUL-1** and **CUL-2**.						

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APPENDICES

Appendix A – Air Quality and Greenhouse Gas Emissions CalEEMod Model

GCID Spring Creek Siphon Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	GCID Spring Creek Siphon
Construction Start Date	10/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	1.20000
Location	39.13314127153609, -122.189776586891
County	Colusa
City	Unincorporated
Air District	Colusa County APCD
Air Basin	Sacramento Valley
TAZ	228
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	7.80000	Acre	7.80000	0.00000	0.00000	0.00000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.11994	28.0447	29.0453	0.04891	1.17173	18.2510	19.4227	1.07799	9.97398	11.0520	—	5,473.22	5,473.22	0.21915	0.06595	5,493.70
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34196	3.00906	3.35830	0.00556	0.12112	0.85828	0.97940	0.11144	0.46138	0.57283	—	623.924	623.924	0.02429	0.01132	626.778
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06241	0.54915	0.61289	0.00101	0.02210	0.15664	0.17874	0.02034	0.08420	0.10454	—	103.298	103.298	0.00402	0.00187	103.770

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.11994	28.0447	29.0453	0.04891	1.17173	18.2510	19.4227	1.07799	9.97398	11.0520	—	5,473.22	5,473.22	0.21915	0.06595	5,493.70
2028	1.07768	9.33124	13.8869	0.02531	0.30406	0.29441	0.59847	0.28004	0.07206	0.35210	—	2,858.34	2,858.34	0.10223	0.06404	2,880.01
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.34196	3.00906	3.35830	0.00556	0.12112	0.85828	0.97940	0.11144	0.46138	0.57283	—	623.924	623.924	0.02429	0.00736	626.778
2028	0.19226	1.65892	2.47892	0.00451	0.05415	0.05239	0.10654	0.04987	0.01282	0.06269	—	510.110	510.110	0.01801	0.01132	514.030
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06241	0.54915	0.61289	0.00101	0.02210	0.15664	0.17874	0.02034	0.08420	0.10454	—	103.298	103.298	0.00402	0.00122	103.770
2028	0.03509	0.30275	0.45240	0.00082	0.00988	0.00956	0.01944	0.00910	0.00234	0.01144	—	84.4546	84.4546	0.00298	0.00187	85.1035

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.05170	27.9724	28.2794	0.04891	1.17173	18.0663	19.2380	1.07799	9.93068	11.0087	—	5,297.82	5,297.82	0.21490	0.04298	5,316.00
2028	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	2,405.68
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.33019	2.98582	3.22324	0.00549	0.12098	0.82494	0.94592	0.11130	0.45346	0.56476	—	584.245	584.245	0.02370	0.00474	586.250
2028	0.17656	1.58937	2.30354	0.00417	0.05347	0.00000	0.05347	0.04919	0.00000	0.04919	—	426.944	426.944	0.01732	0.00346	428.410
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06026	0.54491	0.58824	0.00100	0.02208	0.15055	0.17263	0.02031	0.08276	0.10307	—	96.7284	96.7284	0.00392	0.00078	97.0603
2028	0.03222	0.29006	0.42040	0.00076	0.00976	0.00000	0.00976	0.00898	0.00000	0.00898	—	70.6855	70.6855	0.00287	0.00057	70.9281

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09012	0.43048	1.02372	0.00209	0.00382	0.29441	0.29823	0.00382	0.07206	0.07588	—	471.172	471.172	0.00545	0.04650	485.203

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
2028	0.08624	0.40629	0.95166	0.00191	0.00382	0.29441	0.29823	0.00382	0.07206	0.07588	—	460.881	460.881	0.00498	0.04459	474.327
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01177	0.02324	0.13507	0.00007	0.00014	0.03333	0.03348	0.00014	0.00793	0.00807	—	39.6794	39.6794	0.00059	0.00262	40.5283
2028	0.01570	0.06954	0.17539	0.00034	0.00068	0.05239	0.05307	0.00068	0.01282	0.01350	—	83.1659	83.1659	0.00069	0.00786	85.6201
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00215	0.00424	0.02465	0.00001	0.00003	0.00608	0.00611	0.00003	0.00145	0.00147	—	6.56938	6.56938	0.00010	0.00043	6.70992
2028	0.00287	0.01269	0.03201	0.00006	0.00012	0.00956	0.00969	0.00012	0.00234	0.00246	—	13.7691	13.7691	0.00011	0.00130	14.1754

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	3,438.66

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Demolition	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12136	1.09044	1.02086	0.00178	0.04361	—	0.04361	0.04012	—	0.04012	—	187.775	187.775	0.00762	0.00152	188.420
Demolition	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02215	0.19901	0.18631	0.00033	0.00796	—	0.00796	0.00732	—	0.00732	—	31.0883	31.0883	0.00126	0.00025	31.1950
Demolition	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05849	0.06197	0.65651	0.00000	0.00000	0.15834	0.15834	0.00000	0.03711	0.03711	—	150.343	150.343	0.00364	0.00626	152.314
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00324	0.00305	0.03716	0.00000	0.00000	0.00867	0.00867	0.00000	0.00203	0.00203	—	8.48807	8.48807	0.00016	0.00034	8.60704
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00059	0.00056	0.00678	0.00000	0.00000	0.00158	0.00158	0.00000	0.00037	0.00037	—	1.40530	1.40530	0.00003	0.00006	1.42499
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

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

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	5,316.00
Dust From Material Movement	—	—	—	—	—	18.0663	18.0663	—	9.93068	9.93068	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08361	0.76637	0.77478	0.00134	0.03210	—	0.03210	0.02953	—	0.02953	—	145.146	145.146	0.00589	0.00118	145.644
Dust From Material Movement	—	—	—	—	—	0.49497	0.49497	—	0.27207	0.27207	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01526	0.13986	0.14140	0.00024	0.00586	—	0.00586	0.00539	—	0.00539	—	24.0305	24.0305	0.00097	0.00019	24.1130

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Dust From Material Movement	—	—	—	—	—	0.09033	0.09033	—	0.04965	0.04965	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06824	0.07230	0.76592	0.00000	0.00000	0.18472	0.18472	0.00000	0.04330	0.04330	—	175.400	175.400	0.00424	0.00731	177.700
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00189	0.00178	0.02167	0.00000	0.00000	0.00506	0.00506	0.00000	0.00119	0.00119	—	4.95137	4.95137	0.00010	0.00020	5.02077
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00035	0.00032	0.00396	0.00000	0.00000	0.00092	0.00092	0.00000	0.00022	0.00022	—	0.81976	0.81976	0.00002	0.00003	0.83125

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58640	14.2321	17.2743	0.02733	0.59767	—	0.59767	0.54986	—	0.54986	—	2,960.07	2,960.07	0.12007	0.02401	2,970.23
Dust From Material Movement	—	—	—	—	—	6.02209	6.02209	—	3.31023	3.31023	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08693	0.77984	0.94654	0.00150	0.03275	—	0.03275	0.03013	—	0.03013	—	162.196	162.196	0.00658	0.00132	162.752

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Dust From Material Movement	—	—	—	—	—	0.32998	0.32998	—	0.18138	0.18138	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01586	0.14232	0.17274	0.00027	0.00598	—	0.00598	0.00550	—	0.00550	—	26.8534	26.8534	0.00109	0.00022	26.9455
Dust From Material Movement	—	—	—	—	—	0.06022	0.06022	—	0.03310	0.03310	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05849	0.06197	0.65651	0.00000	0.00000	0.15834	0.15834	0.00000	0.03711	0.03711	—	150.343	150.343	0.00364	0.00626	152.314
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00324	0.00305	0.03716	0.00000	0.00000	0.00867	0.00867	0.00000	0.00203	0.00203	—	8.48807	8.48807	0.00016	0.00034	8.60704
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00059	0.00056	0.00678	0.00000	0.00000	0.00158	0.00158	0.00000	0.00037	0.00037	—	1.40530	1.40530	0.00003	0.00006	1.42499
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2027)

3.4.1. Onsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	2,405.30

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03829	0.34917	0.48106	0.00087	0.01251	—	0.01251	0.01151	—	0.01151	—	89.1281	89.1281	0.00362	0.00072	89.4340
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00699	0.06372	0.08779	0.00016	0.00228	—	0.00228	0.00210	—	0.00210	—	14.7562	14.7562	0.00060	0.00012	14.8068
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08189	0.08676	0.91911	0.00000	0.00000	0.22167	0.22167	0.00000	0.05196	0.05196	—	210.480	210.480	0.00509	0.00877	213.240
Vendor	0.00823	0.34372	0.10461	0.00209	0.00382	0.07274	0.07657	0.00382	0.02010	0.02392	—	260.692	260.692	0.00035	0.03774	271.963
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00308	0.00290	0.03530	0.00000	0.00000	0.00824	0.00824	0.00000	0.00193	0.00193	—	8.06366	8.06366	0.00015	0.00033	8.17668
Vendor	0.00032	0.01246	0.00378	0.00007	0.00014	0.00270	0.00285	0.00014	0.00075	0.00089	—	9.68825	9.68825	0.00001	0.00140	10.1168
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00056	0.00053	0.00644	0.00000	0.00000	0.00150	0.00150	0.00000	0.00035	0.00035	—	1.33503	1.33503	0.00003	0.00005	1.35374
Vendor	0.00006	0.00227	0.00069	0.00001	0.00003	0.00049	0.00052	0.00003	0.00014	0.00016	—	1.60400	1.60400	< 0.000005	0.00023	1.67495
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2028)

3.5.1. Onsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	2,405.68

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17656	1.58937	2.30354	0.00417	0.05347	—	0.05347	0.04919	—	0.04919	—	426.944	426.944	0.01732	0.00346	428.410
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03222	0.29006	0.42040	0.00076	0.00976	—	0.00976	0.00898	—	0.00898	—	70.6855	70.6855	0.00287	0.00057	70.9281
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07819	0.07892	0.85402	0.00000	0.00000	0.22167	0.22167	0.00000	0.05196	0.05196	—	206.504	206.504	0.00463	0.00877	209.250
Vendor	0.00806	0.32737	0.09764	0.00191	0.00382	0.07274	0.07657	0.00382	0.02010	0.02392	—	254.377	254.377	0.00035	0.03582	265.076
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01417	0.01249	0.15813	0.00000	0.00000	0.03944	0.03944	0.00000	0.00925	0.00925	—	37.8892	37.8892	0.00066	0.00148	38.3981
Vendor	0.00153	0.05705	0.01726	0.00034	0.00068	0.01295	0.01363	0.00068	0.00358	0.00426	—	45.2766	45.2766	0.00003	0.00638	47.2220
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00259	0.00228	0.02886	0.00000	0.00000	0.00720	0.00720	0.00000	0.00169	0.00169	—	6.27299	6.27299	0.00011	0.00024	6.35724
Vendor	0.00028	0.01041	0.00315	0.00006	0.00012	0.00236	0.00249	0.00012	0.00065	0.00078	—	7.49607	7.49607	0.00001	0.00106	7.81815
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	10/1/2027	10/29/2027	5.00000	20.0000	—
Site Preparation	Site Preparation	10/30/2027	11/13/2027	5.00000	10.00000	—
Grading	Grading	11/14/2027	12/12/2027	5.00000	20.0000	—
Building Construction	Building Construction	12/13/2027	3/31/2028	5.00000	80.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Demolition	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	14.9400	LDA,LDT1,LDT2
Demolition	Vendor	—	10.8400	HHDT,MHDT
Demolition	Hauling	0.00000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	14.9400	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.8400	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	15.0000	14.9400	LDA,LDT1,LDT2
Grading	Vendor	—	10.8400	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	21.0000	14.9400	LDA,LDT1,LDT2
Building Construction	Vendor	8.00000	10.8400	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	0.00000	0.00000
Site Preparation	0.00000	0.00000	0.00000	0.00000	0.00000
Grading	0.00000	0.00000	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	26.0100	annual days of extreme heat
Extreme Precipitation	2.10000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction

measures.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	necessary phases for siphon construction
Construction: Dust From Material Movement	Expected to be balanced on site.
Construction: Trips and VMT	Building construction vehicle trips - default did not include any. Updated to match defaults and use of off-road equipment.

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Building Construction	Building Construction	End Date	10/30/2028	3/31/2028
Building Construction	Building Construction	Work Days per Phase	230.000	80.0000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation	Material Imported	Cubic Yards	—	0.00000
Site Preparation	Material Exported	Cubic Yards	—	0.00000

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation	Total Acres Graded	acres	15.0000	0.00000
Grading	Material Imported	Cubic Yards	—	0.00000
Grading	Material Exported	Cubic Yards	—	0.00000
Grading	Total Acres Graded	acres	20.0000	0.00000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Building Construction	Worker	One-Way Trips per Day	0.00000	21.0000
Building Construction	Vendor	One-Way Trips per Day	0.00000	8.00000

Appendix B – Biological Evaluation

GLENN-COLUSA IRRIGATION DISTRICT

SPRING CREEK SIPHON REPLACEMENT PROJECT BIOLOGICAL EVALUATION

COLUSA COUNTY
SEPTEMBER 2026

PREPARED FOR:
Glenn-Colusa Irrigation District
Colusa County, California

PREPARED BY:
PROVOST & PRITCHARD CONSULTING GROUP
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ACRONYMS AND ABBREVIATIONS

APE ..... Area of Potential Effect
ARD .....Aquatic Resources Delineation
BMP .....Best Management Practices
BUOW.....Burrowing Owl
Canal.....Glenn-Colusa Canal
CDFW.....California Department of Fish and Wildlife
CEQA.....California Environmental Quality Act
CESA .....California Endangered Species Act
CNDDB..... California Natural Diversity Database
CNPS ..... California Native Plant Society
County .....Colusa County
Creek .....Spring Creek
District ..... Glenn-Colusa Irrigation District
DPS .....Distinct Population Segment
ECOS ..... United States Fish and Wildlife Service's Environmental Conservation Online System
EFH .....Essential Fish Habitat
EPA .....Environmental Protection Agency
ESA ..... Endangered Species Act
°F..... .....degrees Fahrenheit
GCID ..... Glenn-Colusa Irrigation District
GGS ..... Giant Garter Snake
HCP .....Habitat Conservation Plan
IPaC .....United States Fish and Wildlife Service's Information for Planning and Consultation system
MBTA.....Migratory Bird Treaty Act
NCCP.....Natural Community Conservation Plan
NEPA.....National Environmental Policy Act
NMFS .....National Marine Fisheries Service
NPDES.....National Pollutant Discharge Elimination System
NRCS ..... Natural Resources Conservation Service
NWI ..... National Wetlands Inventory
OHWM.....Ordinary High Water Mark
Project .....Spring Creek Siphon Replacement Project
Provost & Pritchard.....Provost & Pritchard Consulting Group
RWQCB .....Regional Water Quality Control Board

Siphon.....Spring Creek Siphon

SWHA..... Swainson's Hawk

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

USEPA .....United States Environmental Protection Agency

USFWS .....United States Fish and Wildlife Service

USGS ..... United States Geological Survey

WOTUS ..... Waters of the United State

1 INTRODUCTION

This Biological Evaluation, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes descriptions of the biological resources present or with potential to occur within the Glenn-Colusa Irrigation District (GCID, or "district") Spring Creek Siphon Replacement Project (or "Project") and surrounding areas, potential Project-related impacts or effects to those resources, and mitigation measures to reduce these impacts and effects to a less-than-significant level under CEQA and NEPA.

1.1 PROJECT DESCRIPTION

The Project site (or "site") is located approximately 2.5 miles southwest of the City of Williams, approximately 44 miles southwest of the City of Chico and 52 miles southwest of the City of Sacramento within Colusa County, California (see Figure 1: Regional Location Map).

The Project's Area of Potential Effect (APE) includes approximately 5.4 acres with an additional 50-foot buffer surrounding the site (see Figure 2: Area of Potential Effect). The APE includes hard-packed access roads, a combined 0.18 acre section of two irrigation canals, 0.52 acres of the Glenn-Colusa Canal, 0.52 acres of Spring Creek, a concrete bridge across Spring Creek, and a siphon structure along Glenn-Colusa Canal. Surrounding lands include agricultural lan composed of orchards, rice fields, and other ground crops.

The Project involves replacing the existing Spring Creek Siphon (Siphon) in order to improve long-term reliability and reduce ongoing needed maintenance. The existing aging structure has experienced several significant leakage events in recent years, requiring repeated temporary repairs. The Siphon is located along the Glenn-Colusa Canal (Canal). The Siphon conveys irrigation flows across Spring Creek's (Creek) natural channel and is used as a safety spill to prevent the Canal's water levels from increasing beyond the design elevation. An existing headgate and pipeline deliver water into the Creek for irrigation deliveries downstream. Given that the Siphon serves as vital infrastructure for delivering water into the District, GCID aims to be proactive and replace it prior to any critical failures and to avoid repeated repairs and maintenance activities.

1.2 REPORT OBJECTIVES

Construction activities such as those proposed by the Project could potentially change biological resources or habitats that are critical 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.

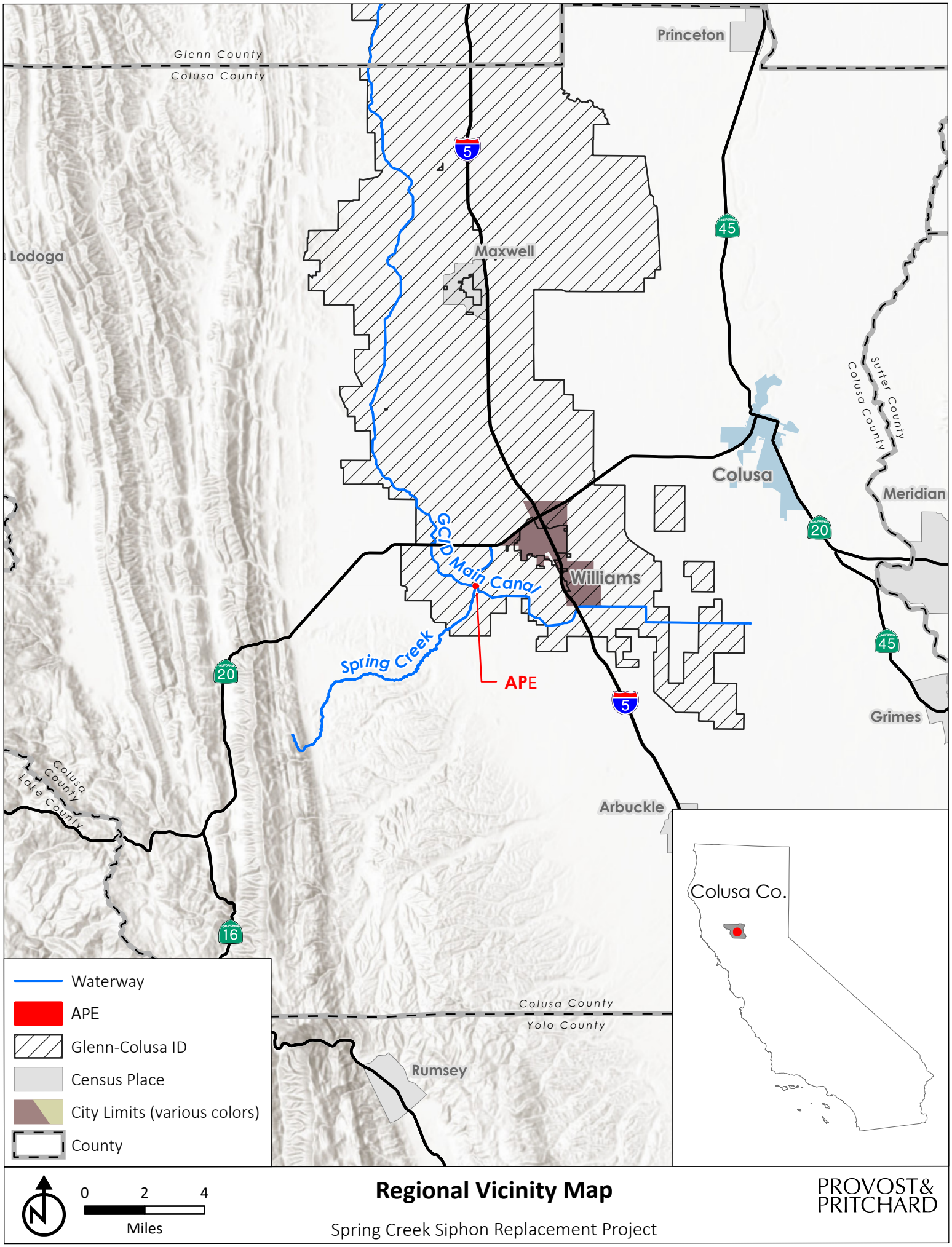
This report addresses issues related to the following:

- The presence of sensitive biological resources within the APE, or those with the potential to occur within the APE.
- 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 to:

- Summarize all APE-specific information related to existing biological resources.

- Make reasonable inferences about the biological resources that could occur on the APE based on habitat suitability and the proximity of the APE to a species' known range.
- Summarize all State and federal natural resource protection laws that may be relevant to implementation of the Project.
- 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 minimization 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.



Regional Vicinity Map

Spring Creek Siphon Replacement Project

PROVOST& PRITCHARD



0 250 500

Feet

Aerial Map

Spring Creek Siphon Replacement Project

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1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the APE was conducted on July 15, 2026, by Provost & Pritchard biologist, Olivia Arredondo. The survey consisted of walking and driving throughout the APE and visually surveying areas outside of the APE but within the 50-foot buffer of the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Habitats were also assessed to help with determining if they could be suitable for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in Appendix A.

Ms. Arredondo 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 the potential to occur within the APE. Sources of information used in preparation of this analysis included: California Department of Fish and Wildlife's 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 of the Central Valley region.

The reconnaissance-level 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 aquatic features of the APE that could be claimed as jurisdictional by federal and/or State agencies, such as the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and the State Water Resources Control Board (SWRCB). Additionally, an Aquatic Resources Delineation (ARD) was conducted on the same day as the reconnaissance-level survey. If Project activities resulted in impacts to aquatic resources and aquatic habitats, these reports would be sufficient to support required permit applications, if needed, for the Project.

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

2.1.1 TOPOGRAPHY

The APE is located within the *Williams* U.S. Geological Survey (USGS) 7.5-minute quadrangle at the southeast corner of Section 21 and the southwest corner of Section 22, Township 15 North, Range 3 West. The topography of the APE is relatively flat with elevations ranging from approximately 106 to 124 feet above mean sea level, with the onsite waterways were 6 – 12 feet lower than the surrounding areas (see Figure 3: Topographic Quadrangle Map).

2.1.2 CLIMATE

Like most of California, the APE experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 98-degrees Fahrenheit (°F), but do not often exceed 105 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, the City of Williams receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between October and March (The National Oceanic and Atmospheric Administration 2026a), and the APE would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

The nearest surface water to the Project is the interception of the Canal and the Creek near the center of the APE. Two unnamed irrigation ditches are also present within the APE, one of which is south of the Canal and the other is east of the Creek.

The headwaters for the Creek are located at La Coma Tallac and flow northeast down from the mountain into cropland. Once within cropland, the Creek intercepts the Canal, where the Project activities will occur. Shortly after, the Creek branches into multiple smaller irrigation ditches.

The Canal starts at the Sacramento River and flows southwest until intercepting the Creek. From there, the Canal flows east until it branches into various irrigation ditches.

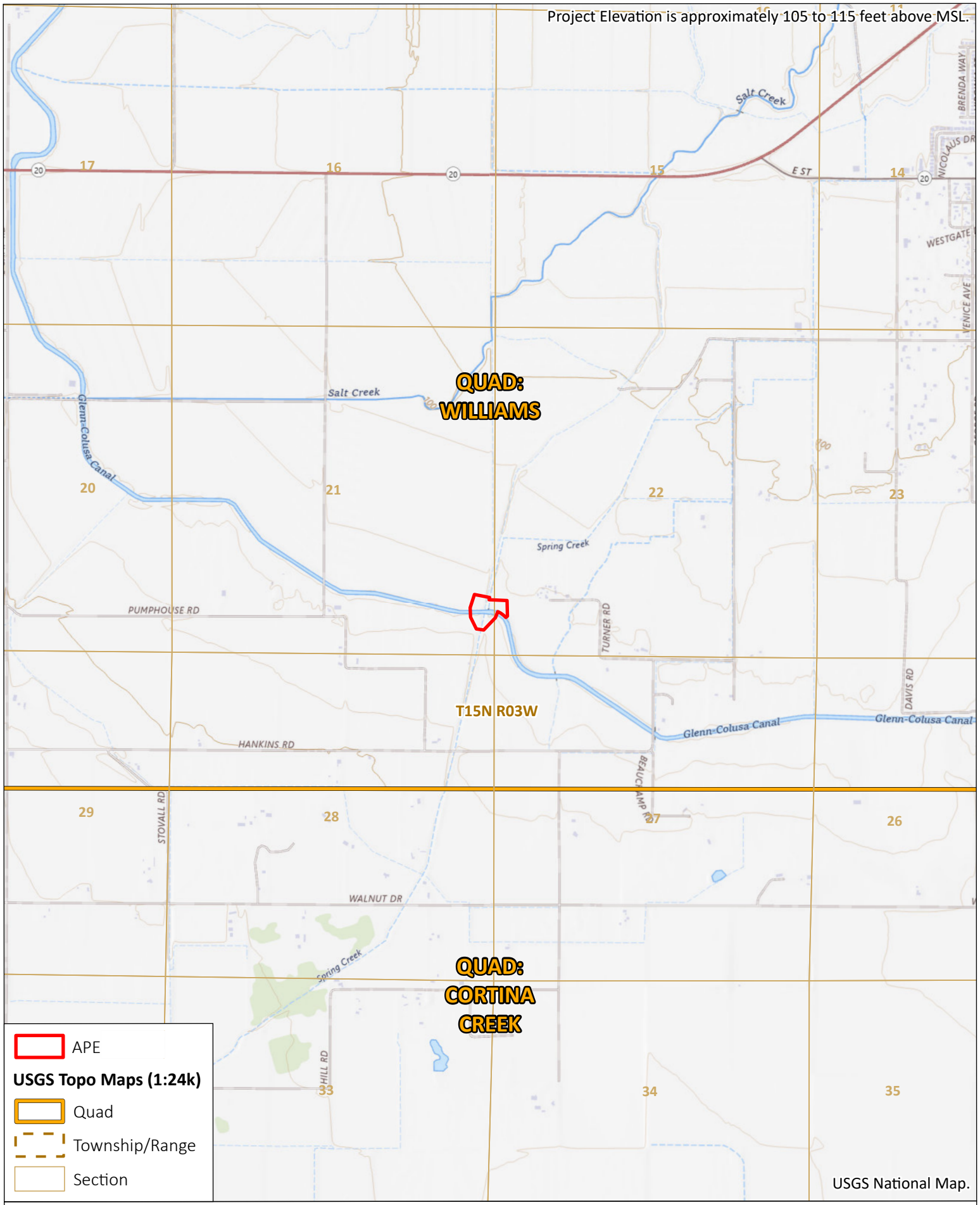
2.1.4 SOILS

Two soil mapping units representing one soil type and water were identified within the APE 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. The soils are primarily used for crops including rice and sugar beets.

Table 1: List of Soils Located on the APE and Their Basic Properties

Soil	Soil Map Unit	Percent of APE (%)	Hydric Soil Category	Drainage	Permeability	Runoff
Willows	Silty clay, 0 to 1 percent slopes, occasionally flooded	69.6	Predominantly Hydric	Poorly drained	Very low to moderately low	Low
	Silty clay, 0 to 1 percent slopes	16.8	Predominantly Hydric	Poorly drained	Very low to moderately low	Low
Water	-	13.6	-	-	-	-

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. Hydric soil ratings are derived from specific soil properties as well as climate, parent material, vegetation, landform type, and biological activity of a certain location. Both of the major soil mapping units are predominately hydric and make up 86.4% of the site. Water identified on the site is within the Glenn-Colusa Canal and makes up 13.6% of the site.



Topographic Map

Spring Creek Siphon Replacement Project

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2.2 BIOTIC HABITATS

Five biotic habitats were observed within the APE and included agriculture, canal, riverine, ditch, and ruderal (see Figure 4: Habitats Map). These habitats and their constituent plant and animal species are described in more detail in the following sections.

2.2.1 AGRICULTURE

The agricultural habitat within the APE is composed of submerged rice (*Oryza sativa*) fields and other cropland that was recently tilled prior to the survey. Vegetation was present along the outer boundaries of this habitat type and included field bindweed (*Convolvulus arvensis*), Johnson grass (*Sorghum halepense*), prickly lettuce (*Lactuca serriola*), puncture vine (*Tribulus terrestris*), round leaf mud plantain (*Heteranthera rotundifolia*), and dried, unidentifiable grasses (Poaceae).

Wildlife was observed foraging within this habitat and included house finches (*Haemorhous mexicanus*), house sparrows (*Passer domesticus*), yellow-billed magpies (*Pica nuttallii*), and hoverflies (Syrphidae). The inundated rice fields provide habitat for giant garter snakes (*Thamnophis gigas*), which are known to occur within the region, and as a water source for a variety of terrestrial species such as birds, mammals, reptiles, and insects. The other types of cropland within and adjacent to the APE are heavily disturbed by agricultural activities and provide little value to wildlife outside of foraging use.

2.2.2 CANAL

The canal habitat includes the Canal, which bisects the APE west to east. Vegetation found along the banks included cheeseweed (*Malva parviflora*), horseweed (*Erigeron canadensis*), Italian thistle (*Carduus pycnocephalus*), Johnson grass, milk thistle (*Silybum marianum*), prickly lettuce, ribwort plantain (*Plantago lanceolata*), rose clover (*Trifolium hirtum*), and short-pod mustard (*Hirschfeldia incana*). Long leaf pondweed (*Potamogeton nodosus*) was present within the channel during the survey. An ARD was performed on this Canal to determine the OHWM and potential jurisdictional limits.

Wildlife observed at this habitat included a black phoebe (*Sayornis nigricans*) and a variety of dragonflies (Anisoptera) and damselflies (Zygoptera). The canal habitat within the APE provides moderate habitat to a variety of wildlife, year-round. This habitat likely provides foraging opportunity and acts as a water source for birds and raptors during the day and similarly for bats, coyotes, and other nocturnal animals at night.

2.2.3 RIVERINE

The riverine habitat was mapped along the top of bank for the Creek, which bisects the APE south to north. Vegetation found along the banks was similar to the canal habitat and included California wild oat (*Avena fatua*), cheeseweed, horseweed, Italian thistle, Johnson grass, milk thistle, prickly lettuce, ribwort plantain, rose clover, short-pod mustard, tall flatsedge (*Cyperus eragrostis*), and dried, unidentifiable grasses. No trees or shrubs were present along the waterway outside of a sapling tree of heaven (*Ailanthus altissima*), which was not large enough to provide canopy cover over the Creek. An ARD was performed on this Canal to determine the OHWM and potential jurisdictional limits.

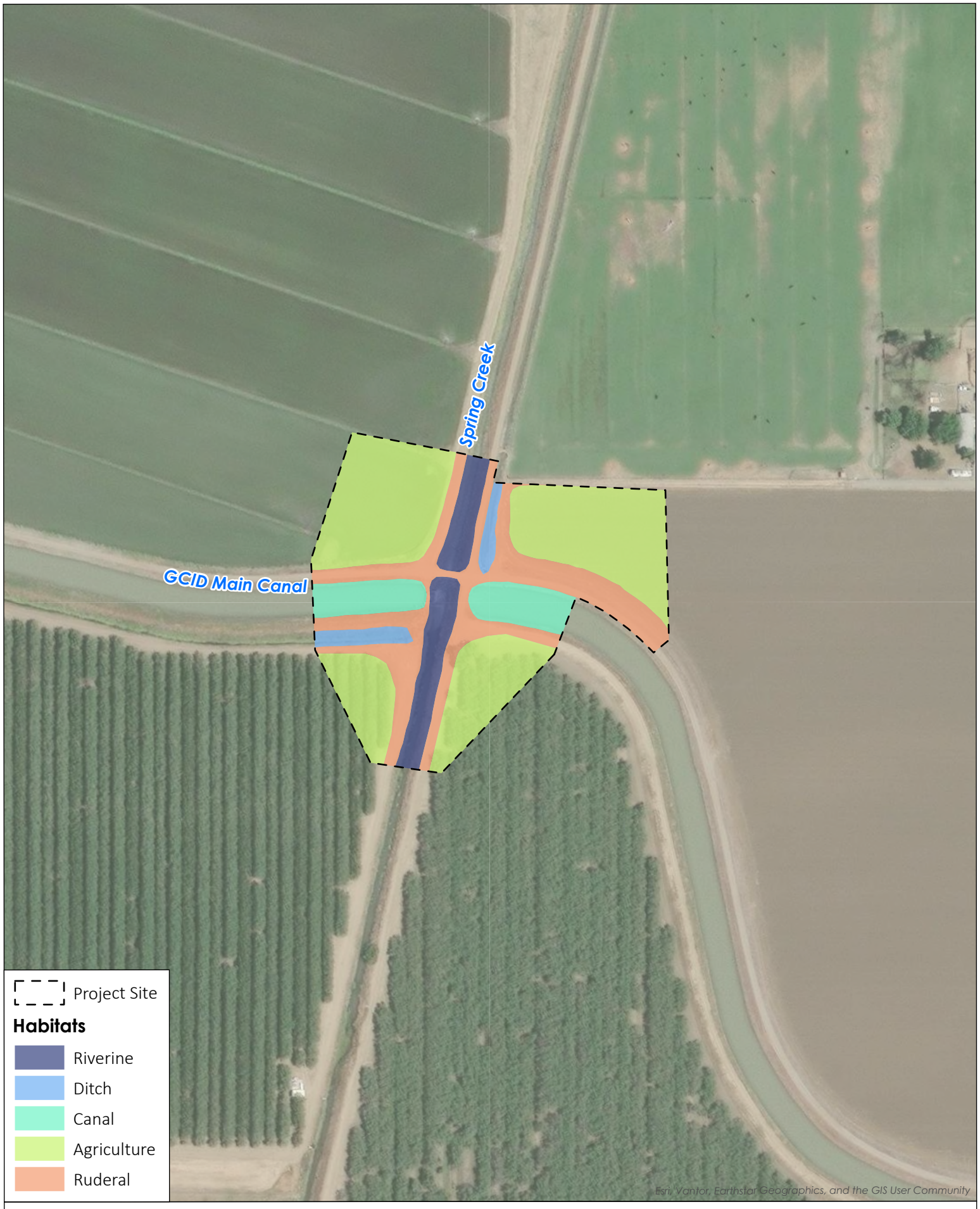
The survey of the riverine habitat resulted in the observation of a snowy egret (*Egretta thula*), dragonflies, and damselflies. While the Creek was very channelized and surrounded by active cropland, the Creek can still provide reproductive and dispersal opportunity for aquatic herpetofauna. Like the canal habitat within the APE, various bird and mammal species can utilize the Creek for foraging and as a water source.

2.2.4 DITCH

The ditch habitat includes two irrigation ditches within the APE and both contained water during the survey. Vegetation in this section of the APE included curly dock (*Rumex crispus*), horseweed, short pod mustard, water primrose (*Ludwigia peploides*), and dried, unidentifiable grasses. The survey of the ditch habitat did not result in the observation of any wildlife species.

2.2.5 RUDERAL

The ruderal habitat of the site contained the Siphon, hard packed dirt access roads, the bridge suspended over the Creek, and the adjacent mowed/bare areas along the Canal, Creek, and agricultural areas. Vegetation in this section of the site included alfalfa (*Medicago sativa*), field bindweed, perennial ryegrass (*Lolium perenne*), prickly lettuce, and dried, unidentifiable grasses. Small mammal burrows and a single red swamp crawfish (*Procambarus clarkii*) carcass was observed along the access roads. Killdeer (*Charadrius vociferus*), yellowjackets (Vespinae), and western honeybees were present within this habitat type.



Habitats Map

Spring Creek Siphon Replacement Project

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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 (see Section 2.6), these natural communities of special concern can be found within the CNDDB. There are no recorded observations of a natural community of special concern mapped within the site and no natural communities of special concern were observed during the field survey.

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 APE.

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, Canal, and ditches within the APE can act as a corridor for aquatic wildlife while the bridge and access roads provide dispersal access for terrestrial species.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The waterways within the APE including the Creek, Canal, and irrigation ditches (when water is present) can be used as wildlife nursery sites for amphibian species such as Sierran treefrogs (*Pseudacris sierra*) and western toads (*Anaxyrus boreas*) as well as invertebrates who reproduce in water such as dragonflies and damselflies.

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 habitats 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 mechanisms 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 *Williams* USGS 7.5-minute quadrangle that contains the site, and for the 8 surrounding USGS quadrangles: *Arbuckle*, *Colusa*, *Cortina Creek*, *Manor Slough*, *Maxwell*, *Moulton Weir*, *Salt Canyon*, and *Sites*. A query of the IPaC was also completed for the APE. These species, and their potential to occur within the APE, are listed in Table 2 and Table 3, below. 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. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C, respectively. 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 APE.

Table 2: List of Special Status Plants with Potential to Occur on the APE and/or In the Vicinity

Species	Status*	Habitat	Occurrence within the APE
Adobe-lily (*Fritillaria pluriflora*)	CNPS 1B	Found in chaparral, cismontane woodland, valley, and foothill grasslands. Usually on clay soils; sometimes serpentine. Found at elevations between 145 and 3,100 feet. Blooms February – April.	**Absent.** The APE does not provide suitable habitat to support this species.
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.	**Absent.** The APE does not provide suitable habitat to support this species.
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.** The APE does not provide suitable habitat to support this species.
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 May – September.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadow or annual grassland habitats at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** The APE does not provide suitable habitat to support this species.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin 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.** The APE does not provide suitable habitat to support this species.
Colusa layia (Layia septentrionalis)	CNPS 1B	Found in chaparral, cismontane woodland, valley, and foothill grasslands. Generally occurs on grassy slopes in sandy or serpentine soil at elevations between 50 and 3,600 feet. Blooms April – June.	**Absent.** The APE does not provide suitable habitat to support this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pool and playas in grassland habitats at elevations	**Absent.** The APE does not provide suitable habitat to support this species.

Species	Status*	Habitat	Occurrence within the APE
		below 4,500 feet. Blooms April – May.	
Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*)	CNPS 1B	Found in meadows, seeps, valley grasslands, 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 March – June.	**Absent.** The APE does not provide suitable habitat to support 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 in grassland or openings in chaparral at elevations between 580 and 3,300 feet. Blooms April – June.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species.
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 APE does not provide suitable habitat and is outside the current known elevational range of 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.** The APE does not provide suitable habitat to support this species.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	CNPS 1B	Found in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley, and foothill grassland. Occurs in vernally mesic, often alkaline sites at elevations below 1,310 feet. Blooms June – October.	**Absent.** The APE does not provide suitable habitat to support this species.
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	CNPS 1B	Found in chaparral, cismontane woodland, meadows and seeps, valley grasslands, and foothill grasslands. Often found on serpentine soil at elevations from 65 and 3,000 feet. Blooms April – June.	**Absent.** The APE does not provide suitable habitat to support this species.
San Joaquin spearscale (*Extriplex joaquinana*)	CNPS 1B	Found in alkali wetlands, sinks, and scrublands in the San Joaquin Valley and Delta-Bay region of California. Associated with *Distichlis spicata*, *Frankenia*, and other scrub species at elevations below 1,200 feet. Blooms April – September.	**Absent.** The APE does not provide suitable habitat to support this species.

Species	Status*	Habitat	Occurrence within the APE
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 APE does not provide suitable habitat and is outside the current known elevational range of this species.
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.** The APE does not provide suitable habitat to support this species.
Water star-grass (*Heteranthera dubia*)	CNPS 2B	Found in marshes and swamps in alkaline, 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.	**Absent.** The APE does not provide suitable habitat to support this species.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	CNPS 2B	Found in marshes and swamps, riparian forest, meadows and seeps, and vernal pools. Occurs in mud flats of vernal lakes, drying riverbeds, and alkali meadows at elevations below 1,640 feet. Blooms May – September.	**Absent.** The APE does not provide suitable habitat to support this species.

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

Species	Status*	Habitat	Occurrence within the APE
American badger (*Taxidea taxus*)	CSSC	Prefers 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.	**Unlikely.** The APE and surrounding areas are frequently cultivated agricultural lands that are unsuitable for this species. An American Badger could potentially pass through the APE, but it is unlikely they would forage or live within the area. No large burrows or dens were observed during the survey. The nearest recorded observation of this species within the vicinity was a carcass resulting from a vehicle strike observed in 2016 approximately 2.8 miles northeast of the APE along Interstate 5.
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.** While this species can possibly use the area to forage, large trees for nesting were absent from within and adjacent to the APE. The nearest recorded observation of this species within the vicinity was an active nest observed approximately 15.2 miles

Species	Status*	Habitat	Occurrence within the APE
			northeast of the APE near the Sacramento River during 2014.
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.** While this species could potentially forage from the various waterways within the APE, no vertical banks or bluffs were present onsite to provide nesting opportunities. The nearest recorded observation of this species within the vicinity was approximately 11.1 miles northeast of the APE in 2009 along the Sacramento River.
Burrowing owl (*Athene cunicularia*)	CCE, 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**. While signs of this species were absent from the APE, small mammal burrows and areas with low-growing vegetation within the APE can provide adequate habitat for this species. The nearest recorded observation of this species within the vicinity was active burrows observed approximately 2.2 miles southwest of the APE in 1992 within cropland.
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.** The APE does not provide suitable habitat to support this species.
Crotch's bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. This species overwinters under leaf litter or soft soil.	**Unlikely.** While this species could travel through the site, nectar sources were scarce. The agricultural activities within and adjacent to the APE would inhibit this species from establishing within the immediate area. The nearest recorded observation of this species within the vicinity was approximately 8.7 miles south of the APE in 2026 along Sand Creek.
Foothill yellow-legged frog – north coast Distinct Population Segment (*Rana boylii*)	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 APE lacked suitable upland habitat, and the surrounding areas are frequently disturbed by cropland. The waterways within the APE did not contain rocky substrate suitable for this species. The nearest recorded observation of this species within the vicinity was a historical specimen collected approximately 7.7 miles south/southeast of the APE in 1942 from Sand Creek.

Species	Status*	Habitat	Occurrence within the APE
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.	**Likely.** Various aquatic habitats, submerged rice fields, and small mammal burrows were present within the APE, making the area suitable habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 1.8 miles northwest of the APE within the Canal during an unknown date.
Golden eagle (*Aquila chrysaetos*)	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.** Suitable foraging and nesting habitat were absent within the APE and this species would likely only fly over the site. The nearest recorded observation of this species within the vicinity was an active nest approximately 9.1 miles west of the APE in 1986 within oak woodland habitat.
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.** The APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Longfin smelt San Francisco Bay-Delta DPS (*Spirinchus thaleichthys* pop. 2)	FE, CT	Pelagic and anadromous within the Sacramento-San Joaquin River Delta, San Francisco Bay, and Gulf of the Farallones. Spawns in lower freshwater reaches of Sacramento and San Joaquin Rivers. Occurs in salinities ranging from pure freshwater to pure saltwater; typical salinities ranging from 14-28 parts per thousand (ppt). Generally occupies water temperatures from 61-68F, with spawning occurring in water temperatures from 41-58F.	**Absent.** The APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Monarch butterfly (*Danaus plexippus*)	FPT	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds. Winter roost sites extend along the Pacific Coast from northern Mendocino to Baja California, Mexico.	**Unlikely**. While this species could travel through the site, roosting habitat was absent and the site is outside the overwintering range for this species. No milkweed plants were observed within/adjacent to the APE during the survey, but the survey was conducted outside the blooming period for regionally

Species	Status*	Habitat	Occurrence within the APE
			common milkweed species. While milkweed species could potentially grow within or adjacent to the APE, the disturbance from onsite/adjacent agriculture activities and competition from non-native species would inhibit enough to sustain a monarch butterfly population. The nearest recorded observation of this species within the vicinity was on iNaturalist approximately 4.4 miles northwest of the APE in 2023 at a private residence amongst cropland.
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 APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
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.** The canal, ditch, and riverine habitat, while disturbed, provide suitable aquatic habitat for this species. The banks along the waterways can provide both basking and egg deposition habitat. The nearest recorded observation of this species within the vicinity was a nesting site approximately 6.9 miles southeast of the APE in 2025 along Cortina Creek.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley from the Grapevine north into the inner South Coast Ranges and to Alameda County. Relies on mammal burrows for refuge and oviposition sites.	**Absent.** The APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
Song sparrow ("Modesto" population) (*Melospiza melodia*)	CSSC	This population is endemic to the north-central portion of the Central valley of California. This species has an affinity for emergent freshwater marshes and is associated with Scirpus *spp*. and *Typha spp*. Known to nest in riparian oak forests (Gardali, 2008).	**Unlikely.** While freshwater waterways were present within the APE, nesting habitat was absent. The area surrounding the APE experiences frequent disturbance from agricultural activities, thus would prevent this species from establishing within the area. The nearest recorded observation of this species within the vicinity were historical specimens collected approximately 10.5 miles northeast of the APE in 1923 from Colusa, CA.

Species	Status*	Habitat	Occurrence within the APE
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows during 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, submerged clay, undercut banks, and large woody debris.	**Absent.** The APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.
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.** While there were no trees within the APE, suitable trees and utility structures were present within a 0.5-mile proximity of the site. The nearest recorded observation of this species within the vicinity was a nesting site approximately 2.6 miles southeast of the APE in 2009 within cropland habitat.
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.	**Unlikely.** While it is possible for this species to utilize the surrounding cropland to forage, there is marginal nesting habitat to support a full colony. CNDDB lists this species as "possibly extirpated" from the immediate region. The nearest recorded observation of this species within the vicinity were multiple colonies observed approximately 0.4 miles northeast of the APE in 1936 near Williams, CA.
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, which are required by this species, were absent from the APE.
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.** The APE does not provide suitable habitat to support this species.
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.** The APE does not provide suitable habitat to support this species.

Species	Status*	Habitat	Occurrence within the APE
Western red bat (*Lasiurus frantzii*)	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.** While possible for this species to forage within the APE and surrounding area, trees for roosting were absent from the APE. The nearest recorded observation of this species within the vicinity was approximately 11.1 miles northeast of the APE in 1999 within the riparian corridor of the Sacramento River.
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.	**Unlikely.** The APE contained marginal aquatic and upland habitat for this species. While small mammal burrows were present, the habitat is consistently disturbed by agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 7.6 miles south/southeast of the APE in 2026 within Sand Creek.
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 California 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.	**Absent.** The APE is outside of the known distribution range of this species and suitable habitat is absent from the site and surrounding areas.

***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	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CT	California Threatened
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
		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 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 that require 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 ORDINANCE

The Colusa County General Plan 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.

CDFW has been granted temporary authority to list federal species under CESA if the existing federal protections have either been removed or reduced through "federal action: (California Assembly Bill 1319). "Federal actions" include, but are not limited to, actions relying in whole or in part on amendments to the ESA regulations. The California Fish and Game Commission would list new species through adoption of an emergency regulation.

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).

The California Migratory Bird Protection Act (AB 454) is a state law signed in October 2025 that permanently prohibits the unlawful taking or possession of any migratory bird covered by the federal Migratory Bird Treaty Act, including both intentional and incidental take.

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"

Aquatic resources, including wetlands, streams, rivers, and lakes, are among the important biological resources that are protected by local, State, and federal laws and regulations. Activities that impact these "jurisdictional waters" may be regulated and require permits which aim to avoid or minimize adverse impacts to "jurisdictional waters" to the greatest extent possible. The definition of a jurisdictional water may vary depending on the regulatory agency, and the limits of jurisdiction for each agency are described below.

The USACE, pursuant to Section 404 of the Clean Water Act (CWA), upholds a set of guidelines to regulate activities that could result in the discharge of pollutants into "waters of the United States" ("WOTUS"). The legal definition of WOTUS has significantly evolved since the passage of the CWA in 1972 as a result of administrative rulings and litigation involving federal jurisdiction over water resources. Thus, the reach and extent of USACE and United States Environmental Protection Agency (EPA) jurisdiction over aquatic features has continually been subject to revision.

The current administrative definition of WOTUS is described in the Biden Administration's 2023 "Conforming Rule." 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 defined by section 328.3, subdivision (a) of title 33 of the CFR:

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 Department of the Army, acting through the USACE, regulates the filling or excavation of jurisdictional waters and is authorized to issue permits for activities within WOTUS under the authority of Section 404 of the CWA. The extent of jurisdiction is defined by an "ordinary high-water mark" (OHWM) on opposing channel banks.

The State of California also asserts jurisdiction over drainages, wetlands, and other aquatic features. The limits of State jurisdiction differ from those of the EPA and USACE, often being more inclusive of water resources. The California Department of Fish and Wildlife has jurisdiction over the bed and bank of rivers, natural drainages, streams, and lakes and regulates alteration to these features pursuant to the provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities to alter these features would require a Lake or Streambed Alteration Agreement from CDFW, which could include mitigation measures for aquatic and biological resources that could be affected by Project activities.

The State Water Resources Control Board, under the Porter-Cologne Water Quality Control Act of 1969, holds regulatory authority over activities affecting water quality of all surface water and groundwater in California, collectively known as "waters of the State." Discharges into waters of the State that are also WOTUS require a CWA Section 401 Water Quality Certification from the appropriate regional office 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 an NPDES permit.

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: giant garter snake, burrowing owl, Swainson's hawk, and northwestern pond turtle. Other sensitive resources that have the potential to be impacted by the Project include jurisdictional waters. 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 (someone familiar with the identification and habitats of these species), to aid workers in identifying special status resources that may occur in the APE. 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 APE, 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.

Mitigation Measure BIO-1b (*BMPs*): The Project proponent will require that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped.
- 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 or relevant experience) 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 the necessary federal or state take permit(s).
- The presence of any special status species will be reported to the Project's 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 MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS BIRDS

The site and adjacent areas contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds including Swainson's hawk (SWHA). It is

anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs and trees within, and adjacent to, the site and forage within the site. Protected birds located within or adjacent to the site 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 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, such as SWHA, is present on the site, suitable foraging habitat is located adjacent to the site and within the vicinity of the site. 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 help the Project comply with State and federal laws protecting these bird species. Mitigation measures specific to BUOW are presented in Section 3.3.4 (i.e., BIO-3a, BIO-3b, and BIO-3c).

> Mitigation Measure BIO-2a (*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-2b (*Pre-construction Surveys*): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for SWHA nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This survey will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The survey would also include inspecting for nesting migratory birds within up to 50 feet outside of the APE and for other nesting raptors within up to 450 feet outside of the APE. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.
>
> Mitigation Measure BIO-2c (*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.

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

As discussed in Section 3.3.3, the site contained suitable foraging habitat for BUOW, and this species also may nest or roost within burrows within, or adjacent to, the site. Construction activities that adversely affect the nesting success of BUOWs 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 APE may remove some potential nesting/roosting and foraging habitat for BUOW, there is abundant habitat adjacent to the site that could be used, and implementation of the Project would not significantly reduce potential nesting, roosting, and foraging habitat for this species. Therefore, no mitigation measures are warranted for loss of BUOW nesting/roosting and foraging habitat.

Implementation of the following measures would reduce potential impacts to nesting and 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-3a (*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 will include the proposed work area and surrounding lands up to 500 feet. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for BUOW will be conducted. If no BUOW individuals or active burrows are observed, no further mitigation is required.

Mitigation Measure BIO-3b (*Avoidance*): If an active BUOW burrow is detected, avoidance buffers will be implemented. A qualified biologist will determine appropriate avoidance buffer distances based on CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*, the biology of BUOW, 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 Project area.

Level of Disturbance				
Location	Time of Year	Low	Med	High
Nesting sites	April 1-Aug 15	200 meters	500 meters	500 meters
Nesting sites	Aug 16-Oct 15	200 meters	200 meters	500 meters
Nesting sites	Oct 16-Mar 31	50 meters	100 meters	500 meters

Recommendation BIO-3c (*ITP* and *Passive Relocation*): If an active BUOW burrow is detected within the proposed work area and cannot be avoided, it is recommended the Project obtain an Incidental Take Permit (ITP) in order to implement protection plans and/or relocation plans in consultation with CDFW and/or USFWS and protect the Project from "take" of this species.

3.3.4 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO NORTHWESTERN POND TURTLE

The APE contained aquatic habitat, in the form of the Creek, Canal, and the two irrigation ditches, which could be used by northwestern pond turtle for dispersal and basking. The banks along the waterways within the APE could be used by northwestern pond turtle for nesting and foraging. Noise, vegetation removal, movement of workers, construction, and ground disturbance as a result of Project activities have the potential to significantly impact northwestern pond turtle. Potentially significant impacts associated with Project activities could include inadvertent entrapment or direct mortality. Project activities that impact northwestern pond turtles would be considered a potentially significant impact under CEQA and NEPA.

The following measures will be implemented prior to the start of construction and will reduce impacts to northwestern pond turtle to a less than significant level under CEQA and NEPA:

Mitigation Measure BIO-4a (*Pre-construction Survey and Avoidance Buffers*): Within seven (7) days prior to the start of construction, a qualified biologist (someone familiar with the identification and habitat of this species) will conduct a pre-construction survey for northwestern pond turtle within the APE and surrounding areas 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), or current guidance. If no northwestern pond turtles 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 northwestern pond turtle will be conducted. If the survey results in the identification of a northwestern pond turtle or an individual is found on the APE during construction activities, it will be allowed to leave the APE on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).

Mitigation Measure BIO-4b (*Monitor*): If northwestern pond turtles are observed within the APE, 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 left the APE.

Mitigation Measure BIO-4c (*Formal Consultation*): Should northwestern pond turtles get listed in this area and the Project/qualified biologist needs to move an individual, consultation for protection plans and/or relocation plans with the appropriate agencies will be completed to avoid take.

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

The APE contained suitable giant garter snake (GGS) 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 APE 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 measure 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-5a (*ITP*): Consultation with CDFW is warranted to discuss how to implement the Project and avoid and minimize take of giant garter snake. Take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is recommended to comply with CESA. Potential protective measures which are expected to be included in the ITP are pre-construction surveys, exclusion fencing, and daily monitoring of the site by qualified biologists.

3.3.6 PROJECT-RELATED IMPACTS TO REGULATED WATERS, WETLANDS, AND WATER QUALITY

The Project involves the replacement of the Siphon along the Canal that will flow into Creek. The USFWS National Wetlands Inventory Map was consulted for known wetlands in the area and riverine was classified to be within the boundaries of the Creek and Canal. Project-related impacts to some or all of these waters 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 Sections 401 and 404 of the Clean Water Act and impacts to waters of the State are subject to the permit requirements of Section 401 of the Clean Water Act and California Fish and Game Code. The placement of fill within any wetlands or other jurisdictional features will require a 401 Water Quality Certification from the RWQCB, 404 permit from the USACE, and a Lake or Streambed Alteration Agreement from CDFW. An ARD will be performed for the Project.

There are no designated wild and scenic rivers within the APE; therefore, the Project would not result in direct impacts to wild and scenic rivers.

If construction involves ground disturbance over an area greater than one acre, the Project will need to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan to ensure construction activities do not adversely affect water quality. This plan will need to be prepared in support of the Construction General Permit application.

Implementation of the following measures will reduce potential impacts to waters to a less than significant level under CEQA and NEPA and will ensure compliance with State and federal laws protecting these waters.

> **Mitigation Measure BIO-6a (*Permits*):** If the Project intends to impact jurisdictional waters, permits with USACE, RWQCB, and/or CDFW will be obtained to comply with State and federal regulations, if necessary. These permits, certifications, and agreements would ensure impacts to waters are minimized to the extent possible and permanent impacts would be offset by compensatory mitigation.

3.4 SECTION 7 DETERMINATIONS

In addition to the occurrence 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 and the USFWS IPaC list generated on July 2, 2026 (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
Conservancy fairy shrimp *(Branchinecta conservatio)*	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE.
Giant garter snake *(Thamnophis gigas)*	Likely to adversely affect.	**Habitat present.** The APE contained suitable aquatic habitat (specifically the Creek, Canal, both irrigation ditches, and submerged rice fields) and small mammal burrows to support this species. Implementation of mitigation measure **BIO-5a** requires consultation with CDFW to obtain take coverage under CESA.
Green sturgeon (*Acipenser medirostris*)	No effect	**Habitat absent.** The APE is outside of the known distribution range of this species. Suitable aquatic habitat with key habitat features for this species were absent from the APE and surrounding area.
Keck's checkerbloom (*Sidalcea keckii*)	No effect	**Habitat absent**. The APE does not provide suitable grassland habitat and is outside the current known elevational range of this species.
Longfin smelt San Francisco Bay-Delta DPS (*Spirinchus thaleichthys* pop. 2)	No effect	**Habitat absent.** The APE is outside of the known distribution range of this species. Suitable aquatic habitat with key habitat features for this species were absent from the APE and surrounding area.

Species	Determination	Rationale for Determination
Monarch butterfly (*Danaus plexippus*)	No effect	**Habitat absent.** Both roosting habitat and sufficient nectar sources were absent from the APE.
Northern spotted owl (*Strix occidentalis caurina*)	No effect	**Habitat absent.** The APE is outside of the known distribution range of this species and forested habitat was absent from the APE and surrounding areas.
Northwestern pond turtle (*Actinemys marmorata*)	May affect, but not likely to adversely affect	**Habitat present.** The Creek, Canal, and irrigation ditches provide suitable aquatic habitat for this species. Basking opportunity is present along the banks of each waterway. Implementation of mitigation measure **BIO-4a**, **BIO-4b**, and **BIO-4c** would reduce effects to not likely to adversely affect.
Palmate-bracted bird's beak (*Chloropyron palmatum*)	No effect	**Habitat absent**. Chenopod scrub and valley and foothill grassland habitat was absent from the APE.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	No effect	**Habitat absent.** Suitable aquatic habitat with key habitat features for this species were absent from the APE and surrounding area.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	No effect	**Habitat absent.** Elderberry shrubs that are required by this species were absent from
Vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within and surrounding the APE.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within and surrounding the APE.
Western spadefoot (*Spea hammondii*)	No effect	**Habitat absent.** The APE contained marginal aquatic and upland habitat that experiences frequent disturbance from surrounding agricultural activities.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	No effect	**Habitat absent.** Suitable nesting habitat were absent from the APE.

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 APE

Of the 19 regionally occurring special status plant species, all 19 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include all of the plant species listed in Table 2.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 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 APE

Of the 25 regionally occurring special status animal species, 21 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: American badger, bald eagle, bank swallow, conservancy fairy shrimp, Crotch bumble bee, foothill yellow-legged frog, golden eagle, green sturgeon, longfin smelt, monarch butterfly, northern spotted owl, San Joaquin coachwhip, song sparrow, steelhead, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western red bat, western spadefoot, and western yellow-billed cuckoo.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 21 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.5.3 PROJECT-RELATED IMPACTS TO RIPARIAN HABITAT AND NATURAL COMMUNITIES OF SPECIAL CONCERN

Riparian habitat is absent from the APE and adjacent lands. There are no CNDDB-designated "natural communities of special concern" recorded within the APE or surrounding lands. Mitigation is not warranted.

3.5.4 PROJECT-RELATED IMPACTS TO WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

The APE does contain features that would be likely to function as wildlife movement corridors. However, the APE and surrounding lands are open and expansive, that it is unlikely construction would affect animal dispersion. Furthermore, the Project is in a region often disturbed by human activities related to agricultural activities which may discourage dispersal and migration.

The APE has suitable waterways (the Creek, Canal, and both irrigation ditches) that could be used by amphibians to lay eggs as native wildlife nursery sites. The potential impacts to amphibians have been addressed in Mitigation BIO-6a (jurisdictional waters). It is unlikely other native species will utilize any features of the APE as a wildlife nursery site.

Therefore, the Project would have no impact on wildlife movement corridors or other native wildlife nursery sites, and no additional mitigation measures are warranted.

3.5.5 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

Designated critical habitat is absent from the APE. Therefore, there would be no impact to critical habitat, and mitigation measures are not warranted.

3.5.6 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.

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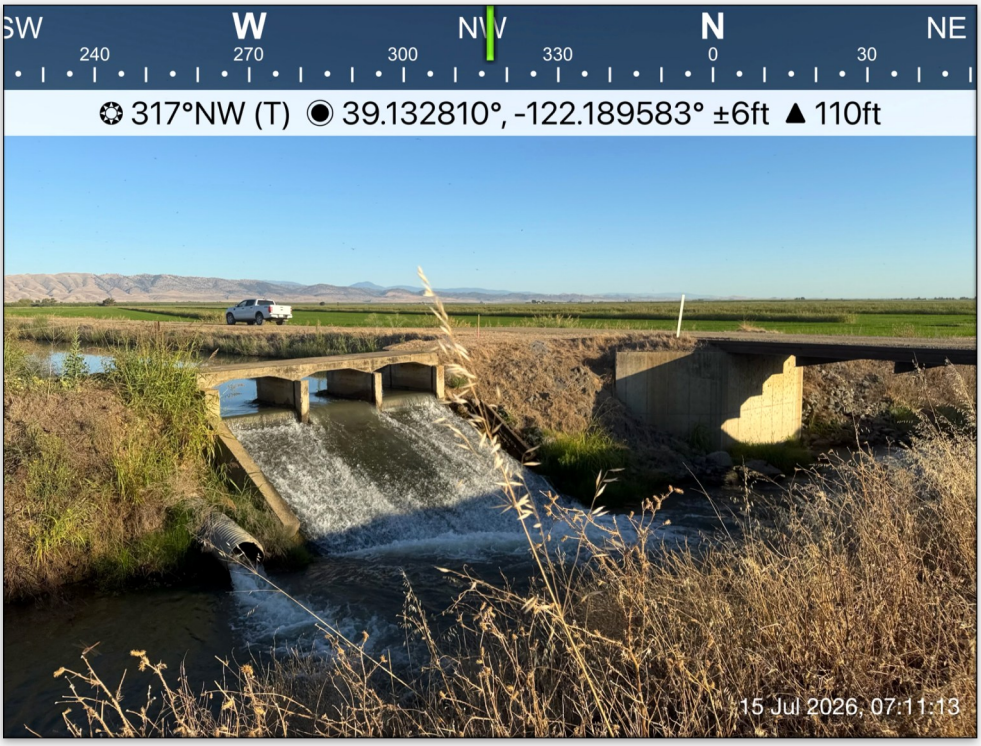
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APPENDIX A: REPRESENTATIVE PHOTOS OF THE APE



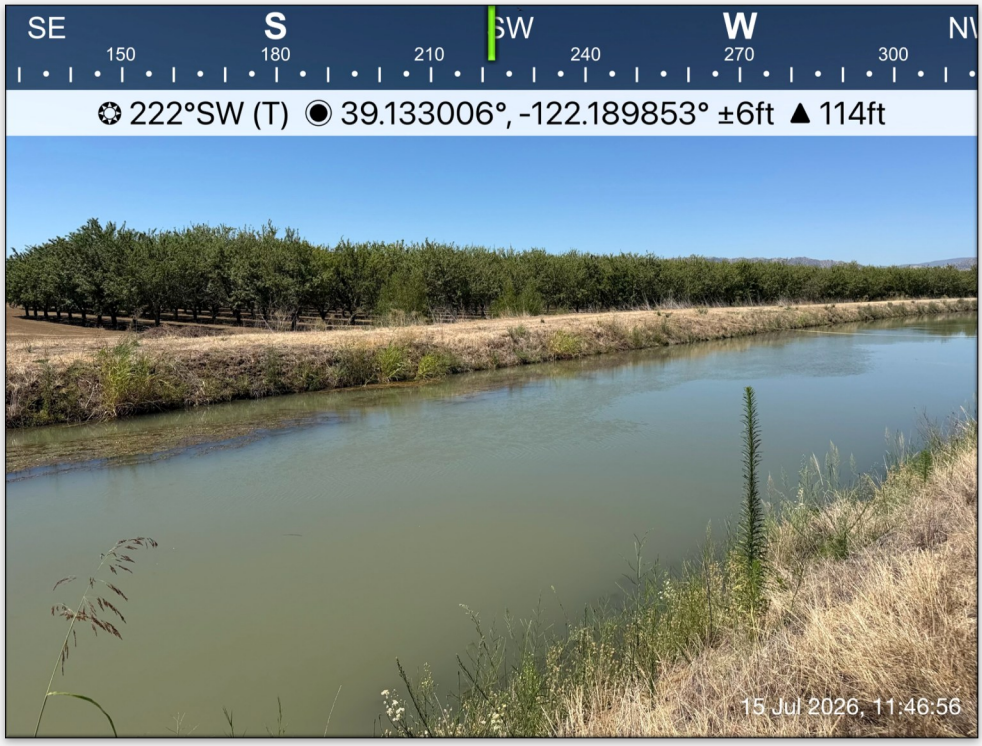
Photograph 1

Overview of the siphon structure along the Glenn-Colusa Canal that drains into Sprong Creek. The surrounding agricultural habitat and access roads are also visible in the photo.



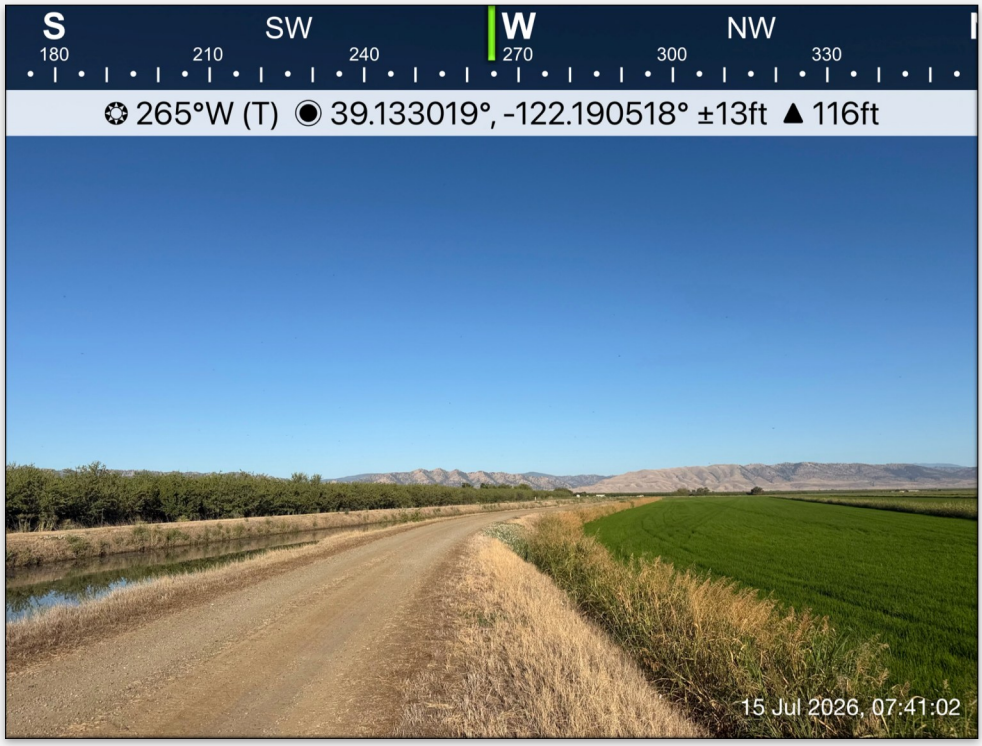
Photograph 2

Overview of Spring Creek, which vertically bisects the APE. The creek was very channelized with no riparian canopy. The bank was steep and dominated by non-native vegetation.



Photograph 3

Overview of the Glenn-Colusa Canal, which flows through the center of the APE. The canal was also very channelized and surrounded by agricultural habitat.



Photograph 4

Overview of one of the access roads along Glenn-Colusa Canal and adjacent to submerged rice fields. Giant garter snakes are known to utilize submerged rice fields as suitable aquatic habitat in the area.



Photograph 5

Overview of the unnamed irrigation ditch along the eastern side of Spring Creek. The ditch was primarily vegetated by non-native annuals.



Photograph 6

The bridge that spans over Spring Creek and connects various access roads. Wildlife likely utilize this structure during dispersal.

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 (Williams (3912222) OR Arbuckle (3912211) OR Colusa (3912221) OR Cortina Creek (3912212) OR Manor Slough (3912223) OR Maxwell (3912232) OR Moulton Weir (3912231) OR Salt Canyon (3912213) OR Sites (3912233))

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
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	Candidate Endangered	G4	S2	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
Colusa layia *Layia septentrionalis*	PDAST5N0F0	None	None	G2	S2	1B.2
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch's bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
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	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
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	SSC
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
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 - San Francisco Bay-Delta DPS *Spirinchus thaleichthys pop. 2*	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
northwestern pond turtle *Actinemys marmorata*	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
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
Sacramento Valley tiger beetle *Cicindela hirticollis abrupta*	IICOL02106	None	None	G5TH	SH	
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G3	S2S3	
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2T3	S2S3	1B.2
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	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G3	S2	SSC
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 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 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
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
Wright's trichocoronis *Trichocoronis wrightii var. wrightii*	PDAST9F031	None	None	G4T3	S1	2B.1

Record Count: 54

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: 07/02/2026 17:00:46 UTC
Project Code: 2026-0111494
Project Name: Spring Creek Siphon Replacement Project

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 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.

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: 2026-0111494

Project Name: Spring Creek Siphon Replacement Project

Project Type: Stream/Waterbody - Channel/Diversion Structures

Project Description: Glenn-Colusa Irrigation District intends to replace the existing Spring Creek Siphon (Siphon). The aging structure has experienced several significant leakage events in recent years, requiring repeated temporary repairs. To improve long-term reliability and reduce ongoing maintenance, GCID has determined that replacement of the Siphon is warranted. The Spring Creek Siphon is located along the GCID Main Canal, approximately 2.5 miles southwest of the City of Williams, CA. The Siphon conveys irrigation flows across (below) the Spring Creek natural channel and is used as a safety spill to prevent Main Canal water levels from increasing beyond the design elevation. An existing headgate and pipeline deliver water into Spring Creek for irrigation deliveries downstream. The existing Siphon is constructed of reinforced concrete and includes upstream and downstream headwalls and a three-barrel, inverted box culvert. The inside dimensions of the box culvert barrel are unknown, but each barrel is assumed to be no larger than 10-ft wide by 6-ft high.

There is an existing vehicle bridge across Spring Creek on the left (east) canal embankment. The bridge is a free spanning structure with abutments on either creek bank. Based on available information, no improvements to the bridge are anticipated, however a structural assessment will be carried out.

GCID is targeting the 2027-28 winter shutdown period for replacement of the Spring Creek Siphon. Prior to this construction window, Provost & Pritchard will provide the necessary survey, design, environmental documentation and agency permitting services necessary. The scope, fee and preliminary schedule associated with these services are described below in six (6) Tasks. As construction nears, construction support services including contractor solicitation and bidding, engineering support, construction management, materials testing and inspection and biological monitoring may be added with authorization from GCID.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.133244000000005,-122.1895977851708,14z



Counties: Colusa County, California

ENDANGERED SPECIES ACT SPECIES

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

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA 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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425 General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	Proposed Threatened

INSECTS

NAME	STATUS
Monarch butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743 General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	Proposed Threatened
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*	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/8246	
General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	
Vernal pool fairy shrimp *Branchinecta lynchi*	Threatened
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	
General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	
Vernal pool tadpole shrimp *Lepidurus packardi*	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/2246	
General project design guidelines: https://ipac.ecosphere.fws.gov/project/WALUUGLTEZFT7BJIPBXGNSAZLQ/documents/generated/11271.pdf	

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: Olivia Arredondo
Address: 455 W. Fir Ave.
City: Clovis
State: CA
Zip: 93611
Email oarredondo@ppeng.com
Phone: 8312970074

APPENDIX D: NRCS WEB SOIL SURVEY REPORT

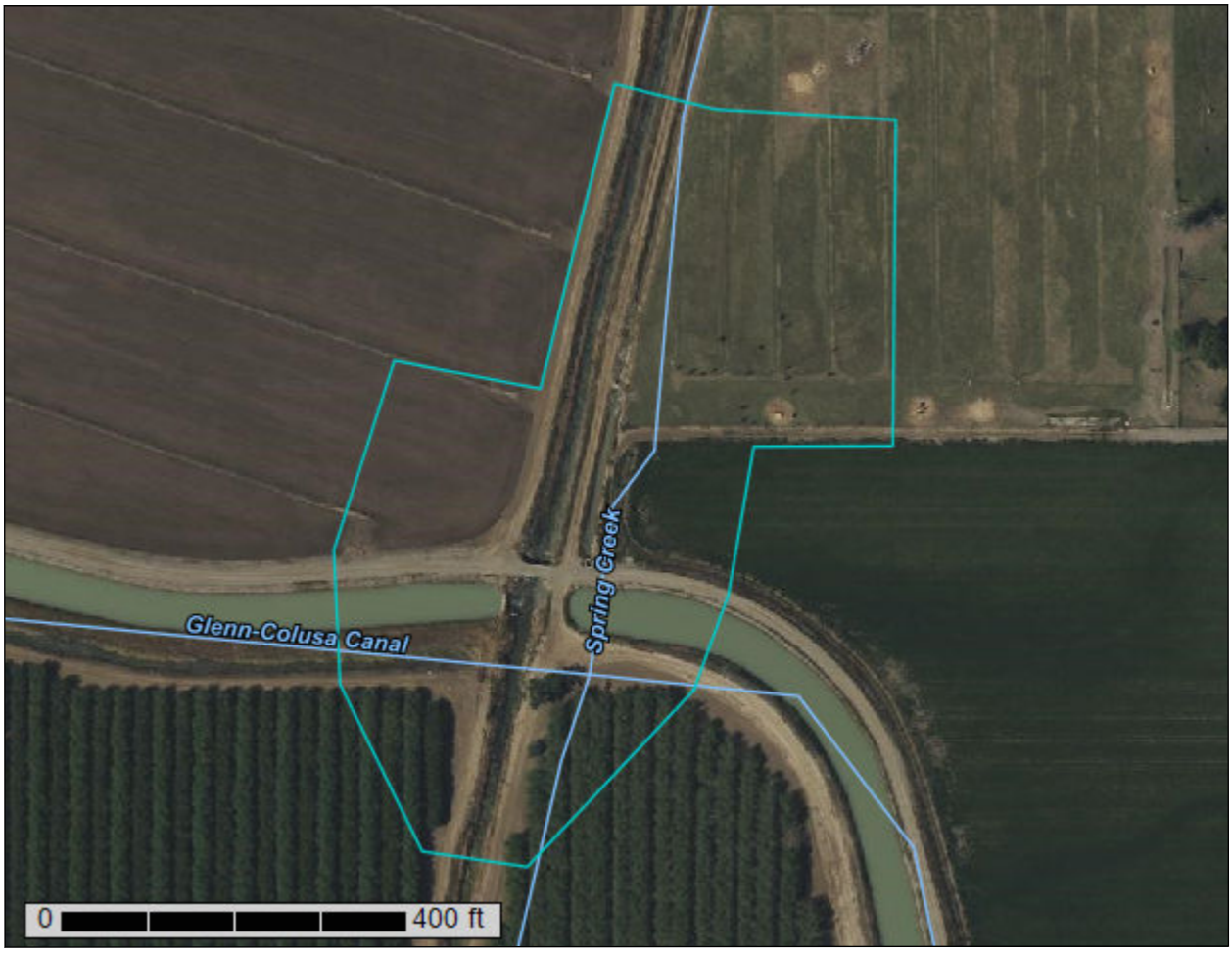
United States Department of Agriculture

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



July 7, 2026

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

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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.

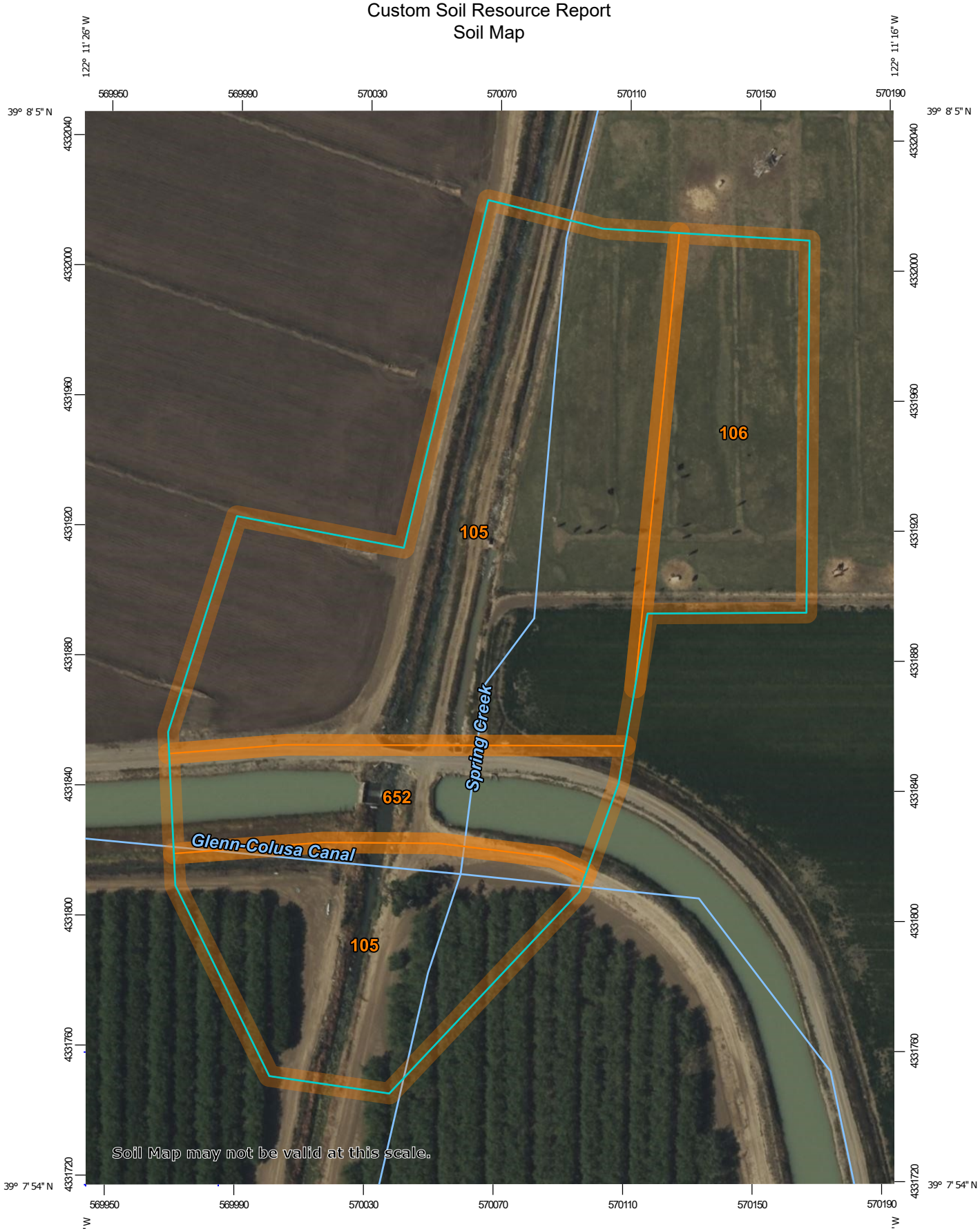
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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 Scale: 1:1,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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 21, Sep 3, 2025

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
105	Willows silty clay, 0 to 1 percent slopes, occasionally flooded	5.5	69.6%
106	Willows silty clay, 0 to 1 percent slopes	1.3	16.8%
652	Water	1.1	13.6%
Totals for Area of Interest		**7.8**	**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

105—Willows silty clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: hh8m
Landscape: Valleys
Elevation: 40 to 110 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: Not prime farmland

Map Unit Composition

Willows, silty clay, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Willows, Silty Clay, Occasionally Flooded

Setting

Landscape: Valleys
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap1 - 0 to 5 inches: silty clay
Ap2 - 5 to 13 inches: silty clay
Bw - 13 to 20 inches: silty clay
Bssy1 - 20 to 39 inches: silty clay
Bssy2 - 39 to 51 inches: silty clay
Bssy3 - 51 to 59 inches: silty clay
Bssy4 - 59 to 72 inches: clay
Bssy5 - 72 to 80 inches: silty clay
Bkssy - 80 to 87 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 15.0 mmhos/cm)
Sodium adsorption ratio, maximum: 40.0

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: Yes

Minor Components

Capay, clay loam, occasionally flooded

Percent of map unit: 5 percent
Landscape: Valleys
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
Landscape: Valleys
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

Willows, silty clay, frequently flooded

Percent of map unit: 2 percent
Landscape: Valleys
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: Yes

Scribner, silt loam, occasionally flooded

Percent of map unit: 1 percent
Landscape: Valleys
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R017XY903CA - Stream Channels and Floodplains
Hydric soil rating: Yes

106—Willows silty clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: hh8n
Landscape: Valleys
Elevation: 40 to 110 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: Not prime farmland

Map Unit Composition

Willows, silty clay, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Willows, Silty Clay

Setting

Landscape: Valleys
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap1 - 0 to 5 inches: silty clay
Ap2 - 5 to 13 inches: silty clay
Bw - 13 to 20 inches: silty clay
Bssy1 - 20 to 39 inches: silty clay
Bssy2 - 39 to 51 inches: silty clay
Bssy3 - 51 to 59 inches: silty clay
Bssy4 - 59 to 72 inches: clay
Bssy5 - 72 to 80 inches: silty clay
Bkssy - 80 to 87 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent

Gypsum, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 15.0 mmhos/cm)
Sodium adsorption ratio, maximum: 40.0
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: Yes

Minor Components

Capay, clay loam

Percent of map unit: 5 percent
Landscape: Valleys
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
Landscape: Valleys
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

Willows, silty clay, occasionally flooded

Percent of map unit: 2 percent
Landscape: Valleys
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

Scribner, silt loam

Percent of map unit: 1 percent
Landscape: Valleys
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

652—Water

Map Unit Setting

National map unit symbol: hhdh
Landscape: Valleys
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Appendix C – Cultural Resources Inventory Report

CONFIDENTIAL

Archaeological Resources Inventory and Evaluation Report for the Spring Creek Siphon Replacement Project

Colusa County, California

Prepared For:
Provost and Pritchard Consulting Group
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Chico, CA 95928
Prepared By:

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ENVIRONMENTAL CONSULTANTS
Rocklin ♦ Redlands ♦ Irvine ♦ San Diego ♦ Chico ♦ Santa Fe ♦ Fresno

September 2026

MANAGEMENT SUMMARY

Provost and Pritchard retained ECORP Consulting, Inc. (ECORP) in 2026 to conduct an archaeological resources inventory and built environment resource evaluation for the Spring Creek Siphon Replacement Project in Colusa County, California. The Glenn-Colusa Irrigation District (GCID) proposes to reconstruct and replace the existing siphon and infrastructure that provide transportation of water to and from the Glenn-Colusa Canal (also known as the GCID Main Canal). The GCID Main Canal also has a bridge feature that is included within the Area of Potential Effects (APE).

The inventory included a records search, literature review, and field survey. The records search indicated that a previous cultural resources study was conducted within the Project's APE 1.0 mile records search radius; that study did not record any resources within the APE.

As a result of the field survey, ECORP recorded one historic-period resource within the APE: a segment of the GCID Main Canal. According to the Office of Historic Preservation's Built Environment Resource Directory records, the Federal Highway Administration recorded and evaluated the GCID Main Canal in a report dated April 30, 2015 and found it ineligible for the National Register of Historic Places (NRHP) under all criteria. The GCID Main Canal was given a California Historical Resource Status Code of 6Y, which indicates that it was determined ineligible for the NRHP by consensus through the Section 106 process and was not evaluated for the California Register of Historical Resources (CRHR) or local listing. This section of the canal had not been previously evaluated; therefore, ECORP conducted an updated evaluation of the GCID Main Canal. ECORP found that the GCID Main Canal does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district. Therefore, it is not a Historical Resource in accordance with the California Environmental Quality Act (CEQA) or a Historic Property in accordance with Section 106 of the National Historic Preservation Act (NHPA).

This report also provides recommendations for mitigation and the management of unanticipated discoveries.

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Appendix B – Sacred Lands File Coordination
Appendix C – Photographs of the Area of Potential Effects
Appendix D – ***Confidential*** Cultural Resource Site Locations and Site Records

LIST OF ACRONYMS AND ABBREVIATIONS

Term/Acronym	Definition
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BERD	Built Environment Resource Directory
BLM	Bureau of Land Management
BP	years before present
cal.	calibrated
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHL	California Historical Landmark
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DPR	California Department of Parks and Recreation
ECORP	ECORP Consulting, Inc.
GCID	Glenn-Colusa Irrigation District
GLO	General Land Office
JRP	JRP Consulting
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHP	Office of Historic Preservation
PRC	Public Resources Code
Project	Spring Creek Siphon Project
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SVIC	Sacramento Valley Irrigation Company
TCR	tribal cultural resource
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

1.0 INTRODUCTION

Provost and Pritchard retained ECORP Consulting, Inc. (ECORP) in 2026 to conduct a cultural resources inventory and built environment resource evaluation for the Spring Creek Siphon Replacement Project (Project) in Colusa County, California. The Glenn-Colusa Irrigation District (GCID) proposes to replace the Spring Creek Siphon along the Glenn-Colusa Canal (also known as the GCID Main Canal). A survey of the Project's Area of Potential Effects (APE) was required to identify potential eligible cultural resources (i.e., archaeological sites, historic buildings, structures, and objects) that could be affected by the Proposed Project.

1.1 Project Location and Description

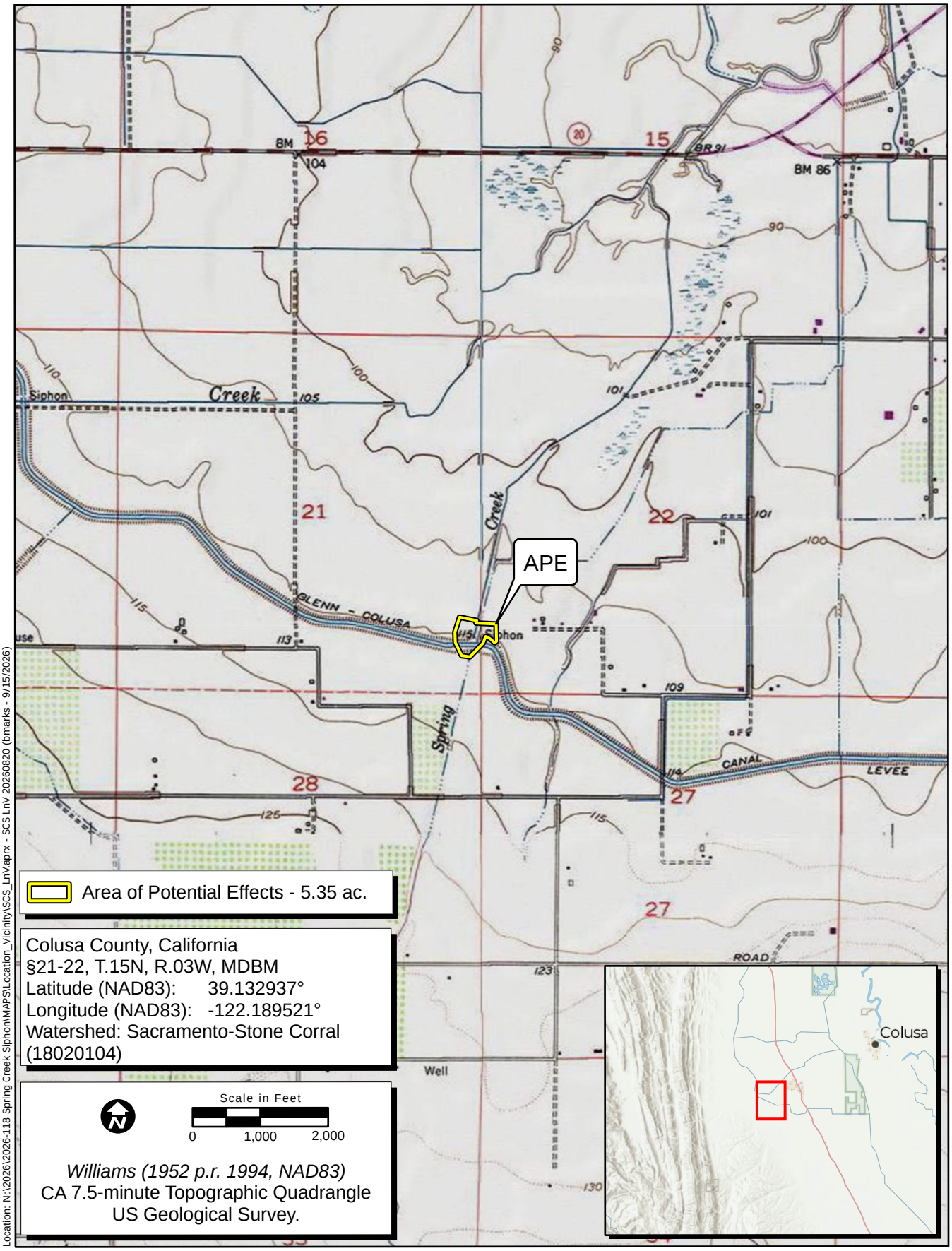
The APE consists of 7.8 acres of land located in the Sections 21 and 22 of Township 15 North, Range 3 West, Mount Diablo Base and Meridian, as depicted on the 1952 U.S. Geological Survey (USGS) Williams, California 7.5-minute quadrangle map (Figure 1). The Project Area comprises five parcels, which are identified by Assessor's Parcel Numbers 016-300-001-000, 016-300-004, 016-130-008-000, 016-130-010, 016-280-022. The Spring Creek Siphon is located 0.50 mile north of Hankins Road, carrying GCID Main Canal through Spring Creek. The GCID Main Canal features a bridge and junctions with Spring Creek Siphon; to get access to the water conveyance system, there are impervious roadways that border the agricultural fields (Figure 2).

The Proposed Project entails a reconstruction of Spring Creek Siphon to replace the existing siphon and infrastructure. This will allow GCID to convey irrigation flows efficiently and minimize maintenance costs. The Project would involve the construction of a trench for pipes or box culverts to be installed. The trench would be backfilled and potentially concrete capped. The staging for this Project would be located east of the structure near the bank of GCID Main Canal.

1.2 Area of Potential Effects

The APE consists of the horizontal and vertical limits of a project and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to California Environmental Quality Act (CEQA) review, the term Project Area is used rather than APE. The terms Project Area and APE are, therefore, interchangeable for the purpose of this document.

The horizontal APE consists of all areas where activities associated with a project are proposed and, in the case of this Project, equals the Project Area subject to environmental review under the National Environmental Policy Act (NEPA) and CEQA. This includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, paving, and other elements in the official Project description. The horizontal APE is illustrated in Figure 1 and represents the survey coverage area.



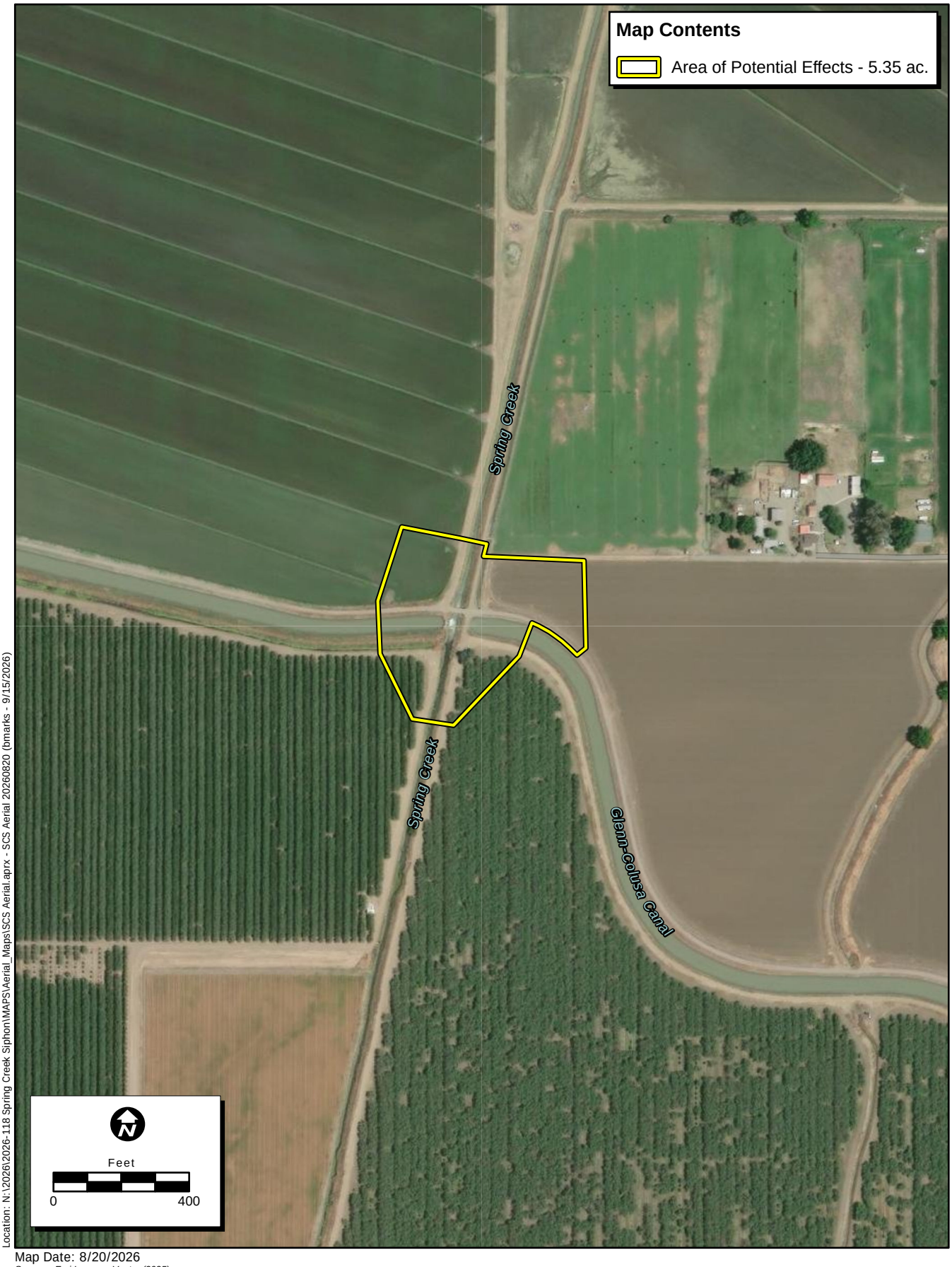
Location: N:\2026\2026-118 Spring Creek Siphon\MAPS\Location_Vicinity\SCS_LnV.aprx - SCS LnV 20260820 (bmarks - 9/15/2026)

Map Date: 8/20/2026
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

2026-118 Spring Creek Siphon

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Location: N:\2026\2026-118 Spring Creek Siphon\MAPS\Aerial_Maps\SCS Aerial.aprx - SCS Aerial 20260820 (bmarks - 9/15/2026)

Map Date: 8/20/2026

Sources: Esri Imagery, Vantor (2025)

Figure 2: Project Aerial Overview

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2026-118 Spring Creek Siphon

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical APE for this Project includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the Project Area but could extend as deep as 20 feet below the current surface; therefore, a review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE is also described as the maximum height of structures that could affect the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For this Project, the above-surface vertical APE could be as high as 50 feet above the current surface.

1.3 Regulatory Context

The CEQA Lead Agency for this Project is GCID. The NEPA or Section 106 Lead Agency for this Project is assumed to be the U.S Army Corps of Engineers (USACE).

A review of the regulatory context is provided below; however, the inclusion of any of these laws and regulations in this report does not make a law or regulation apply when it otherwise would not. Similarly, the omission of any other laws and regulations from this section does not mean that they do not apply. Rather, the purpose of this section is to provide context in explaining why the study was carried out in the manner documented herein.

1.3.1 National Environmental Policy Act

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage" (42 U.S. Code § 4331). Cultural resources do not need to be determined eligible for the National Register of Historic Places (NRHP) through the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500–1508).

The definition of *effects* in the NEPA regulations includes both adverse and beneficial effects on historic and cultural resources (40 CFR 1508.1(i)). When determining the level of NEPA review, federal agencies must determine if potential effects on historic or cultural resources that could result from the proposed action and each alternative would be significant (40 CFR 1501.3(d)). In considering whether an alternative may *significantly affect the quality of the human environment*, a federal agency must consider, among other things:

- unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR1501.3(d)(1) and 40 CFR 1501.3(2)(ii)); and
- the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP (40 CFR1501.3(2)(v)).

Therefore, because Historic Properties are a subset of cultural resources, they are one aspect of the human environment defined by NEPA regulations.

1.3.2 National Historic Preservation Act

The federal law that covers cultural resources that could be affected by federal undertakings is the NHPA of 1966, as amended. Section 106 of the NHPA requires that federal agencies consider the effects of a federal undertaking on properties listed in or eligible for the NRHP. The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 CFR 800.16(y):

> A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.

The regulations that stipulate the procedures for complying with NHPA Section 106 are in 36 CFR 800. The NHPA Section 106 regulations require:

- definition of the APE;
- identification of cultural resources within the APE;
- evaluation of the identified resources within the APE using NRHP eligibility criteria;
- determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. NHPA Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO's concurrence, determines that the resource is eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 60.4, are as follows:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and:
>
> A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

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

D. that have yielded, or may be likely to yield, information important in prehistory.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for or listed on the NRHP are *Historic Properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to Historic Properties within the APE. According to 36 CFR 800.5(a)(1), an adverse effect is defined as when an undertaking may:

> …alter, directly or indirectly, any of the characteristics of a Historic Property that qualify the property for inclusion in the [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

1.3.3 U.S. Army Corps of Engineers Regulations

If a project would affect Waters of the United States, the project proponent must meet requirements of Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act of 1899, and/or Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, in addition to seeking authorization from the USACE. Historic Properties are also subject to consideration under the USACE's own regulations in Appendix C of 33 CFR Part 325 and the USACE's public interest review requirements provided in 33 CFR 320.4. Historic Properties, therefore, are included as a factor in the district engineer's decision on each CWA 404 permit application.

1.3.4 California Environmental Quality Act

CEQA is the state law that applies to a project's impacts on cultural resources. A *project* is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or that requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts would be significant, then apply mitigation measures to reduce the impacts.

Per CEQA, a Historical Resource is a resource that:

1. is listed in or is eligible for the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR;

2. is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k); or

3. has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (California Code of Regulations [CCR] Title 14, Section 15064.5[a]).

The eligibility criteria for the CRHR are as follows (CCR Title 14, Section 4852[b]):

1. The resource is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. The resource is associated with the lives of persons important to local, California, or national history.
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. The resource has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the Nation.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Section 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed, or if the characteristics that made the resource eligible are materially impaired (CCR Title 14, Section 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features such that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would also result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features within a project area could also result in significant impacts.

CEQA also requires lead agencies to determine if a proposed project would have a significant effect on unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources.

"Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

CEQA also requires consideration of Tribal cultural resources (TCRs), as defined in Section 21074 of the California PRC. TCRs are sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either listed in or eligible for the CRHR, or are included in a local register of historical resources as defined in subdivision (k) of Section 5020.1, or are a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

1.4 Report Organization

This report documents the study and its findings, and was prepared in conformance with the California Office of Historic Preservation's (OHP) *Archaeological Resource Management Reports: Recommended Contents and Format*. Appendix A includes a confirmation of the records search with the California Historical Resources Information System (CHRIS) and historical society coordination. Appendix B contains documentation of a search of the Sacred Lands File. Appendix C presents photographs of the APE. Appendix D contains confidential cultural resource site locations and site records.

2.0 SETTING

2.1 Environmental Setting

The APE is situated in the northern portion of the Sacramento Valley, approximately 13 miles east of the Sacramento River. The APE is located in an unincorporated section of western Colusa County, to the southwest of the community of Maxwell and the City of Williams. The APE is situated in a rural setting and is surrounded by agricultural fields. Spring Creek flows southwestward through the GCID Main Canal and APE. Elevations within the APE range from 110 to 114 feet above mean sea level.

2.2 Geology and Soils

Rosenthal and Willis in 2017 describe the geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20 kilometers]) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. Erosion of the Sierra Nevada during the Pleistocene led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the APE contains three mapped soil units: Willows silty clay (105), 0 to1 percent slopes, occasionally flooded, is poorly drained, and has a depth to water table that ranges from 48 to 72 inches. Willows silty clay (106), 0 to 1 percent slopes, is poorly drained, and has a depth to water table that ranges from 48 to 72 inches. Water (652) (NRCS 2026).

The Geologic Map of California identifies the underlying geology of the APE as marine and nonmarine (continental) sedimentary rocks that date to the Pleistocene and Holocene eras. The underlying geology comprises unconsolidated and semi-consolidated alluvium with the addition of lake, playa, and terrace deposits, which are primarily composed of nonmarine sedimentary rock but include marine deposits near the coast.

The APE has a moderate potential for buried archaeological deposits due to the age of the underlying soil and presence of alluvium from Spring Creek. The APE is situated within a basin-floodplain that dates to the middle-to-late-Holocene period (approximately 7,000 to 150 years ago) and would have frequently flooded as part of the Sacramento River watershed during the pre-contact period (Meyer and Rosenthal 2008). Although soil material from this time period would typically indicate a moderate-to-high potential for buried archaeological deposits, the frequent flooding would have made the area unsuitable for subsistence and habitation and, therefore, reduces the potential for buried archaeological deposits within the APE to low. Soil composition and proximity to waterways, however, are not the only factors in determining the potential for buried resources; this is discussed further in Section 6.2.

2.3 Vegetation and Wildlife

Prior to the arrival of European Americans and the start of farming and ranching activities, the APE was a California prairie, which consists of dense-to-open, medium height bunchgrass communities with many forbs. The dominant plant communities would have included needlegrass and speargrass. The fauna during this time would have included black bear, grizzly bear, mountain lion, bobcat, antelope, mule deer, coyotes striped skunk, raccoon, black-tailed jack rabbit, rabbit, various rodents, rattlesnake, Pacific treefrog, western toad, various lizards, various hawks, acorn woodpecker, and California quail. (Küchler 1977).

3.0 CULTURAL CONTEXT

3.1 Regional Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found but cannot definitely be associated with human artifacts. Although small animal bones and plant-grinding tools are rarely found within archaeological sites of this period, small game and floral foods were probably exploited on a

limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 BP, is sometimes referred to as the Millingstone Horizon (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

Archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period in sites dating to after about 5,000 BP, with more specialized adaptation to particular environments. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. During this period, new peoples from the Great Basin began entering southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher than before, and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1925; McCawley 1996; Moratto 1984). These were most likely the basis for the groups encountered by the first Europeans during the 18th century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The introduction of the bow and arrow into the region sometime around 2,000 BP is indicated by the presence of small projectile points (Moratto 1984; Wallace 1978).

3.2 Local Pre-Contact History

This section provides a regional overview with contextual elements drawn from California's Central Valley Region (where the APE is located) and the Western Foothills Region. There has been more extensive research and study of Central Valley prehistory than the prehistory of the Sierra Nevada foothill zone, but a fair amount of cultural overlap exists within these regions. This section includes the most recent and readily available research of both regions (Rosenthal et al. 2007) and includes some reference to the climactic changes that swept the Sierra Nevada being a catalyst for population movement that led to cultural change in the foothills.

California's Great Central Valley has long held the attention of archaeologists and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This chronology identified three archaeological cultures named Early, Transitional, and Late (Lillard et al. 1939).

Heizer (Heizer 1949) redefined the description of these three cultures. He subsumed the three cultural groups into three time periods designated the Early, Middle, and Late Horizons. He primarily focused his

research and reexamination of Lillard et al. (Lillard et al. 1939) on the Early Horizon, which he named Windmiller. He also intimated that new research and a reanalysis of existing data would be initiated for cultures associated with the Middle and Late Horizons; however, he did not complete this work and other research filled in the gaps.

Following years of documenting artifact similarities among sites in the San Francisco Bay region and the Delta, Beardsley (Beardsley 1948, 1954) formatted his findings into a cultural model known as the Central California Taxonomic System (CCTS). This system proposed a linear, uniform sequence of cultural succession in Central California, and explicitly defined Early, Middle, and Late Horizons for cultural change. Archaeological researchers have subsequently refined and redefined aspects of the CCTS. For instance, Fredrickson (Fredrickson 1973, 1974, and 1994) reviewed general economic, technological, and mortuary traits between archaeological assemblages across the region. He separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000 to 8,000 BP); Lower, Middle, and Upper Archaic (8,000 BP to AD 500) and Upper and Lower Emergent (AD 500 to 1800).

Fredrickson further defined three cultural patterns: the Windmiller (named after Heizer 1949 and Lillard et al. 1939), the Berkeley, and the Augustine patterns, and assigned them to the Early, Middle, and Late horizons of the CCTS. These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmiller pattern of the Early Horizon included cultural patterns dating from 5,000 to 3,000 BP; the Berkeley Pattern of the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns dating from 3,000 BP to AD 500, and the Augustine Pattern of the Late Horizon included the cultural patterns from AD 500 to the historic period.

Fredrickson's (Fredrickson 1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal et al. (Rosenthal et al. 2007). Rosenthal et al.'s recalibrated sequence is divided into three broad periods: the Paleoindian Period (11,550 to 8,550 cal. BC); the three-staged Archaic period, consisting of the Lower Archaic (8,550 to 5,550 cal. BC), Middle Archaic (5,550 to 550 cal. BC), and Upper Archaic (550 cal. BC to cal. AD 1100); and the Emergent Period (cal. AD 1100 to Historic) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory. The aforementioned periods are characterized below.

3.2.1 Paleo-Indian Period

This period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsided on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded (Rosenthal et al. 2007). Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

3.2.2 Archaic Period

This period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity (Bennyhoff and Fredrickson 1994). The three

divisions that correspond to pre-contact climate change are characterized by the following aspects (Rosenthal et al. 2007):

- Lower Archaic Period—this period is characterized by cycles of widespread floodplain and alluvial fan deposition. Artifact assemblages from this period include chipped stone crescents and early wide-stemmed points, marine shell beads, eastern Nevada obsidian, and obsidian from the north Coast Ranges. These types of artifacts found on sites dating to this period indicate trade was occurring in multiple directions. A variety of plant and animal species were also utilized, including acorns, wild cucumber, and manzanita berries.
- Middle Archaic Period—this period is characterized by a drier climate period. Rosenthal et al. (Rosenthal et al. 2007) identified two distinct settlement/subsistence patterns in this period: the Foothills Tradition and the Valley Tradition. Functional artifact assemblages consisting primarily of locally sourced flaked stone and groundstone cobbles characterize the Foothills Tradition, while the Valley Tradition was generally characterized by diverse subsistence practices and extended periods of sedentism.
- Upper Archaic Period—this period is characterized by abrupt change to wetter and cooler environmental climate conditions. Much greater cultural diversity is evident from this period. More specialized artifacts, such as bone tools, ceremonial blades, polished and groundstone plummets, saucer and saddle *Olivella* shell beads, *Haliotis* shell ornaments, and a variety of groundstone implements are characteristic of this period.

3.2.3 Emergent Period

This period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency (Moratto 1984). The Augustine pattern (the distinct cultural pattern of the Emergent Period) is characterized by the appearance of small projectile points (largely obsidian), rimmed display mortars, flanged steatite pipes, flanged pestles, and chevron-designed bird-bone tubes. Large mammals and small seeded resources appear to have made up a larger part of the diet during this period (Fredrickson 1968; Meyer and Rosenthal 1997).

The following discussion summarizes the cultural patterns and the different local developments that are represented in archaeological deposits in the region surrounding the current APE.

The Windmiller Pattern of the Early Horizon (as defined by Beardsley 1948), dates to the Middle Archaic (as defined by Rosenthal et al. 2007) and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmiller and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural "blending" of groups in the Central Valley during this period. The temporal span for Windmiller has been updated and reanalyzed several times in the archaeological literature (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). The date originally proposed for the emergence of Windmiller was 4,500 BP (Lillard et al. 1939; Ragir 1972), because the culture at 4,000 years ago appeared to have been fully developed and seemed to have been well integrated into the regional economic system.

Characteristics to identify the Windmiller pattern have been presented by multiple authors over time (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). Most notable characteristics are:

- large, heavy stemmed and leaf-shaped projectile points commonly made of a variety of materials other than obsidian;
- perforate charmstones;
- *Haliotis* and *Olivella* shell beads and ornaments;
- trident fish spears;
- baked clay balls (presumably for cooking in baskets);
- flat slab milling stones;
- small numbers of mortars; and
- ventrally extended burials oriented toward the west.

The subsistence pattern of Windmiller groups probably emphasized hunting and fishing, with supplemental seed collecting (possibly including acorns) (Heizer 1949; Moratto 1984; Ragir 1972).

Windmiller groups acquired obsidian from at least two Coast Ranges and three trans-Sierran sources, *Haliotis* and *Olivella* shells and ornaments from the coast, and quartz crystals from the Sierra Nevada foothills (Heizer 1949; Ragir 1972). It is widely hypothesized that the bulk of these materials were acquired through trade, however some may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills.

There is evidence for seasonal transhumance in the distribution of Windmiller artifacts, sites, and burial patterns. Johnson's work along the edge of the Sierra Nevada foothills at Camanche Reservoir and CA-AMA-56, the Applegate site, suggests a link between Windmiller groups of the Central Valley and the Sierra Nevada mortuary caves. Johnson (Johnson 1970) suggested that his data reveals a pattern of gradual change from the Early through the Middle Horizon (as defined by Beardsley 1948), rather than a displacement of local groups by foreign populations as theorized by Baumhoff and Olmsted (Baumhoff and Olmsted 1963) based on ethnolinguistic evidence. Rondeau (Rondeau 1980), also working at the edge of the Central Valley at CA-ELD-426, the Bartleson Mound, identified components of the Early Horizon (as defined by Beardsley 1948). Rondeau (Rondeau 1980) even postulated a potential relationship between the Early Horizon cultures and the Martis Complex (a basalt preferring culture in the Martis Valley of the Sierra Nevada). In addition, analysis of Windmiller burial orientation (Schulz 1970) and skeletal analyses (e.g., Harris Lines) by McHenry (McHenry 1968) suggest a high percentage of winter death among Windmiller groups. Incorporating all of these data, Moratto (Moratto 1984) postulated that Windmiller groups were exploiting the foothills of the Sierra Nevada during the summer and returning in the winter to villages in the Central Valley as early as 4,000 BP.

Excavations at CA-PLA-500 (Wohlgemuth 1984), the Sailor Flat site located near CA-PLA-101, sites at the Twelve Bridges Golf Course now known as Catta Verdera Country Club in Lincoln, and the Spring Garden

Ravine site CA-PLA-101 provide examples of Windmiller sites that had items in their cultural assemblages similar to the material culture of groups elsewhere in California and the foothills.

The succeeding Middle Horizon, namely the Cosumnes Culture after Ragir (Ragir 1972), the Berkeley Pattern after Fredrickson (Fredrickson 1974), and absorbed into the Middle and Upper Archaic designations by Rosenthal et al. (Rosenthal et al. 2007) was first recognized at site CA-SAC-66. Much less published material discusses the patterns defined for this era than does Windmiller; nonetheless, some of the most notable characteristics are:

- tightly flexed burials with variable orientation;
- red ochre stains in burials;
- distinctive *Olivella* and *Haliotis* beads and ornaments;
- distinctive charmstones;
- cobble mortars and evidence of wooden mortars;
- numerous bone tools and ornaments;
- large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian; and
- objects of baked clay.

Further classification of the Middle Archaic (as defined by Rosenthal et al. 2007) into the Foothills Tradition and Valley Tradition helped to clarify the different types of cultural sequences which occurred during these time periods. Functional artifact assemblages consisting primarily of locally sourced flaked stone and groundstone cobbles characterize the Foothills Tradition, with very few trade goods. Sites that represent the Valley Tradition are much fewer in number and are generally characterized by much more diverse subsistence practices and extended periods of sedentism. Specialized tools, trade goods, and faunal refuse that indicate year-round occupation are evident on sites of the Valley Tradition (Rosenthal et al. 2007). Distinct artifacts attributed to this tradition include one of the oldest dated shell bead lots in central California (4,160 BP) and a particular type of pestle used with a wooden mortar (Meyer and Rosenthal 1997).

The Sierra Nevada experienced significant climactic shifts and concomitant vegetation change throughout the Holocene, but pollen analysis and climactic records indicate that the current climate pattern and primary constituents of vegetation communities were in place by the Middle Archaic around 1,000 BC (Hull 2007). Seasonal transhumance practiced by indigenous populations of the Sierra may have become more consistent during this period of relative environmental stasis.

Paleobotanical analyses from sites of the Foothills Tradition including CA-CAL-789, CA-CAL-629, and CA-CAL-630 confirm that acorns and pine nuts were preferred for subsistence (Rosenthal and McGuire 2004; Wohlgemuth 2004) Sites near the APE associated with the Valley Tradition are rare in the early Middle Archaic (ca. 5,550 to 2,050 cal. BC) but include the Reservation Road site (CA-COL-247) and two buried sites in the northern Diablo range (CA-CCO-637 and CA-CCO-18/548). Sites associated with later portions

of the Middle Archaic (post-2,050 cal. BC) near the APE include CA-SAC-107 and CA-BUT-233, both of which produced elaborate material culture and diverse dietary and technological assemblages.

The next era in the region is identified as the Late Horizon by Beardsley (Beardsley 1948, 1954), the Hotchkiss Culture by Ragir (Ragir 1972), and the Augustine Pattern by Fredrickson (Fredrickson 1974). The culture was formed by populations during the later Upper Archaic and Emergent Periods, as defined by Rosenthal et al. (Rosenthal et al. 2007), and ranges in age from around 550 cal. BC to contact (dates vary between the different models of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. The Emergent Period and Late Horizon are markedly represented by the introduction of bow-and-arrow technology, as well as more pronounced cultural diversity as reflected in diversity of burial posturing, artifact styles, and material culture. Cultural patterns for this era are represented in the northern Sacramento Valley, namely within the Whiskeytown Pattern, at sites CA-SHA-47, CA-SHA-571/H, CA-SHA-890, CA-SHA-891, and CA-SHA-892 (Sundahl 1982, 1992).

This era primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. The Emergent Occupation (as defined by Rosenthal et al. 2007) coincides with the Augustine Pattern (Fredrickson 1974) in the lower Sacramento Valley/Delta region, and with the Sweetwater and Shasta complexes in the northern Sacramento Valley (Fredrickson 1974; Kowta 1988; Sundahl 1982). The emergence of the Augustine Pattern appears to have been associated with the expansion of Wintun populations from the north, which appears to have led to an increase in settlements in the area after 550 BP (Bennyhoff 1994; Moratto 1984).

During this period in the Sierra Nevada, paleoenvironmental data suggest severe droughts occurred from around AD 892 to 1112 and AD 1210 to 1350 (Hull 2007; Lindström 1990; Stine 1994). These drier conditions surely affected the seasonal resource procurement rounds of the native populations during this time and likely led to an influx of population movement and cultural blending into the foothills zone and Central Valley by Sierra Nevada groups.

Despite the varying designations, this emergent era is distinguished in the archaeological record by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead. Artifacts associated with the defined patterns (Augustine, Emergent, Hotchkiss) include bow-and-arrow technology (evidenced by small projectile points), mortars and pestles, and fish harpoons with unilaterally or bilaterally placed barbs in opposed or staggered positions (Bennyhoff 1950). Mortuary patterns include flexed burials and cremations, with elaborate material goods found in association with prestigious individuals. A local form of pottery, Cosumnes brownware, emerged in the lower Sacramento Valley (Rosenthal et al. 2007)

3.3 Ethnohistory

Prior to the arrival of European Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (Kroeber 1925, 1936), and others (i.e., Driver 1961; Murdock 1960), recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. Kroeber (Kroeber 1925)

further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about one-third of the state's native population, lived in the Central Valley (Moratto 1984). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Southern area (as defined by Kroeber 1925) encompasses the APE and includes the Patwin.

The Patwin territory included both the River Patwin and Hill Patwin and extended from the southern portion of the Sacramento River Valley to the west of the river, from the town of Princeton south to San Pablo and Suisun bays. As a language, Patwin (meaning "people") is part of the Wintu linguistic family which has three main groups: Southern or Patwin; Central, of Glenn and Tehama counties; and the Northern, of the upper Sacramento, lower Pit, and the upper Trinity drainages (Johnson 1978). The Hill Patwin territory includes the lower hills of the eastern Coast Range Mountain slope (Long, Indian, Bear, Capay, Cortina, and Napa Valley). Between there and the foothills, the grassy plains were largely unsettled, used mainly as a foraging ground by both valley and hill groups (Johnson 1978). Patwin pre-contact population numbers are not precise, but Kroeber (Kroeber 1932) estimates 12,500 for the Wintu, Nomlaki, and Patwin groups. These numbers reflect groups prior to the 1833 malaria epidemic.

Individual and extended families "owned" hunting and gathering grounds, and trespassing was discouraged without permission. Residence and marriage were generally matrilocal, but unrestricted. Politically, the Patwin were divided into "tribelets," made up of a primary village and a series of outlying hamlets, presided over by a more-or-less hereditary chief. Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The chief had unrestricted power and presided over economic and ceremonial decisions (Johnson 1978).

Subsistence activities centered around fishing and hunting of deer, Tule elk, antelope, bear, ducks, geese, quail, turtles, fish, and other small animals. Hunting of deer often took the form of communal drives, with the actual killing of the deer performed by individuals or groups. Decoys were used for attracting such game as deer and ducks. Nets and holding pens were used for fishing, which was also an important part of normal subsistence activities. Types of fish included sturgeon, salmon, perch, chub, sucker, hardhead, pike, trout, steelhead, and mussels. Although acorns were the staple of the Patwin diet, they also harvested sunflower, alfilaria, clover, bunchgrass, wild oak, and yellow flower, which was parched or dried, then pounded into a meal. Buckeye, pine nuts, juniper berries, manzanita berries, blackberries, wild grapes, Brodiaea bulbs, and tule roots were also collected. Each village had its own locations for these food sources, and the village chief was in charge of assigning particular families to each collecting area. Game was prepared by roasting, baking, or drying the meat. Tobacco was collected along the river and inhaled, but not cultivated. Salt was scraped off rocks (in the Cortina region) or by burning grass found in the plains (Johnson 1978).

Patwin houses were built in the form of a dome, using tree branches for the framing, then covered with thatch and earth. House floors were typically dug out and the walls were built up as a mound, with the

entrance to the building made through the roof (Powers 1976). As described by Kroeber (Kroeber 1925) and Johnson (Johnson 1978) the closest village location was Moso, located on the north bank of Cache Creek around the town of Capay. No positive cultural material has been located or observed to support this claim.

One of the most distinctive aspects of the Patwin culture was the cult system, found throughout northern central California. The main feature of the cult was the occurrence of one or more secret societies whose membership was by strict initiation, each with its own series of dances and rituals (Johnson 1978). Patwin culture is most distinctive in that it possessed three secret societies: the ghost, Hesi, and Kuksu. These involved elaborate ceremonial activities consisting of singing and dancing (Foster 1995). Membership included mostly males, beginning around the ages of eight to 16, but on limited occasions, included high status women (Johnson 1978). Everyday Patwin life centered on the rituals performed within the secret societies. Details involving the ceremonies varied, but most had sacred dances requiring careful preparation, costume, and music. These dances could last several days. Detailed summaries are provided by Kroeber (Kroeber 1932) and Loeb (Loeb 1933).

The earliest historical accounts of the APE begins with Spanish mission registers of baptisms, marriages, and deaths of Indians. By 1800, Native Americans were taken from the Patwin settlement of Aguastos in the south-central area, and from other villages, by emissaries of Mission Dolores. In addition, missions San Jose and Sonoma actively proselytized the southern Patwin. Between the 1830s and 1840s, both Mexicans and Americans rapidly overtook the Patwin territory under the authority of the Mexican government (Johnson 1978).

The Spanish arrived on the Central California coast in 1769, and by 1776 had been explored by José Canizares. In 1808, Gabriel Moraga crossed into the territory, and in 1813 a major battle was fought between the Miwok and the Spaniards near the mouth of the Cosumnes River. In 1833, an epidemic, probably malaria, raged through the Sacramento Valley, killing an estimated 75 percent of the native population. The discovery of gold in 1848 at Sutter's Mill, near the Nisenan village of Colluma (now Coloma) on the South Fork of the American River, drew thousands of miners into the area, and led to widespread killing and the virtual destruction of traditional Native American cultures.

3.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978).

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterey Bay Area in 1769. Spanish missions to convert the native population, presidios (forts), and pueblos (towns) were established as a result of this expedition. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California)

beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. No missions were established in the Central Valley. The nearest missions were in the vicinity of San Francisco Bay and included Mission San Francisco de Asis (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asis at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an asistencia in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823 (California Spanish Missions 2011; Castillo 1978). Presidios were established at San Francisco and Monterey. The Spanish took little interest in the area and did not establish any missions or settlements in the Central Valley.

The first European Americans in the region were made up of teams of trappers led in 1827 by American trapper Jedediah Smith and followed by a party led by Ewing Young in 1829. The Hudson Bay Company also sent a number of trapping expeditions, including one led by Peter Ogden, to California during this period that were successful in procuring beaver furs and antelope skins. General John C. Fremont crossed into the Central Valley in 1844 and returned the following year with Kit Carson and Joseph Walker.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. In 1827, American trapper Jedediah Smith traveled along the Sacramento River and into the San Joaquin Valley to meet other trappers of his company who were camped there, but no permanent settlements were established by the fur trappers (Thompson and West 1880).

The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or "ranchos" (Robinson 1948). During the Mexican period there were small towns at San Francisco (then known as Yerba Buena) and Monterey. The rancho owners lived in one of the towns or in an adobe house on the rancho. The Mexican Period includes the years 1821 to 1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort (Bidwell 1971). Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848 (Marshall 1971). The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American Period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the U.S. in 1848. As a result of the treaty, Alta California became part of the U.S. as the territory of California. The area saw a rapid population increase due to the Gold Rush of 1849. In 1850 California became a state.

Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries, which were surveyed by the U.S. Surveyor General's office. Land outside the land grants became federal public land that was surveyed into sections, quarter-sections, and quarter-quarter sections. The federal public land could be purchased at a low fixed price per acre or could be obtained through homesteading (after 1862) (Robinson 1948).

3.5 Colusa County History

Native American population density in the Sacramento Valley was dramatically reduced after about AD 1800 due to the effects of non-local pathogens such as the malarial epidemic of 1833 and the smallpox epidemic of 1837. Spanish mission efforts were largely in the Pacific coastal zone to the west. Most of the Patwin converts were brought to the Franciscan mission at Sonoma, established around 1823. The frontier period was characterized by the activities of French and American trappers. One such frontiersman was John Work, who traveled down the Sacramento River under the auspices of the Hudson's Bay Company in 1832 to 1833 with a party of approximately 100. By 1840s, there was a large concentration of European American settlement along the Sacramento River (Johnson 1978). By the mid-19th century, most of the Aboriginal populations had been reduced due to disease, displacement, assimilation into European American culture, or joined different rancheria groups. Nearby rancherias were established at Colusa (known as Cachil Dehe), Cortina (known as Kletsel Dehe), and Rumsey (now known as Yocha Dehe).

Colusa County initially encompassed Glenn County and portions of Tehama County. The Colusa County seat was originally Monroeville, today located in Glenn County. By 1854, Colusa became the County seat (Kyle 2002). After about 1840, gold mining was one of the short-lived but major economic activities in the area. Mining led to increased settlement and higher demand for crops such as potatoes, grains, and fruit between the onset of the Gold Rush and the early 1860s. A severe drought in 1862 further spurred the transition from livestock production (mainly beef cattle, sheep, and horses), which suffered heavy losses, to produce and grain farming supported by irrigation (Holmes et al. 1915). The increasing importance of rice production in low-lying areas of Stockton clay is reflected in the establishment of a rice mill at Biggs in 1913. Truck farming near the large cities and towns by Japanese and Chinese immigrants was also an important economic element. One of the first major electrical lines was built to connect Gridley and Colusa as early as 1913. Throughout the twentieth century and into the twenty-first century, Colusa County remained heavily rural with a large agricultural industry.

3.5.1 Early Regional Development Water Management and Reclamation

A vast water management infrastructure network of canals, reservoirs, and levees was established in California beginning in the mid-19th century as immigrants sought to expand agricultural enterprise; the Colusa Basin Drainage Canal is part of this infrastructure. The following is a context of the theme of water conveyance to support agricultural development in the APE. The context is included to better understand the sociocultural, technological, and economic factors associated with water management and flood control systems supporting agricultural development.

Certain components of a water conveyance system are common to all types of systems, while some components only pertain to particular systems. However, most water conveyance systems will consist of a diversion structure and conduit. Functions associated with diversion and conduits can pertain to agriculture, mining, domestic water supply, or other uses. The materials used for a water conveyance system can be influenced by a few factors, which include the purpose, long-term use of the system, geology and topographic elements, and builder's skill. Associated resources to the water conveyance system could include agricultural fields (JRP Historical [JRP] 2000).

Techniques used to build, design, and construct irrigation networks and canals have varied widely depending largely on the period they were constructed, investors, and location in California. As discussed above, the APE was used for grazing cattle through the Mexican Period, after which wheat, alfalfa, and fruit cultivation dominated the agriculture crops into the American Period. California has a unique history when it comes to water distribution; people tend to settle in areas with access to natural resources, but during the Gold Rush, many urban centers were quickly established in areas near valuable mineral resources and the lack of water sources did not deter this rapid growth. Instead, innovative systems and businesses were established to transport water from areas of excess such as the storm-fed rivers of Northern California or the Sierra Nevada to areas of need such as deserts and drought-stricken valleys.

Low-laying areas subject to seasonal inundation, such as land in the vicinity of the APE, were drained and managed by cattlemen and farmers by construction of levee and canal systems, and multi-purpose dams were created on major rivers that not only prevented flooding but supplied water to municipalities and agricultural lands, lent to hydroelectric power, and were used for recreation (JRP 2000).

Although some irrigation for incipient agricultural endeavors were undertaken by a few Native American populations prior to and during initial European contact, the Spanish and Mexican period irrigation for agriculture is the first well-documented, and led to the extensive irrigation systems of the American Period, which is the focus of the context for the APE.

Spanish missionaries constructed irrigation systems as early as 1769 in San Diego at the mission and associated pueblos. They brought irrigation system technology from traditions dating back to the Roman Empire: dry farming, runoff irrigation, tile lines ditches, and masonry dams. The largest areas of cultivated crops at the missions established along the coast were dry-farmed wheat and barley, followed by orchards and vineyards (JRP 2000).

After Mexico gained independence from Spain in 1823, they continued settlement of present-day California but left the Central Valley alone until late in their rule, when the government began to grant Ranchos. Cattle ranching was prime in the Central Valley for the next 20 years as the irrigated agriculture along the coast declined, supporting the large hide-and-tallow trade. Rancheros developed huge herds of cattle on large Mexican land grants, and trade of wheat, wine, and other agricultural goods was limited. Rancheros largely did not, however, invest time and labor in irrigation works, although some irrigated agriculture for the sparse citrus orchards and vineyards occurred intermittently. A typical rancho had a house garden but no irrigation system, because the focus was on highly profitable hide and tallow (JRP 2000).

By the end of the Mexican War in 1847, almost half of the non-Indian inhabitants of the Central Valley were already Americans who had begun to establish farms. In the following decades, as the Americans gained control of the Rancho lands, they developed more extensive irrigation systems for agriculture in addition to stock raising (JRP 2000).

The rainy season in California, November to March, conflicts with the prime growing season for most crops; this factor, coupled with the dry climate made natural water unreliable for agriculture in most of California. The Sacramento Valley had sufficient rainfall for dry farming crops such as wheat, so irrigation works were slower to develop in the area as opposed to most of Southern California (JRP 2000). The

Sacramento Valley is watered primarily by tributaries flowing west down from the Sierra Nevada, as well as flood plains and alluvial fans created by the confluence of the Sacramento and San Joaquin rivers. This hydrology created an inland delta to the south of the APE with deep peat soils and drainage problems, while the area of the Project was primarily rich earth that was easily plowed and irrigated (JRP 2000).

A widespread drought and flood cycle from 1863-1865, coupled with an unstable wheat market and soil exhaustion, awoke the wheat growers in the Central Valley to the benefits of irrigation and flood control. Irrigated acreage grew from 60,000 acres in 1860 to 400,000 by 1880 in California, with the Sacramento Valley having only 13,400 of these acres due to continued dry wheat farming. Wheat production declined in the 1890s, and as more farmers turned to irrigated crops, they saw more returns on the investment in irrigation, and the systems began to proliferate (JRP 2000). Communal arrangements for water distribution were developed, as opposed to individual landowners footing the bill on their land alone. Irrigation districts, along with private and municipal water companies, were initiated and became crucial to the large-scale development and success of irrigated agriculture. The Wright Act of 1887 provided for the formation of irrigation districts throughout the Central Valley that fell under the democratic control of the water users themselves (JRP 2000).

By 1929, there were 15 irrigation districts in the Sacramento Valley as far north as Redding. Some were very large, and others were smaller and served only suburban communities. Soon, the U.S. Reclamation Service (the predecessor to the U.S. Bureau of Reclamation) noticed the benefits of these systems, and began establishing their own reclamation projects involving irrigation to help westerners improve their lands. With these federal involvements, improvements such as concrete lining and upkeep were made to many of the canals and districts (JRP 2000).

3.5.2 Canals and Water Conveyance

Irrigation canals deliver water to arid lands in California that receive insufficient rainfall for farming. Most canals consist of open, earthen structures integrated within larger irrigation systems. Beginning at diversion points on rivers, irrigation systems deliver water through main canals and lateral canals to individual farm distribution ditches. Irrigation canals vary widely in terms of size, shape, and materials. To achieve maximum hydraulic efficiency, engineers often sought to build canals with a 2:1 width-to-depth ratio. However, in sidehill locations, or where winter temperatures regularly dropped below freezing, narrower and deeper canals prevailed. To minimize water loss due to seepage and evaporation, engineers in California lined many earthen canals and ditches with less permeable material or placed them in underground pipes. During the 19th century, engineers often lined canals with randomly coursed stone or cobblestone to withstand erosive forces. During the 20th century, many canals became lined with concrete or granite, which greatly reduced seepage and maintenance costs (JRP 2000).

Open canals were most commonly used for irrigation to transport water for orchards and agricultural fields. The shape and size of the open canal can depend greatly on its function and construction material. Open canals are filled from the supply of a storage dam or diversion weir; the water is then diverted into a main canal through outlet gates or other type of control systems. Early canal systems in the Central Valley had rounded bottoms, long side slopes, and rounded berm mounds (JRP 2000). Modern irrigation channels are V-shaped, have steep slopes, and flat broad berms as they are cut with modern machinery.

Nineteenth century canals were sometimes lined with random-coursed stone paving. Twentieth century canals were constructed with concrete linings. Concrete-lined canals have a greater carrying capacity than stone-lined canals (JRP 2000).

3.5.3 Glenn-Colusa Irrigation District

The Glenn-Colusa Canal was the brainchild of William S. Green (1832 to 1905). A farmer, state legislator, newspaper owner and editor, and self-taught engineer, Green spent the majority of his adult life in California promoting and developing irrigation. After several failed attempts, the California Legislature passed the Wright Act in 1887 allowing the formation of irrigation districts with the approval of two-thirds majority of the landholders within the proposed district boundaries. Shortly thereafter, Green, along with several other proponents of irrigation, began organizing the Central Irrigation District (Davis 1984). The Central Irrigation District planned to build a large canal through a large portion of the present-day Glenn and Colusa counties. However, nine large landholders who held riparian water rights prior to the Wright Act opposed the formation of the district and sought an injunction claiming that the act was unconstitutional (among other things). After several legal battles and financial difficulty over the next 15 years, the Central Irrigation District ceased operations in 1902 (Davis 1984; JRP 2000). Green died in 1905 having never seen water flowing through the canal he helped design (Orland Register 1905).

Before it failed, the Central Irrigation District had completed several miles of main canal, but there were large gaps between segments in places where right-of-way could not be secured by the landowner (Davis 1984). The legal battles also revealed some fundamental flaws in the Wright Act, and several amendments were adopted between 1889 and 1895. The act was rewritten, rebranded, and repassed as an entirely new law known as the Irrigation Act of 1897 (Davis 1984). In 1903, the Central Canal and Irrigation Company became incorporated, took over the Central Irrigation District's holdings, and secured water rights under the new law with plans to finish the canal through to the Sacramento River. As a private company, the Central Canal and Irrigation Company bypassed many of the financial and legal difficulties that ultimately doomed the Central Irrigation District. The Central Canal and Irrigation Company also planned to irrigate a smaller area (JRP 2000). Partial canal services began in 1906, and by March 1907, water had nearly reached Willows (Orland Register 1907; Davis 1984).

The Kuhn banking syndicate of Pittsburgh, Pennsylvania purchased the Central Canal and Irrigation Company in 1908 and, along with other acquisitions in the Sacramento Valley, reorganized it into the Sacramento Valley Irrigation Company (SVIC; Davis 1984). The new conglomerate almost immediately began investing heavily into Northern California infrastructure and coordinated with railroad companies for maximizing profits (railroads could make money by selling farmland to immigrants and shipping the farmers' goods and supplies to and from the same land); the investment included an aggressive advertising campaign in the eastern states urging people to migrate to California and using the railroads to ship their possessions, naturally. After the company changed hands several times, legal struggles put the company into receivership in 1913; the thought of a public water service rather than a for-profit irrigation company once again began to gain momentum among the people of Glenn and Colusa counties (JRP 2000).

The years of eastern capitalist oppression had worn down most of the former oppositions to the concept of a public irrigation district. Further, the ever-increasing rice production in the area and water shortages brought the SVIC more legal troubles in 1918. Beginning in June 1919, local farmers began meeting to discuss the formation of a new publicly owned district (Sacramento Bee 1919). On their July 1 meeting, the GCID had appointed a five-person organization committee and had already secured an agreement to purchase the Central Canal, laterals, and drainage systems from the SVIC (Colusa Sun-Herald 1919). On February 20, 1920, the ballot measure forming the District was passed by the voters 287 to 12 (Colusa Sun-Herald 1920).

The GCID constructed the GCID Main Canal segment and siphon (including bridge), which appear on aerial images by 1937, and both features have remained in the same configuration since that time. The segment appears to be part of the 1920s era expansion of the canal after the formation of the GCID.

4.0 METHODS

4.1 Personnel Qualifications

Registered Professional Archaeologist Brian S. Marks, Ph.D., who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology, supervised and was responsible for this archaeological resources investigation. Daisy Chisholm conducted the fieldwork and prepared this technical report. Andrew Bursan, who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History, conducted evaluations for the built environment resources. Dr. Marks provided technical report review and quality assurance.

Dr. Marks is the Principal Investigator and has been an archaeologist since 1997. He has been working in cultural resources management in California since 2010, following eight years of archaeological work in the southeast United States. Dr. Marks holds a Ph.D. and M.S. in Anthropology. He has participated in or supervised hundreds of survey, testing, and data recovery excavations, and has recorded and mapped a multitude of pre-contact and historical sites, including submerged pre-contact sites, Civil War battlefields, Gold Rush boom towns, nuclear power plants, and others. He has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR and is well-versed in impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects. Dr. Marks is the Assistant Director for Cultural Resources at ECORP.

Andrew Bursan is an Architectural Historian with 18 years of experience in historic preservation and land planning. He has worked on a variety of projects with organizations like the California Department of Transportation (Caltrans), Los Angeles County Metro, and several city governments, including Pasadena, Santa Monica, San Francisco, and Los Angeles. Andrew's expertise covers project management, architectural surveys, historical assessments, and extensive historical research. He has contributed to historic context statements, technical reports, and impact analyses for cultural resources.

Daisy M. Chisholm is an Assistant Archaeologist with two years of experience. She has experience conducting field surveys and site recording in California. She has completed an intensive field school with

the Kalispel Tribe of Indians. She holds a Bachelor of Arts degree in Biological Anthropology and Archaeology.

4.2 Records Search Methods

ECORP requested a records search of the APE at the CHRIS Northwest Information Center (NWIC) at Sonoma State University on July 8, 2026 (NWIC File No. 26-0039). The purpose of the records search is to determine the extent of previous surveys within a 1.0-mile radius of the APE, in addition to whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. NWIC staff completed and returned the records search to ECORP on July 16, 2026.

In addition to the official records and maps for archaeological sites and surveys in Colusa County, ECORP reviewed the following historical references: Built Environment Resource Directory (BERD) for Colusa County (OHP n.d.); the National Register Information System (National Park Service [NPS] 2022); Office of Historic Preservation, California Historical Landmarks (CHL; OHP); California Points of Historical Interest (OHP 1992 and updates); Caltrans Local Bridge Survey (Caltrans 2019); Caltrans State Bridge Survey (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

ECORP also reviewed other references, including a Regrid Property Search and historic General Land Office land patent records (Bureau of Land Management [BLM] 2026). ECORP reviewed the following historical maps:

- 1853 BLM General Land Office Plat maps for Township 15 North, Range 3 West
- 1907 USGS Colusa, California quadrangle (1:62,500 scale)
- 1918 USGS Colusa, California quadrangle (1:31,680 scale)
- 1942 USGS Williams, California quadrangle (1:62,500 scale)
- 1952 USGS Williams, California quadrangle (1:24,000 scale)

ECORP reviewed historical aerial photographs from 1958, 1964, 1973, 1983,1998, 2005, and every two years between 2006 and 2026 for any indications of APE usage and built environment.

ECORP conducted a search for a local historical registry, which revealed that Colusa County does not have a publicly accessible registry.

4.3 Sacred Lands File Coordination Methods

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on July 9, 2026 to request a search of the Sacred Lands File (SLF) for the APE. This search determines whether the California Native American tribes within the APE have recorded Sacred Lands in the SLF, which is populated by members of the Native American community with knowledge about the locations of TCRs. In requesting a search of the SLF, ECORP solicited information from the Native American community regarding TCRs; however, the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and

federal laws. The lead agencies do not delegate government-to-government authority to any private entity to conduct tribal consultation.

4.4 Other Interested Party Consultation Methods

ECORP sent a letter to the Colusi County Historical Society on July 9, 2026 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance within the APE or surrounding vicinity (Appendix A).

4.5 Field Methods

ECORP subjected the APE to an intensive pedestrian survey on July 28, 2026 under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983), using 15-meter transects (Figure 3). At the time, ECORP archaeologists examined the ground surface for indications of surface or subsurface cultural resources and inspected the general morphological characteristics of the ground surface for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the archaeologists examined the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits. ECORP did not conduct any subsurface investigations or artifact collections during the pedestrian survey.

Standard professional practice requires that all cultural resources encountered during the survey be recorded using Department of Parks and Recreation (DPR) 523-series forms approved by the OHP. The resources are usually photographed, mapped using a handheld GPS receiver, and sketched, as necessary, to document their presence using appropriate DPR forms.



Location: N:\2026\2026-118 Spring Creek Siphon\MAPS\Cultural_Resources\SCS_CRM.aprx - SCS Survey Coverage 20260820 (bmarks - 9/15/2026)

Map Date: 8/31/2026

Sources: Esri Imagery, Vantor (2025)

Figure 3. Survey Coverage

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2026-118 Spring Creek Siphon

5.0 RESULTS

5.1 Records Search

The records search consisted of a review of previous research, literature, and historical records on file with the NWIC, and a review of historical aerial photographs and maps of the APE and vicinity.

5.1.1 Previous Research

The records search results indicate that one previous cultural resources investigation has been conducted within 1.0 mile of the APE, covering approximately 10 percent of the total records search area (Appendix A). The previous study was conducted between 2011 and 2012 and did not include any portion of the APE. The records search also determined that no previously recorded cultural resources were located within the search area.

5.1.2 Records

The OHP's BERD for Colusa County (dated February 2, 2026) list did not include resources within or adjacent to the APE.

The National Register Information System (accessed NPS 2026) did not reveal any eligible or listed properties within the APE.

ECORP reviewed resources listed as CHLs by the OHP on July 9, 2026. There is no CHL within or adjacent to the APE (accessed OHP 2026).

ECORP reviewed the Archaeological Resources Directory and did not identify any resources in the APE.

Historic Spots in California (Kyle 2002) mentions that Colusa County was one of the original 27 counties in California.

An online property search using public parcel data for the APE revealed the presence of agricultural fields of rice and diversified land (REGRID 2026).

The Caltrans Bridge Local and State Inventories (Caltrans 2018, 2019) did not list any bridge within the APE.

The *Handbook of North American Indians* (Johnson 1978) lists the nearest Native American village as *Gapa*. The village is located approximately 8 miles east of the APE.

5.1.3 Map Review and Aerial Photographs

The review of historical aerial photographs and maps of the APE provides information on the past land uses of the APE and potential for buried archaeological sites. The APE was initially undeveloped rural land with Spring Creek flowing southeastward through it. The following is a summary of the review of maps and aerial photographs:

- The 1853 BLM General Land Office Plat maps for Township 15 North, Range 3 West depicts an intermittent stream flowing southwestward through the APE. The stream corresponds with present-day Spring Creek.
- The 1907 USGS Colusa, California quadrangle (1:62,500 scale) depicts and labels "Spring Creek" which flows southwest through the APE.
- The 1918 USGS Williams, California quadrangle (1:31,680 scale) does not depict any changes within the APE.
- A 1937 aerial photograph shows the channelization of Spring Creek, GCID Main Canal and a canal bridge intersecting within the APE and the surrounding area as agricultural fields.
- The 1952 USGS Williams, California quadrangle (1:24,000 scale) depicts a canal labeled the "Glenn-Colusa Canal." It is oriented east to west and intersects with Spring Creek. Additionally, the intersection of the canal and creek is labeled "Siphon."
- A review of all other aerial photographs from 1964, 1973, 1983,1998, 2005, and every two years between 2006 and 2026 shows the APE in its present-day state.

In sum, the APE has been used for agricultural purposes and Spring Creek has kept its same alignment since 1853. In the early 1900s, the portion of the GCID Main Canal within the APE was built with a bridge that intersects Spring Creek, Spring Creek was channelized during this time, and a siphon was built to provide water for Spring Creek. Spring Creek Siphon and GCID Main Canal are assumed to be built at the same time, and they remain still intact and in use.

5.2 Sacred Lands File Results

A search of the SLF by the NAHC returned negative results, which indicates that no sacred lands are within the NAHC's search area. Appendix B provides a record of all correspondence to date.

5.3 Field Survey Results

ECORP surveyed the APE for cultural resources on July 28, 2026. The APE consisted of four corner sections of agricultural fields that junction at the GCID Main Canal and Spring Creek Siphon (Figure 4). Gravel roads on either side of the canal provide access to the agricultural fields and water conveyance system. ECORP observed that the vegetation consisted of tall weeds and grasses. The ground surface visibility is 100 percent due to exposure of ground by the embankments of the canal and siphon. ECORP observed and recorded one cultural resource, the Spring Creek Siphon.

5.3.1 Cultural Resources

No archaeological resources have been recorded within the APE. The records search results indicated that another segment of the GCID Main Canal was previously recorded outside the APE and found ineligible for the NRHP/CRHR. During ECORP's 2026 field survey, the archaeologists identified and recorded an unrecorded segment of the GCID Main Canal that included the Spring Creek Siphon. The following sections provide descriptions of the resource, and Appendix D provides the corresponding confidential DPR site records.



Figure 4. Area of Potential Effects Overview (view east; July 28, 2026).

5.3.1.1 GCID Main Canal

This section provides a site description and evaluation of the segment of the GCID Main Canal within the APE.

Description of GCID Main Canal

The circa 1925 GCID Main Canal segment within the APE includes a siphon (with a concrete check and outflow) and one bridge. The earthen canal segment is oriented east-west and measures 85 feet long. The canal features engineered earthen banks with uniformly sloped profiles topped by an unpaved access road (Figure 5). This road spans the north side of the canal, and the surrounding environment consists of flat agricultural fields typical of the Central Valley.

Siphon

A siphon is positioned along the east-west-oriented GCID Main Canal segment and the north-south-oriented Spring Creek, two miles southwest of the City of Williams. The siphon carries water southward and measures 70 by 85 feet, including a southern outlet feature.

The east end of the canal siphon has a check intake structure for water control (Figure 6). On its north side, it features a reinforced concrete headwall that meets angled wingwalls to form an open transition basin. The concrete wall is flat and sits below a dirt embankment at its north and south flanks. Riprap covers the entire angled south elevation of the siphon.

The west end of the canal siphon has an outlet structure made of reinforced concrete with a drop-gate (Figure 6). This siphon outlet has a sloped, concrete spillway with side retaining walls that direct water downward into the lower main canal channel, which has rock riprap reinforcing its opposite bank. The siphon sits on an elevated section, where a flat concrete headwall walkway spans three bay openings.



Figure 5. Overview of the GCID Main Canal
(view east; July 28, 2026)



Figure 6. Overview of the East side of the Siphon at the Confluence of the GCID Main Canal and Spring Creek
(view west; July 28, 2026)

North Bridge

The north bridge is a utilitarian concrete structure that spans Spring Creek (Figure 7). It measures 15 feet wide by 70 feet long and is made of reinforced concrete and supported by reinforced wingwall sections on the riprap-covered canal slopes. The adjoining levee road's surface is unpaved with compacted dirt and gravel. The north bridge is oriented east-west and runs parallel to the canal.



Figure 7. Overview of the West side of the Siphon and the Northern Pedestrian/Equipment Bridge (view northwest; July 28, 2026)

Previous Evaluation of the GCID Main Canal

The OHP's BERD for Colusa County lists the GCID Main Canal. The listing indicates that the Federal Highway Administration previously recorded and evaluated the GCID Main Canal in a report from April 30, 2015, and found it ineligible for the NRHP under all criteria. It has a California Historical Resource Status Code of 6Y, which means it was determined ineligible for the National Register by consensus through the Section 106 process and was not evaluated for the California Register or local listing.

Evaluation of GCID Main Canal

Although the GCID Main Canal was previously found ineligible for the NRHP/CRHR, it did not include this segment. ECORP updated the evaluation to include the entire canal using NRHP/CRHR eligibility criteria and considered the canal's current aspects of integrity.

For a water conveyance system to be eligible under NRHP/CRHR Criterion A/1, it must be found to be associated with specific important events (e.g., the first long-distance transmission of hydroelectric power) or important patterns of events (e.g., the development of irrigated farming). The circa 1925 segment of

the GCID Main Canal delivered irrigation water to local farmers and ranchers in central Colusa County. As a later addition to an 1890s canal, it did not shape the overall history of Colusa County or the GCID. Its circa 1925 construction occurred more than 30 years after the earliest segments of the canal became operational. It alone did not shape the agricultural development of the region. It is not associated with events that have made a significant contribution to the broad patterns of Colusa County history. Therefore, it is ineligible for the NRHP/CRHR under Criterion A/1.

To be eligible under NRHP/CRHR Criterion B/2, the GCID Main Canal would need to be directly associated with a person considered historically significant at the local, state, or national level. GCID crews built and maintained the canal. Although the GCID Main Canal was the brainchild of local farmer and politician William S. Green, he died in 1905 before most of the canal was built, including this 1920s-era segment; his life, therefore, is not directly connected to the resource. There is no information in the archival record to suggest that it is associated with the lives of persons significant in the Colusa County's past. Therefore, it is ineligible for the NRHP/CRHR under Criterion B/2.

Water conveyance systems are typically found eligible for the NRHP under Criterion C for their engineering or design values. Although the original segments of the GCID Main Canal date back to the 1890s, the portion in the APE dates to circa 1925. This section of the canal contains a similarly aged circa 1925 siphon that features a utilitarian design, which is typical of the era. As a simple earthen canal, it does not represent a major engineering innovation or achievement in water conveyance. The canal does not embody distinctive characteristics of a type, period, or method of construction and is not the work of a master. Therefore, it is ineligible for the NRHP/CRHR under Criterion C/3.

The information potential of the GCID Main Canal is expressed in its built form and in the historical record. It has not yielded, nor is it likely to yield, information important in history or prehistory. Therefore, it is ineligible for the NRHP/CRHR under Criterion D/4.

Integrity of the GCID Main Canal

The GCID Main Canal possesses integrity of location, setting, design, materials, workmanship, feeling, and association. It remains an open, earthen irrigation canal located in a rural setting in Colusa County. It still conveys the overall aesthetic of a 1920s-era irrigation canal that delivered water to farmers and ranchers in Colusa County. Regardless, due to the lack of historical significance, the GCID Main Canal does not meet NRHP/CRHR eligibility criteria as an individual resource. The resource is not listed on any certified local government historic property registers.

6.0 MANAGEMENT CONSIDERATIONS

6.1 Conclusions

ECORP identified an unrecorded segment of a previously evaluated historic-period cultural resource within the APE, updated the evaluation of the GCID Main Canal, including the Spring Creek Siphon, and found that it is ineligible for the NRHP/CRHR under all criteria; therefore, the GCID Main Canal is not a Historical Resource or a Historic Property. No Historic Properties as defined by Section 106 of the NHPA or Historical Resources as defined by CEQA will be affected by the Proposed Project. Until the lead

agencies concur with the identification and evaluation of eligibility of cultural resources, no Project activity should occur.

6.2 Likelihood for Subsurface Cultural Resources

The APE has a moderate-to-high potential for buried archaeological deposits because the underlying soil contains alluvial deposits, which tend to preserve archaeological material and create an increased likelihood for pre-contact archaeological sites to be located along perennial waterways. The APE, however, is situated in an area that would have frequently flooded during pre-contact times, making the area unsuitable for long-term habitation, reducing the potential to low. Furthermore, large-scale ground disturbance from years of farming (e.g., rice production and orchards) and the construction of the GCID Main Canal and the Spring Creek Siphon within the APE would have destroyed any intact cultural material within the APE, if present. The overall likelihood that the APE contains intact buried archaeological deposits is low.

6.3 Recommendations

6.3.1 Post-Review Discoveries

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the Lead Agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, ECORP recommends the following procedures.

- If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:
    - If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
    - If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined by CEQA or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
    - If the find represents a Native American or potentially Native American resource that does not include human remains, then he or she shall further notify [tribe]. The agencies shall consult

with the tribes on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Preservation in place is the preferred treatment, if feasible. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction.

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

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LIST OF APPENDICES

Appendix A – Records Search Confirmation and Historical Society Coordination

Appendix B – Sacred Lands File Coordination

Appendix C – Photographs of the Area of Potential Effects

Appendix D – ***Confidential*** Cultural Resource Site Locations and Site Records

APPENDIX A

Records Search Confirmation and Historical Society Coordination

California Historical Resources Information System

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: 34.00 **IC FILE NO.:** _____

To: Northwest Information Center

Print Name: Brian S. Marks, Ph.D. Date: 07/07/2026

Affiliation: ECORP Consulting, Inc.

Address: 2525 Warren Drive

City: Rocklin State: CA Zip: 95677

Phone: (916) 782-9100 Fax: _____ Email: bmarks@ecorpconsulting.com

Billing Address (if different than above): _____

Billing Email: sdonnelly@ecorpconsulting.com Billing Phone: (916) 782-9100

Project Name / Reference: Spring Creek Siphon Project (2026-118)

Project Street Address: -

County or Counties: Colusa County

Township/Range/UTMs: Sections 21, 22 T15N R3W

USGS 7.5' Quad(s): Williams, CA (1952 (p.r.1973, m.r.1994, NAD27)

PRIORITY RESPONSE (Additional Fee): yes ■ / no ☐

TOTAL FEE NOT TO EXCEED: $1,000.00
(If blank, the Information Center will contact you if the fee is expected to exceed $1,000.00)

Special Instructions:

Please contact me if search will exceed $1000.00 While we don't want copies of the ECORP reports, we do want them listed on the database printout. Please include the shapefiles in *.shp or *.gdb format.
Thank you.

Information Center Use Only

Date of CHRIS Data Provided for this Request: _____

Confidential Data Included in Response: yes ☐ / no ☐

Notes: _____

CHRIS Data Request Form

Mark the request form as needed. Attach a PDF of your project area (with the radius if applicable) mapped on a 7.5' USGS topographic quadrangle to scale 1:24000 ratio 1:1 neither enlarged nor reduced and include a shapefile of your project area, if available. Shapefiles are the current CHRIS standard for submitting digital spatial data for your project area or radius. **Check with the appropriate IC for current availability of digital data products.**

- Documents will be provided in PDF format. Paper copies will only be provided if PDFs are not available at the time of the request or under specially arranged circumstances.
- Location information will be provided as a digital map product (Custom Maps or GIS data) unless the area has not yet been digitized. In such circumstances, the IC may provide hand drawn maps.
- In addition to the $150/hr. staff time fee, client will be charged the Custom Map fee when GIS is required to complete the request [e.g., a map printout or map image/PDF is requested and no GIS Data is requested, or an electronic product is requested (derived from GIS data) but no mapping is requested].

For product fees, see the CHRIS IC Fee Structure on the OHP website.

1. Map Format Choice:

Select One: Custom GIS Maps ☐ GIS Data ☐ Custom GIS Maps **and** GIS Data ☒ No Maps ☐

Any selection below left unmarked will be considered a "no. "

Location Information:

	Within project area	Within 1.00 mi. radius
ARCHAEOLOGICAL Resource Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Locations	yes ☒ / no ☐	yes ☒ / no ☐
Report Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
"Other" Report Locations[2]	yes ☐ / no ☒	yes ☐ / no ☒

3. Database Information:
(contact the IC for product examples, or visit the SSJVIC website for examples)

	Within project area	Within 1.00 mi. radius
ARCHAEOLOGICAL Resource Database[1]		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Database		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Report Database[1]		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Include "Other" Reports[2]	yes ☐ / no ☒	yes ☐ / no ☒

4. Document PDFs (paper copy only upon request)**:**

	Within project area	Within 1.00 mi. radius
ARCHAEOLOGICAL Resource Records[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Records	yes ☒ / no ☐	yes ☒ / no ☐
Reports[1]	yes ☒ / no ☐	yes ☐ / no ☒
"Other" Reports[2]	yes ☐ / no ☒	yes ☐ / no ☒

CHRIS Data Request Form

5. Eligibility Listings and Documentation:

	Within project area	Within 1.00 mi. radius
OHP Built Environment Resources Directory[3]:		
Directory listing only (Excel format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒
OHP Archaeological Resources Directory[1,5]:		
Directory listing only (Excel format)	yes ☒ / no ☐	yes ☒ / no ☐
Associated documentation[4]	yes ☒ / no ☐	yes ☐ / no ☒
***California Inventory of Historic Resources* (1976):**		
Directory listing only (PDF format)	yes ☒ / no ☐	yes ☐ / no ☒
Associated documentation[4]	yes ☒ / no ☐	yes ☐ / no ☒

6. Additional Information:

The following sources of information may be available through the Information Center. However, several of these sources are now available on the OHP website and can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through these sources. Indicate below if the Information Center should review and provide documentation (if available) of any of the following sources as part of this request.

Caltrans Bridge Survey	yes ☐ / no ☒
Ethnographic Information	yes ☐ / no ☒
Historical Literature	yes ☐ / no ☒
Historical Maps	yes ☐ / no ☒
Local Inventories	yes ☒ / no ☐
GLO and/or Rancho Plat Maps	yes ☐ / no ☒
Shipwreck Inventory	yes ☐ / no ☒
Soil Survey Maps	yes ☐ / no ☒

---

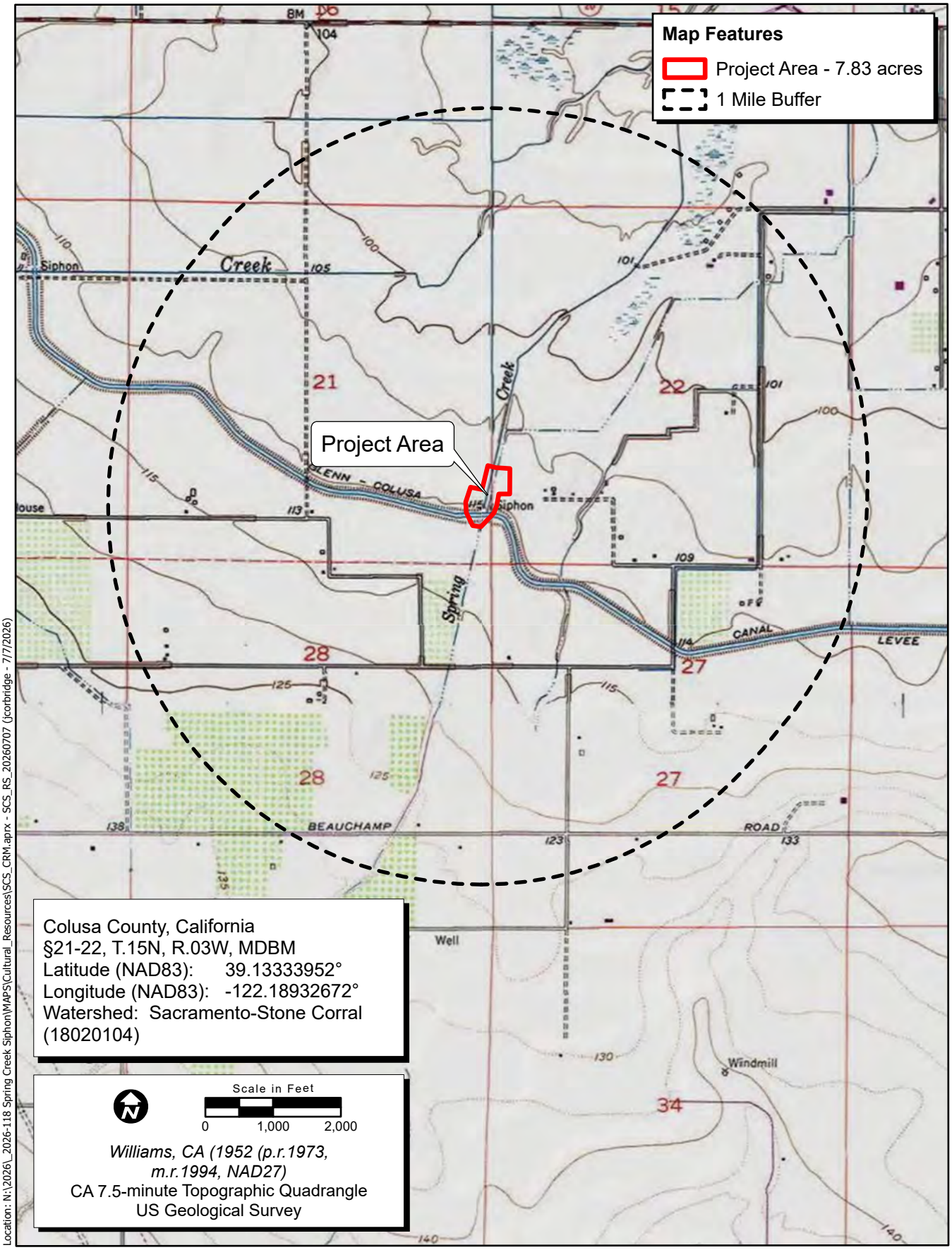
[1] In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User or Conditional User under an active CHRIS Access and Use Agreement.

[2] "Other" Reports GIS layer consists of report study areas for which the report content is almost entirely non-fieldwork related (e.g., local/regional history, or overview) and/or for which the presentation of the study area boundary may or may not add value to a record search.

[3] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Includes, but not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys. Previously known as the HRI and then as the HPD, it is now known as the Built Environment Resources Directory (BERD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

[4] Associated documentation will vary by resource. Contact the IC for further details.

[5] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Previously known as the Archaeological Determinations of Eligibility, now it is known as the Archaeological Resources Directory (ARD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.



Location: N:\2026_2026-118 Spring Creek Siphon\MAPS\Cultural_Resources\SCS_CRM.aprx - SCS_RS_20260707 (jcorbridge - 7/7/2026)

Map Date: 7/7/2026
Sources: ESRI, USGS

Records Search

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2026-118 Spring Creek Siphon

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

7/16/2026 NWIC File No.: 26-0039

Brian S. Marks, Ph.D.
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Re: Spring Creek Siphon Project (2026-118)

The Northwest Information Center received your record search request for the project area referenced above, located on the Williams USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 1 mile radius:

Resources within project area:	0
Resources within 1 mi. radius:	0
Reports within project area:	0
Reports within 1 mi. radius:	1: S-43845

Resource Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☐ not requested	☒ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☐ not requested	☒ nothing listed
Report Copies:	☐ enclosed	☐ not requested	☒ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☐ not requested	☒ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Soil Survey: https://alabamamaps.ua.edu/historicalmaps/soilsurvey/California/california.html

Shipwreck Inventory: https://www.slc.ca.gov/shipwrecks/

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

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

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 CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lindsey Willoughby, M. A.
Researcher

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-043845	OHP PRN - COE 120117A; Submitter - SPR-2011-01117	2011	Beatrice Cox	Cultural Resources Inventory Report for the Cortina #3 60kV Transmission Line Pole Replacement Project, Colusa County, California	Garcia and Associates	
S-043845a		2012	Nancy Arcady Haley	COE120117A: Transmission Line Maintenance for 7 Existing Wooden Transmission Poles	Department of the Army, U.S. Army Corps of Engineers	

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

June 9, 2026

Colusi County Historical Society
P.O. Box 643
Williams, CA 95988

RE: Cultural Resources Inventory for the Spring Creek Siphon Project, Colusa County, California (ECORP Project No. 2026-118)

Dear Colusa County Historical Society,

ECORP Consulting, Inc. has been retained to assist in the planning of the development of the project listed above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the project areas. If you have any questions, please contact me at (916) 782-9100 ext. 5113 or dchisholm@ecorpconsulting.com.

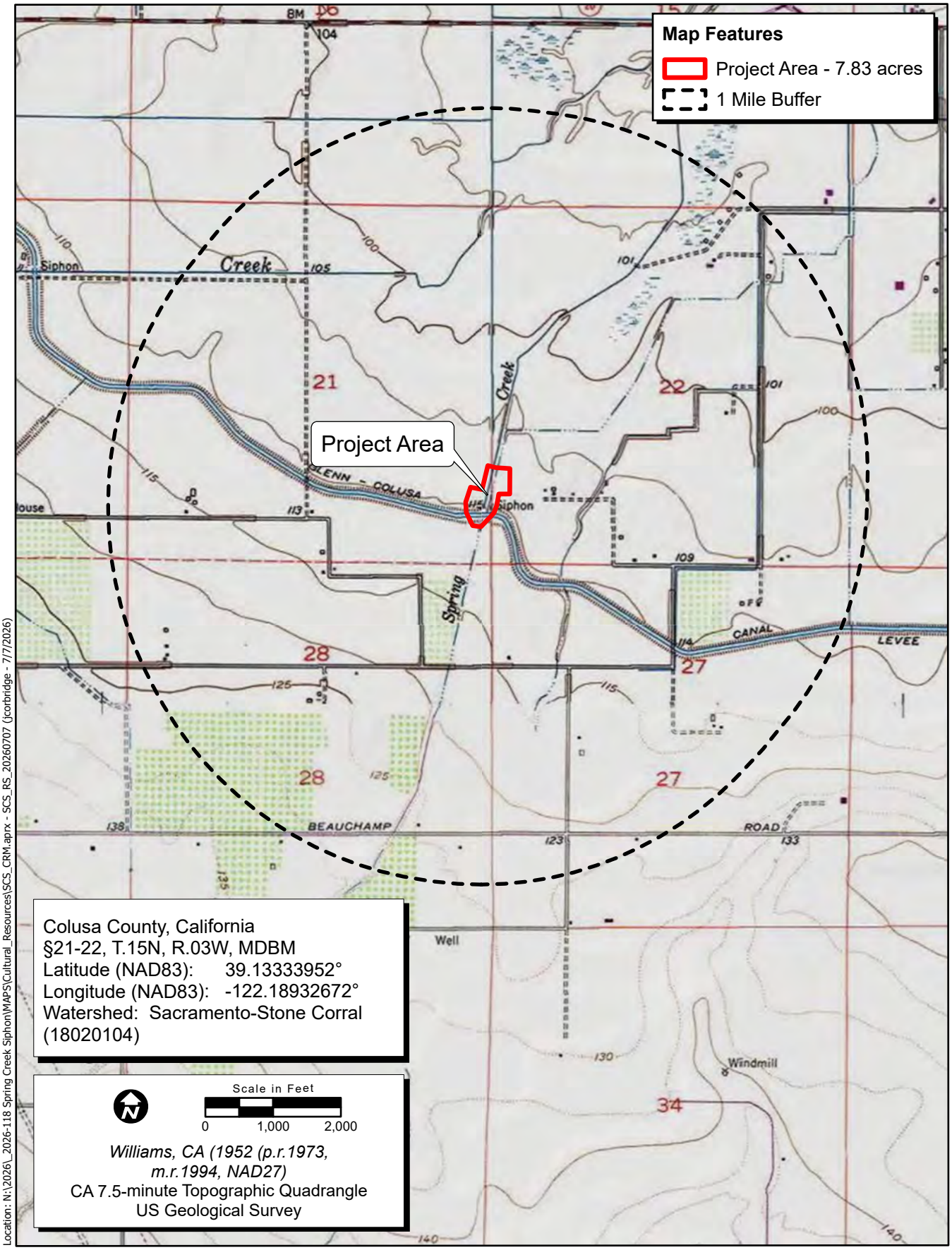
Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Daisy Mae Chisholm
Assistant Archaeologist

Attachments

Project Location Map



Location: N:\2026_2026-118 Spring Creek Siphon\MAPS\Cultural_Resources\SCS_CRM.aprx - SCS_RS_20260707 (jcorbridge - 7/7/2026)

Map Date: 7/7/2026
Sources: ESRI, USGS

Records Search

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2026-118 Spring Creek Siphon

APPENDIX B

Sacred Lands File Coordination

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

07/09/2026

Information Below is Required for a Sacred Lands File Search

Project: Spring Creek Siphon Project (ECORP Project #2026-118)

County: Colusa County

USGS Quadrangle: Williams, CA (1952 (p.r.1973,m.r.1994, NAD27)

Township: 15N **Range:** 3W **Section(s):**21-22

Company/Firm/Agency: ECORP Consulting, Inc.

Contact Person: Daisy Chisholm

Street Address: 2525 Warren Drive

City: Rocklin **Zip:** 95677

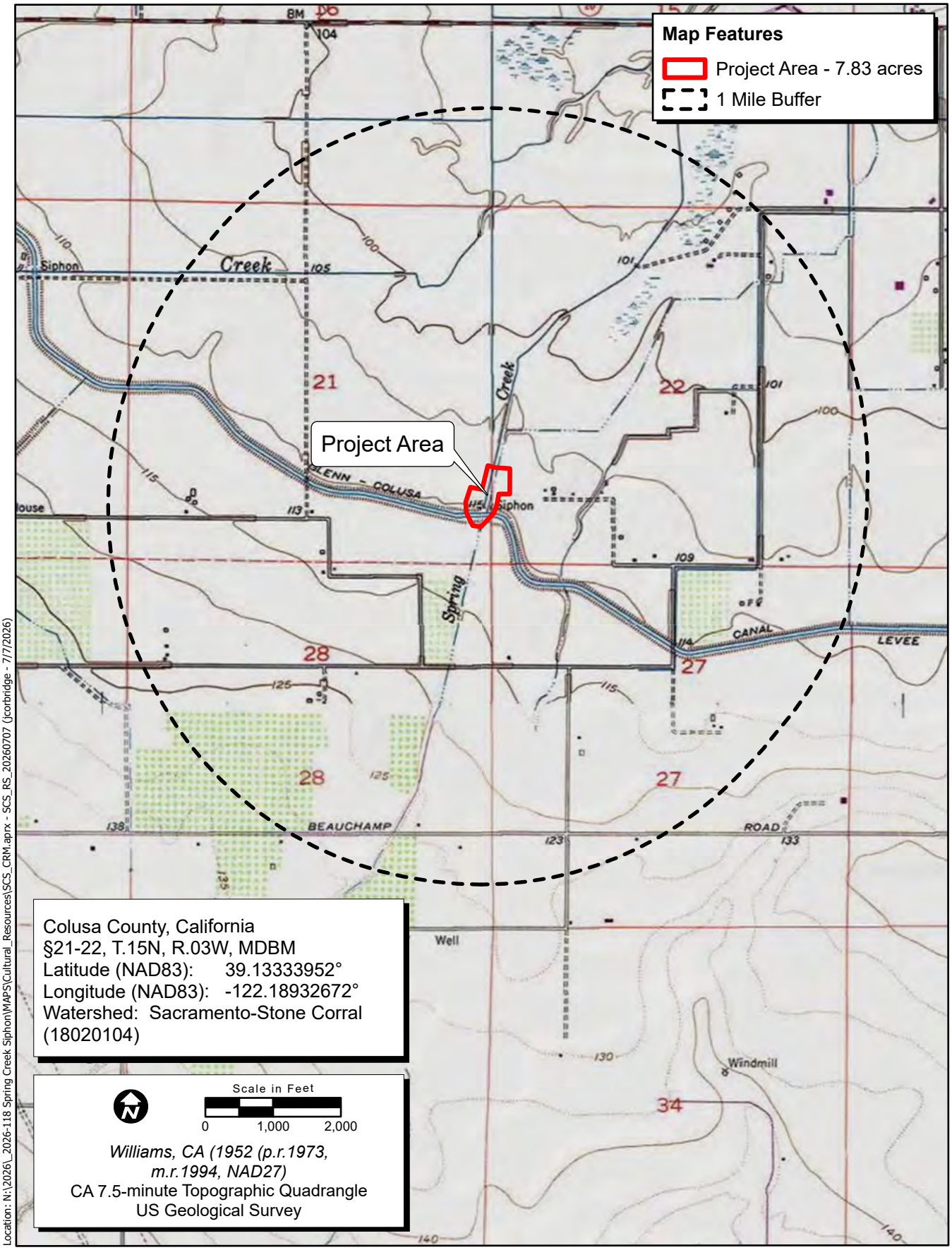
Phone: 916-782-9100

Fax: _____

Email: dchisholm@ecorpconsulting.com

Project Description:

See attached map.



Location: N:\2026_2026-118 Spring Creek Siphon\MAPS\Cultural_Resources\SCS_CRM.aprx - SCS_RS_20260707 (jcorbridge - 7/7/2026)

Map Date: 7/7/2026
Sources: ESRI, USGS

Records Search

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2026-118 Spring Creek Siphon

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Isaac Bojorquez
Ohlone-Costanoan

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

COMMISSIONER
Vacant

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Andrew Alejandre
Paskenta Band of Nomlaki Indians

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

July 9, 2026

Daisy Chisholm
ECORP Consulting, Inc.

Via Email to: dchisholm@ecorpconsulting.com

Re: Spring Creek Siphon (ECORP #2026-118) Project, Colusa County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were negative. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at joshua.nowakowski@nahc.ca.gov

Sincerely,

Joshua Nowakowski

Joshua Nowakowski
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Colusa County
7/9/2026

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Colusa	Cachil Dehe Band of Wintun Indians of the Colusa Indian Community	F	Jennie Mitchum, Cultural Preservation Director	3730 Highway 45 Colusa, CA, 95932	(530) 458-6303			Nomlaki Patwin Wintu	Colusa,Glenn,Lake,Napa,Sacramento,Solano,Sutter,Yolo	6/6/2023
	Cachil Dehe Band of Wintun Indians of the Colusa Indian Community	F	Wayne Mitchum Jr., Chairman	3730 Highway 45 Colusa, CA, 95932	(530) 458-6512		asmelser@colusa-nsn.gov	Nomlaki Patwin Wintu	Colusa,Glenn,Lake,Napa,Sacramento,Solano,Sutter,Yolo	6/6/2023
	Cortina Rancheria - Kletsel Dehe Band of Wintun Indians	F	Charlie Wright, Chairperson	P.O. Box 1630 Williams, CA, 95987	(530) 419-5058	(530) 473-3301		Wintun	Colusa,Glenn,Lake,Napa,Sacramento,Solano,Sutter,Yolo	
	Grindstone Rancheria of Wintun-Wailaki	F	Ronald Kirk, Chairperson	P.O. Box 63 Elk Creek, CA, 95939	(530) 968-5365	(530) 968-5366		Nomlaki Southern Wintun Wailaki	Colusa,Glenn,Humboldt,Lake,Mendocino,Napa,Sacramento,Shasta,Solano,Sutter,Tehama,Trinity,Yolo	
	Yocha Dehe Wintun Nation	F	James Kinter, Tribal Secretary	P.O. Box 18 Brooks, CA, 95606	(530) 908-7564		jkinter@yochadehe.gov	Patwin	Colusa,Lake,Napa,Sacramento,Solano,Sutter,Yolo	11/6/2023
	Yocha Dehe Wintun Nation	F	Anthony Roberts, Chairperson	P.O. Box 18 Brooks, CA, 95606	(530) 723-3906		aroberts@yochadehe.gov	Patwin	Colusa,Lake,Napa,Sacramento,Solano,Sutter,Yolo	11/6/2023
	Yocha Dehe Wintun Nation	F	Leland Kinter, Tribal Treasurer	P.O. Box 18 Brooks, CA, 95606	(530) 908-2902		lkinter@yochadehe.gov	Patwin	Colusa,Lake,Napa,Sacramento,Solano,Sutter,Yolo	11/6/2023
	Yocha Dehe Wintun Nation	F	Yvonne Perkins, THPO, Cultural Resources Chairman	P.O. Box 18 Brooks, CA, 95606	(530) 796-3400		thpo@yochadehe.gov	Patwin	Colusa,Lake,Napa,Sacramento,Solano,Sutter,Yolo	11/6/2023

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Spring Creek Siphon (ECORP #2026-118) Project, Colusa County.

Record: PROJ-2026-003608
Report Type: List of Tribes
Counties: Colusa
NAHC Group: All

APPENDIX C

Photographs of the Area of Potential Effects

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

PHOTOGRAPH RECORD

Trinomial

Page 1 of 1 **Resource/Project Name:**Spring Creek Siphon **Year**; 2026
Camera: Varies Lens Size Varies
Film Type and Speed: Digital Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Subject/Description	View Toward	Accession #
7	28	Overview of Project/North of Spring Creek Siphon	SW	20260728_150517748_iOS.jpg
7	28	Overview of Project	W	20260728_150533369_iOS.jpg
7	28	Overview of Project	W	20260728_150543805_iOS.jpg
7	28	Overview of Project	SW	20260728_151213423_iOS.jpg
7	28	Overview of Spring Creek Siphon	SE	20260728_151437331_iOS.jpg
7	28	Overview of Spring Creek Siphon	E	20260728_152244752_iOS.jpg
7	28	Overview of Spring Creek Siphon	NW	20260728_152450956_iOS.jpg
7	28	Overview of Spring Creek Siphon	SW	20260728_154320265_iOS.jpg



20260728_150517748_iOS



20260728_150533369_iOS



20260728_150543805_iOS



20260728_151213423_iOS



20260728_151437331_iOS



20260728_152244752_iOS



20260728_152450956_iOS



20260728_154320265_iOS



20260728_150517748_iOS



20260728_150533369_iOS



20260728_150543805_iOS



20260728_151213423_iOS



20260728_151437331_iOS



20260728_152244752_iOS



20260728_152450956_iOS



20260728_154320265_iOS

APPENDIX D

Confidential Cultural Resource Site Locations and Site Records

This appendix contains information on the specific location of cultural resources. This information is not for publication or release to the general public. It is for planning, management, and research purposes only. Information on the specific location of pre-contact and historic sites is exempt from the Freedom of Information Act and California Public Records Act.