

MITIGATED NEGATIVE DECLARATION

Planada Water Supply Improvements Project

August 2025

PREPARED FOR:

Planada Community Services District
103 Live Oak Street
Planada, CA 95365

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Initial Study/Mitigated Negative Declaration

Planada Water Supply Improvements Project

Prepared for:

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Chapter 1

INTRODUCTION

INTRODUCTION

1.1 Project Summary

This document is the Initial Study/Mitigated Negative Declaration describing the potential environmental effects of the proposed Planada Community Services District's Water Supply Improvements Project (Project). The Project will involve replacing or repairing water pipelines at various locations throughout the District as well as installation of a new well and water storage tank. The proposed Project is more fully described in Chapter Two – Project Description.

The Planada Community Services District (District) will act as the Lead Agency for this Project pursuant to the *California Environmental Quality Act (CEQA)* and the *CEQA Guidelines.*

The Project is expected to be funded through a combination of City funds and Drinking Water State Revolving Fund (DWSRF) funds administered through the California State Water Resources Control Board (Water Board). One requirement of DWSRF funding is that the District will be required to comply with the Water Board's environmental requirements including CEQA-Plus. CEQA-Plus involves additional environmental analysis of certain topics to include federal thresholds, rules and regulations (for topics such as air, biology, cultural, etc.). In addition to this Mitigated Negative Declaration, the District is preparing a separate Environmental Package for submittal to the Water Board which includes the CEQA-Plus analysis.

1.2 Document Format

This IS/MND contains five chapters, and appendices. Section 1, Introduction, provides an overview of the Project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of Project objectives and components. Chapter 3, Initial Study Checklist, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the 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 4, Mitigation Monitoring and Reporting Program, provides the proposed mitigation measures,

completion timeline, and person/agency responsible for implementation and Chapter 5, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

Environmental impacts are separated into the following categories:

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 After 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 a 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.)

Regardless of the type of CEQA document that must be prepared, the basic purpose of the CEQA process as set forth in the CEQA Guidelines Section 15002(a) is to:

(1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
(2) Identify ways that environmental damage can be avoided or significantly reduced.
(3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
(4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

According to Section 15070(b), a Mitigated Negative Declaration is appropriate if it is determined that:

(1) Revisions in the project plans or proposals made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

The Initial Study contained in Section Three of this document has determined that with mitigation measures and features incorporated into the Project design and operation, the environmental impacts are less than significant and therefore a Mitigated Negative Declaration will be adopted.

Chapter 2

PROJECT DESCRIPTION

Project Description

2.1 Location

The District is located approximately 9 miles east of the City of Merced within Merced County and is bounded on the north by Central Yosemite Hwy 140, on the south by Miles Creek, on the west by the City of Merced, and on the east by the western slopes of the Sierra Nevada. The unincorporated community of Le Grand is approximately seven miles northwest of Planada. See Figure 1 – Regional Location Map, Figure 2 – Proposed Water Distribution System Map, and Figure 3 – Proposed Well and Tank Site.

2.2 Setting and Surrounding Land Use

The Planada Community Services District was originally formed by the Merced County Board of Supervisors in 1967 and acquired by the Planada Sanitary District in 1981. The District provides water and sewer services to the unincorporated community of Planada and a few outlying areas, covering a total area of 945 acres serving approximately 4,164 residents.

The project site consists almost entirely of lands modified and used for anthropogenic purposes, including roads, alleys, portions of residential and commercial lots, and a park. It also contains a small segment of Miles Creek at the location of a proposed water main crossing along Plainsburg Road. The topography of the project site is relatively flat with elevations averaging 230 feet above sea level.

Figure 1 – Regional Location Map

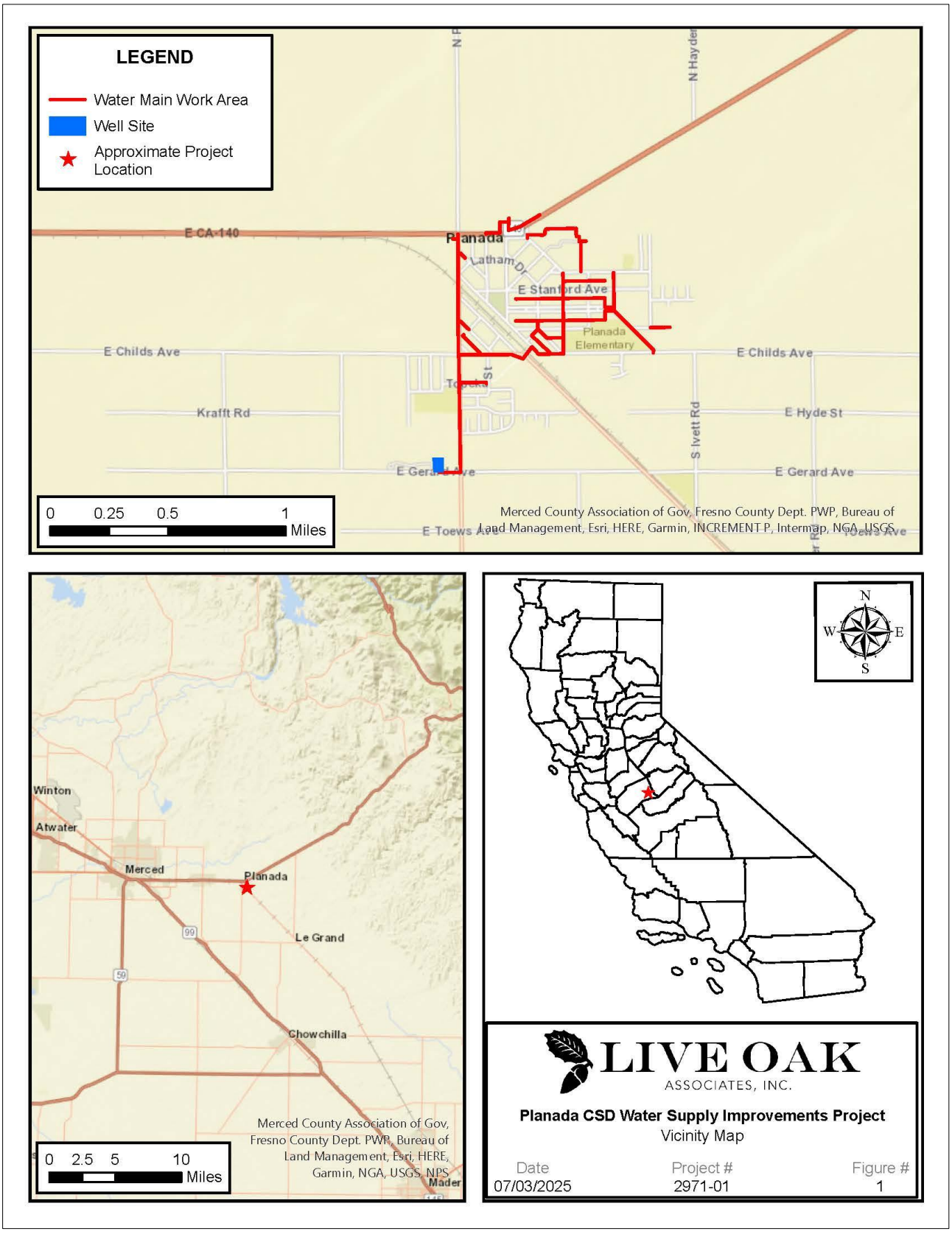


Figure 2 – Proposed Water Distribution System Map

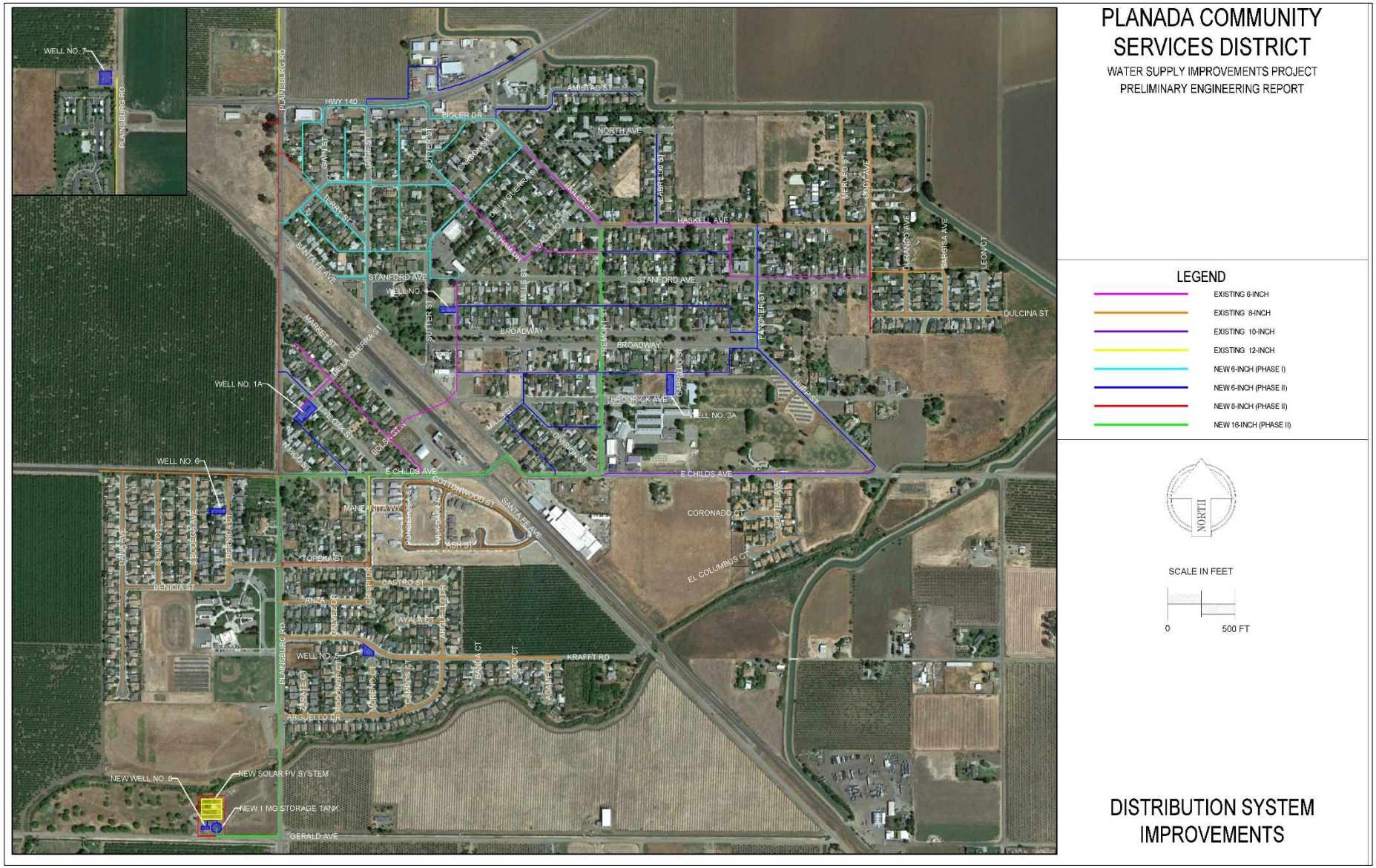
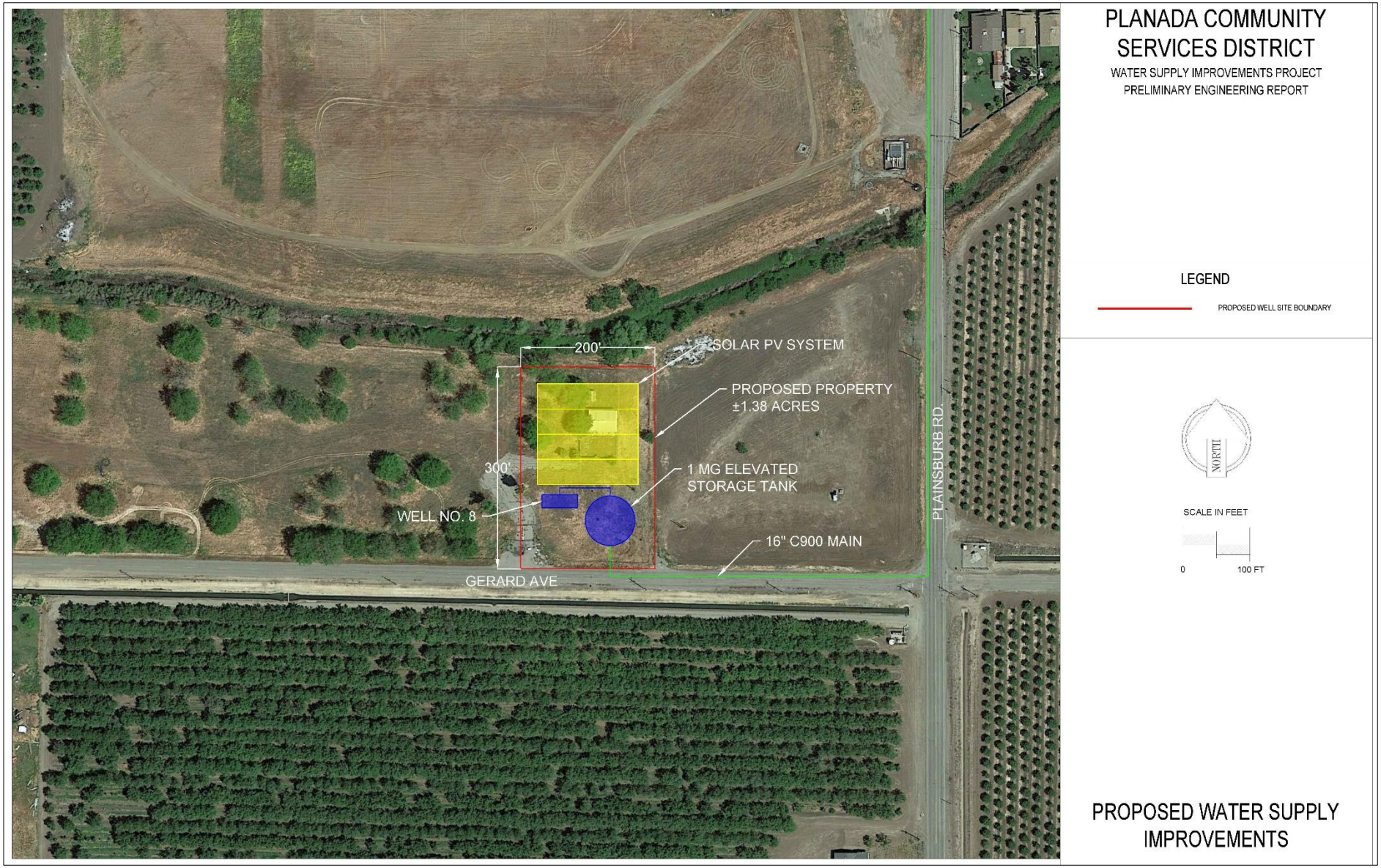


Figure 3 – Proposed Well and Tank Site



2.3 Project Description

A Preliminary Engineering Report entitled "Planada Community Services District Water Supply Improvements Project" was prepared by AM Consulting Engineers in October 2024 to address the needed improvements. Please refer to that document for specific project characteristics. A summary of Project activities is included herein.

The District is undertaking improvements to its water supply infrastructure to improve reliability and meet peak hour demands and water quality standards. Phase I of this effort, completed in the summer of 2024, entailed replacing 8,600 linear feet of undersized pipeline with new 6-inch C900 pipe. Now, the District is proposing to implement Phase II which will involve installing approximately 26,590 linear feet of new 16-inch, 8-inch, and 6-inch C900 water mains (See Figure 2), replacing and upgrading approximately 1,120 customer meters with new 1-inch Badger E-Series Ultrasonic Meters, and developing an approximately 1.4-acre property with a new groundwater well, a 750,000-gallon elevated welded carbon-steel water storage tank, and a solar PV system to power the well and storage tank (See Figure 3).

Most of the water mains will be installed within roads and alleys, with all construction-related disturbance confined to the traveled way. In the few locations where the water mains will be installed outside of roads, disturbance will be confined to a corridor approximately 20 feet in width. Construction activities for the water mains will include trench excavation with widths ranging from 18 to 40 inches and depths from 54 to 64 inches. An exception to this is at the water main alignment's crossing of Miles Creek; here, the planned 16-inch pipe will be installed via horizontal directional drilling, with the requisite bore pits to be located approximately 100 feet outside of top of bank. There will be no vegetation clearing, equipment use, or other disturbance to the creek channel itself. Where feasible, all existing water mains will be abandoned in place, with the ends sealed using a concrete wall. All water meter installations will occur within the water main work area, at property frontages.

The proposed groundwater well will have a production capacity of 450 gallons per minute. Working in tandem, the proposed well and water storage tank (750,000 gallon capacity) will accommodate four hours of Peak Hour Demand (PHD) and three hours of fire flow. The well and storage tank will be constructed in the southern portion of the well site, and the solar PV system in the northern portion. The solar PV system would be ground-mounted with fixed, single axis arrays.

2.5 Objectives

The primary objectives of the proposed Project are as follows:

- To provide adequate water services to its customers, by upgrading the existing water system infrastructure.
- To provide adequate fire flow and water pressure in the District.
- To operate the water distribution system and water well/storage tank with the most cost-effective methods available that meet the District's overall system performance and regulatory compliance requirements.

2.6 Other Required Approvals

The proposed Project will include, but not be limited to, the following regulatory requirements:

- The adoption of a Mitigated Negative Declaration by the Planada Community Services District.
- Regional Water Quality Control Board approval.
- State Water Board approval

Chapter 3

IMPACT ANALYSIS

Initial Study Checklist

3.1 Environmental Checklist Form

Project title:

Planada Water Supply Improvements Project

Lead agency name and address:

Planada Community Services District
103 Live Oak Street
Planada, CA 95365

Contact person and phone number:

Alan Vera, District Manager
(209) 382-0213

Project location:

See Section 2.1

Project sponsor's name/address:

Planada Community Services District

General plan designation:

Multiple, District-wide project

Zoning:

Multiple, District-wide project

Description of project:

See Section 2.3

Surrounding land uses/setting:

See Section 2.2

Other public agencies whose approval or consultation is required (e.g., permits, financing approval, participation agreements):

See Section 2.4

California Native American Tribal Consultation:

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun or is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In accordance with Assembly Bill (AB) 52, potentially affected Tribes were formally notified of this Project and were given the opportunity to request consultation on the Project. The Native American Heritage Commission was contacted, requesting a contact list of applicable Native American Tribes, which was provided. Letters were provided to the listed Tribes, notifying them of the Project and requesting consultation, if desired. See Section 3.17 – Tribal Cultural Resources for more information.

3.2 Environmental Factors Potentially Affected

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

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

3.3 Determination

Based on this initial evaluation:

☐ 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.

Travis Crawford, AICP — Date

Environmental consultant to:

Planada Community Services District

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Have a 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 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?	☐	☐	☐	☒

RESPONSES

a. Have a 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 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?

No Impact. The Planada CSD proposes improvements and upgrades to its existing water system infrastructure. These improvements consist of replacement or rehabilitation of approximately 26,590 (discontinuous) feet of water lines and other minor improvements consisting of installation of a new water well and associated water storage tank.

Currently the Project Area consists of paved streets, residential neighborhoods, commercial areas, public areas, paved parking lots, undeveloped portions of private property, and dirt road rights-of way. Views of surrounding areas will not be substantially impacted by the Project, since the majority of the finished work will be below grade. As such, the proposed Project will not impede any scenic vistas.

Construction activities will occur over an 12-month period and will be visible from the adjacent residences, businesses, and roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista, as described above.

There are no state designated scenic highways within the vicinity of the proposed Project site. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor.

Current sources of light in the Project area are from vehicles traveling along surrounding roads and residential lighting. No lighting will be associated with pipeline installation. The proposed water tank may include some nighttime security lighting. However, this lighting will be shielded and directed downward to reduce light-spill onto adjacent properties. Accordingly, the proposed Project would not create substantial new sources of light or glare. There will be ***no impact.***

Mitigation Measures: None are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

RESPONSES

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?

No Impact. The Planada CSD proposes improvements and upgrades to its existing water system infrastructure. These improvements consist of replacement or rehabilitation of approximately 26,590 (discontinuous) feet of water lines and other minor improvements consisting of installation of a new water well and associated water storage tank.

The pipelines and associated pipeline infrastructure will largely occur within the existing road right of way and will be installed underground. The improvements associated with the water well and water storage tank will occur on vacant land. The Project does not have the potential to result in the conversion of farmland to non-agricultural uses or forestland uses to non-forestland because there is no such land being impacted by the Project. Areas within Planada are not currently utilized for agriculture. Additionally, the California Department of Conservation's Important Farmland Finder program considers the areas within the District to be Urban and Built-Up Land. The proposed Project does not include land under a Williamson Act Contract. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced above, would occur as a result of the proposed Project.

As such, the proposed Project does not have the potential to result in the conversion of Farmland to non-agricultural uses or forestland uses to non-forestland. There is ***no impact***.

Mitigation Measures: None are required.

III. AIR QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 or adversely affecting a substantial number of people)?	☐	☐	☒	☐

RESPONSES:

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?

Less than Significant Impact. The San Joaquin Valley Air Basin (SJVAB) is designated nonattainment of state and federal health-based air quality standards for ozone and $PM_{2.5}$. The SJVAB is designated nonattainment of state PM_{10}.[1] To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard (2004);

[1] San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards & Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm. Accessed October 2022.

- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and
- 2008 $PM_{2.5}$ Plan.

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the Project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the Project uses would be considered to conflict with the attainment plans. In addition, if the Project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans, and would not result in a significant contribution to the region's air quality non-attainment status. Additionally, the Project would comply with all applicable rules and regulations.

The nonattainment pollutants for the SJVAPCD are ozone, PM_{10} and $PM_{2.5}$. Therefore, the pollutants of concern for this impact are ozone precursors, regional PM_{10}, and $PM_{2.5}$. Ozone is a regional pollutant formed by chemical reaction in the atmosphere, and the Project's incremental increase in ozone precursor generation is used to determine the potential air quality impacts, as set forth in the GAMAQI. The annual significance thresholds to be used for the Project emissions are as follows[2]:

Pollutant/Precursor	Construction Emissions (tpy)	Operational Emissions (permitted) (tpy)	Operational Emissions (non-permitted) (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

[2] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_12-26-19.pdf. Page 80. Accessed September 2020.

The water pipelines and well/tank are not anticipated to generate emissions once they are constructed beyond existing conditions. The estimated annual construction emissions are shown below. Modeling results are provided in Table 1 and the complete CalEEMod output file is provided in Appendix A.

Table 1
Proposed Project Construction Emissions

	VOC (ROG) (tons/ year)	NO_x (tons/ year)	CO (tons/ year)	PM10 (tons/ year)	PM2.5 (tons/ year)	CO_2 (MT/year)
Annual Construction	0.08	0.17	0.24	0.01	0.01	42.3
Threshold of	10	10	100	15	15	--
Exceed Threshold?	No	No	No	No	No	N/A

The nearest sensitive receptors to the proposed Project site are the residential houses located along the proposed pipeline alignments, as an objective of the Project is to improve and upgrade the existing water pipelines.

Construction would take place within the vicinity of sensitive receptors; however, construction emissions would be below SJVAPCD thresholds and be temporary in nature. Therefore, the relatively small amount of emissions generated and the short duration of the construction period would not expose sensitive receptors to substantial pollutant concentrations.

Because the Project will not exceed any established air emission thresholds, does not result in a cumulatively considerable net increase of any criteria pollutant, and does not significantly impact sensitive receptors, the impact is determined to be ***less than significant.***

Mitigation Measures: None are required.

d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

Less Than Significant Impact. During construction, the various diesel-powered vehicles and equipment in use on-site could create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the Project site. In addition, once the Project is operational, there would be no new source of odors from the Project. The water pipelines will be enclosed underground and will not release odors. Therefore, the impact is ***less than significant.***

Mitigation Measures: None are required.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 Game 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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (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?	☐	☒	☐	☐

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

RESPONSES:

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 Game 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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation. A Biological Resource Evaluation (BRE) was prepared for the proposed Project in July 2025 by Live Oak Associates, Inc. (LOA). The BRE is included as Appendix B. As part of the BRE, the California Natural Diversity Data Base (CNDDB), the California Native Plant Society's Inventory of Rare and Endangered Plants, and the USFWS special status species lists were queried for records of special-status plant and animal species in the Project area. In addition, multiple field surveys were conducted as described in Appendix B. The results of the BRE are summarized as follows:

Environmental Setting

The project site consists almost entirely of lands modified and used for anthropogenic purposes, including roads, alleys, portions of residential and commercial lots, and a park. It also contains a small segment of Miles Creek at the location of a proposed water main crossing along Plainsburg Road. The topography of the project site is relatively flat with elevations averaging 230 feet above sea level.

The project site consists almost entirely of ruderal/developed lands including roads, road shoulders, alleys, parking lots, portions of residential and commercial lots, and a residential park. At the time of LOA's field survey, most such areas were paved and entirely barren of vegetation. However, where the water main work area traversed residential and commercial lots and the residential park, it was characterized by a mix of ornamental vegetation, weedy grasses and forbs, and compacted dirt substrates. Additionally, the work area within the residential park and adjoining residential lots between North Avenue and Amistad Avenue contained several trees including coast redwood (*Sequoia sempervirens*) and eucalyptus (*Eucalyptus* sp.). The well site appeared to be an abandoned residential property and was characterized by areas of derelict pavement, two remnant outbuildings, weedy grasses and forbs, several pecan (*Carya illinoinenses*) trees, and ornamental Chinese arborvitae (*Platycladus orientalis*).

The Project site's ruderal/developed lands are of low habitat value for most native wildlife, given high levels of ambient disturbance and, in most areas, a lack of vegetative cover. Wildlife species expected to be found here would be those that are attracted to urban areas and/or tolerate disturbance, and those that are associated with adjacent lands and use or pass through urban areas incidentally.

Desktop Review

The California Natural Diversity Data Base (CNDDB; CDFW 2025) was queried for special status plant and animal occurrences in the nine USGS 7.5-minute quadrangles containing and surrounding the project site (*Planada, Yosemite Lake, Haystack Mtn., Indian Gulch, Owens Reservoir, Le Grand, Plainsburg, El Nido,* and *Merced*). An unofficial species list for the project vicinity was obtained using the USFWS Information for Planning and Consultation (IPaC) system (Appendix D of Appendix B). A number of special status plants and animals were returned in these queries and are summarized below in Table 1 of Appendix B. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988-1990), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al 2012), the *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2025), *Calflora.org, iNaturalist.org*, and *eBird.org*.

Reconnaissance Survey

A reconnaissance-level field survey of the project site was conducted on June 4, 2025 by LOA biologist Natalie Neff. The survey entailed walking and driving through the project site while identifying its principal land uses and the constituent plants and animals of each land use. The field survey conducted for this study was sufficient to assess the significance of possible biological impacts associated with the development plans for the project site.

Determination

Critical Habitat

The BRE concludes the Project will have no effect on designated or proposed critical habitat as no such habitat has been designated or proposed on or near the Project site.

Special-Status Species

The BRE concludes the Project may affect but is not likely to adversely affect the state listed as threatened Swainson's hawk and Roosting Bats including Pallid Bat and Western Red Bat. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project site.

Migratory Birds

The BRE concludes the Project may affect but is not likely to adversely affect nesting migratory birds.

Regulated Habitats

The BRE concludes the Project will have no effect on regulated habitats.

Direct and Indirect Impacts

The Project could adversely affect, either directly or through habitat modifications, two special-status animal that occurs or may occur on or near the Project site (Swainson's hawk and Roosting Bats). Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact.

It is recommended that Mitigation Measures BIO-1 and BIO - 2 be included in the conditions of approval to reduce the potential impact to a ***less-than-significant level***.

Mitigation Measures:

BIO – 1 Protect nesting birds and nesting Swainson's hawks

(Construction Timing). If feasible, the project will be constructed between September 1 and January 31, outside of the avian nesting season.

***(Preconstruction Surveys*).** If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of any work within this period. The survey area will encompass the work area and surrounding lands within ½ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for other nesting birds.

***(Avoidance of Active Nests*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. The buffer distance will be determined based on species biology, site-specific conditions, and the level of project-related disturbance that is anticipated near the nest(s) in question. Buffers will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

BIO – 2 Protect Roosting Bats including Pallid Bat and Western Red Bat

(*Construction Timing*). If feasible, demolition and removal of the trees/structures will occur outside of the period between April 15 and September 30. This is the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.

(*Pre-construction Surveys*). Within 10 days prior to the removal of any trees/structures, a qualified biologist will survey these features for roosting bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.

(*Avoidance of Maternity Roosts*). Should any active maternity bat roosts be discovered, the biologist will identify a suitable construction-free buffer around the roost(s). The buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the nursery is no longer active.

(*Humane Eviction of Non-breeding Bats*). If a non-breeding bat colony is found, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by tree/structure removal.

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. No wetlands were present in the proposed Project area and as such, there would be ***no impacts*** associated with the proposed improvements.

Mitigation Measures: None are required.

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

Less Than Significant with Mitigation. No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area.

The Project could impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by the CDFW. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. It is recommended that Mitigation Measure BIO-1 be included in the conditions of approval to reduce the potential impact to a ***less-than-significant level***.

Mitigation Measures:

Implement Mitigation Measure BIO – 1.

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?

No Impact. There are no local policies or ordinances that the Project will conflict with. Additionally, there are no adopted local, regional, or state habitat conservation plans adopted for the area. As such, there is ***no impact.***

Mitigation Measures: None are required.

V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §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 formal cemeteries?	☐	☐	☒	☐

RESPONSES:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant Impact With Mitigation. To meet State and federal requirements, Hudlow Cultural Resource Associates (Hudlow) was retained to conduct background research, complete a records search, request a search of the Native American Heritage Commission's Sacred Lands File, conduct a cultural resources survey, and prepare a technical report, dated June 2025 (see Appendix C). The results of the Report are summarized herein and were used to support the determinations made in this CEQA document.

Records Search and Site-Specific Research

A record search of the project area and the environs within one half-mile was conducted at the Central California Information Center. Information Center Staff conducted the record search, RS# 13266I, on March 12, 2025 (Appendix II of Appendix C). The record search revealed that twenty-two cultural resource surveys have been conducted within one half-mile of the project area. Twenty cultural resource

surveys have previously addressed portions of the parcel in question. The previous surveys identified five cultural resources within the boundaries of the current project area, the Merced irrigation District, the Atchison, Topeka, and Santa Fe Railroad, the Planada Canal, a historic site, and the historic archaeological site of Planada's AT&SF train station. The Merced Irrigation District, is a proposed Historic District nominated for inclusion on either the National Register of Historic Places or the California Register of Historic Resources, although the Le Grand/Planada Canal section of the Merced Irrigation District is not individually eligible for nomination to either the National Register of Historic Places or the California Register of Historic Resources (Appendix II of Appendix C). The Planada Canal has been recorded, where it crosses Route 140.

Pedestrian Survey

Between May 2 and May 10, 2025, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian cultural resource survey of the entire proposed project area, the . Hudlow surveyed the entirety of the Water System Improvement Project in both east/west and north/south transects across the entire project area.

Paleontological Resources

Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

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)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 (see above) also applies to paleontological resources.

Direct and Indirect Impacts

As described in the Cultural Resources Report, the records search, background historical research, Native American outreach and a pedestrian survey revealed that no archaeological, cultural or historical resources occur on the Project site or in the Project area. However, four cultural resources were identified. The first cultural resource is P-24-001909, the Le Grand/Planada Canal, which is a portion of the Merced Irrigation District. This canal extension runs perpendicular to Plainsburg Road, north of Route 140, extending underneath Plainsburg Road, where a proposed 8-inch water line is to be installed. Although,

the Merced Irrigation District has been judged eligible for inclusion to the National Register of Historic Places as a historic district; the Le Grand/Planada Canal is not individually eligible for inclusion on the National Register of Historic Places or the California Register of Historic Resources.

The second cultural resource, P-24-001881, is the Burlington Northern Santa Fe rail line, which was originally built as the San Francisco and San Joaquin Valley Railroad in the mid to late 1890s. It connected Stockton and Bakersfield. The Atchison, Topeka, and Santa Fe purchased the rail line in 1898; rechristened as the AT&SF's Valley Division. Although the rail line is presumably eligible for nomination to both the National Register of Historic Places and the California Register of Historic Resources; it has not been formally evaluated. The Planada section lacks integrity, because the Planada railroad station has been demolished. The railroad station has been gone, since the mid-1980s. As such, the Planada section of the BNSF rail line, where a proposed 8-inch water line and a proposed 16-inch water line, will cross the existing right-of-way, is not individually eligible for nomination to either the National Register of Historic Places or the California Register of Historic Resources.

C&B-5 is the 1938 Miles Creek Bridge on Plainsburg Road. This timber framed bridge is in poor condition and the Miles Creek channel is choked with vegetation. Rather than being judged eligible for the California Register of Historic Resources, the people of Merced County, would be better served by replacing this aging rural two-lane bridge. The Miles Creek Bridge is a typical aging rural, timber-framed bridge. This bridge is not associated with any significant events at the local, state or regional levels; thus, the bridge is not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the bridge is not eligible for listing on the California Register under Criterion 2. The Miles Creek Bridge does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the bridge is not eligible for listing on the California Register under Criterion 3. Finally, the bridge does not retain research potential that can not be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

C&B-6 is a pair of concrete Mission-style light standards. These two light standards are in disrepair. Their age is tough to determine, due to a lack of comparable examples. These two light standards are located in the grass area between the sidewalk and the gutter along Broadway and should not be directly impacted by the proposed new six-inch water line to be placed within Broadway and the adjacent northbound alley. As such, C&B-6 is not associated with any significant events at the local, state or regional levels; thus, the light standards are not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the light standards not eligible for listing on the California

Register under Criterion 2. C&B-6 does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the light standards are not eligible for listing on the California Register under Criterion 3. Finally, the light standards do not retain any research potential that cannot be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

Unidentified archaeological, cultural or historical resources could be uncovered during proposed Project construction which could result in a potentially significant impact; however, implementation of Mitigation Measure CUL-1 would ensure that significant impacts remain ***less than significant with mitigation incorporation.***

Mitigation Measures:

CUL – 1 In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.

c. Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. Although unlikely given the highly disturbed nature of the site and the records search did not indicate the presence of such resources, subsurface construction activities associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. The California Health and Safety Code Section 7050.5 states that if human remains are discovered on-site, no further disturbance shall occur until the Merced County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.

Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites, however compliance with regulations would reduce this impact to ***less than significant***.

Mitigation Measures: None are required.

VI. ENERGY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

RESPONSES

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?

Less Than Significant Impact. The Planada CSD proposes improvements and upgrades to its existing water system infrastructure. These improvements consist of replacement or rehabilitation of approximately 26,590 (discontinuous) feet of water lines and other minor improvements consisting of installation of a new water well and associated water storage tank. During construction, the Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. Title 24 Building Energy Efficiency Standards would provide guidance on construction techniques to maximize energy conservation and it is expected that contractors and the community have a strong financial incentive to use recycled materials and products originating from nearby sources in order to reduce materials costs. As such, it is anticipated that materials used in construction and construction vehicle fuel energy would not involve the wasteful, inefficient, or unnecessary consumption of energy.

Operational Project energy consumption would be minimal, as the pipelines do not require energy once they are installed. Project improvements consisting of the new water well and storage tank will include

energy associated with the water well and pump facilities. Operational energy would also be consumed during each vehicle trip associated with the proposed use for maintenance or otherwise.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project would not generate on-going daily vehicle trips, other than for maintenance. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assists in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

As discussed previously, the proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level, such as Title 24. The Project would also be subject to energy conservation requirements in the California Energy Code and CALGreen for the new pipelines. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to operation.

Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 most recently adopted Uniform Building Code	☐	☐	☒	☐

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
creating substantial direct or indirect risks to life or property?				
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

RESPONSES

a-i. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

Less Than Significant Impact. As described above, no active or potentially active faults have been mapped within the District and the Project area does not lie within a State-designated Alquist-Priolo Earthquake Fault Zone. The lack of mapped active and potentially active faults notwithstanding, the Project area could be subjected to strong ground shaking during an earthquake on a nearby faults.

The safety risk to people resulting from seismic activity would be significantly decreased by mandatory adherence to all relevant building codes, including the California Building Code (CBC) requirements, adopted by the District. In addition, the Project does not include any habitable structures, as the Project only consists of sewer pipelines and minor improvements associated with the water well and water storage tank. Any impacts would be l***ess than significant.***

Mitigation Measures: None are required.

a (ii-iv). Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, liquefaction or landslides?

Less than Significant Impact. The proposed Project site is not in an area recognized for severe seismic ground shaking, landslides or liquefaction. Additionally, the Project does not include the construction of substantial structures that would expose people or structures to adverse effects involving rupture of a known earthquake fault. Impacts would be ***less than significant.***

Mitigation Measures: None are required.

b. Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The proposed Project site has a varied topography, but does not include any Project features that would result in substantial soil erosion or loss of topsoil. Most of the Project components will be located below grade. Once construction is completed, the pipeline trenches will be returned to pre-construction conditions and will not result in soil erosion greater than existing conditions. Therefore, the impact is ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. As described in Impact VI (aii-aiv), the potential for landslides, liquefaction, settlement or other seismically related hazards is low. As such, any impacts will be ***less than significant.***

Mitigation Measures: None are required.

d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?

Less than Significant Impact. As described above, the potential for hazard from landslide and liquefaction in the Project area is low. Therefore, the potential for liquefaction induced lateral spreading is also low. Causes of soil instability include, but are not limited to, withdrawal of groundwater, pumping of oil and gas from underground, liquefaction, and hydro-compaction.[3] The Project site is not located in an area that has been subjected to activities that might cause soil instability. Because the Project site has not been subject to activities that may cause soil instability, the risk of subsidence or collapse is expected to be low. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Less Than Significant Impact. The Project consists of improvements and upgrades to the existing District water supply system, and does not include installation of septic systems. The Project has been designed to work with the soil types in the community. Therefore, there would be a ***less than significant impact.***

Mitigation Measures: None are required.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

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)). If an

[3] USGS. California Water Science Center. Land Subsidence: Cause & Effect. https://ca.water.usgs.gov/land_subsidence/california-subsidence-cause-effect.html.

impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 (see above) also applies to paleontological resources.

There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Implementation of Mitigation Measure CUL-1 would require inadvertently discovery practices to be implemented should previously undiscovered paleontological resources be located. As such, impacts to undiscovered paleontological resources would be ***less than significant.***

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

RESPONSES:

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?

Less than Significant Impact. The proposed Project would generate exhaust-related GHG emissions during construction resulting from construction equipment operation, material haul and delivery trucks, and by trips by construction worker vehicles. Construction-related GHG emissions would occur for approximately twelve months and would cease following completion of the Project.

The proposed Project is not a land-use development project that would generate vehicle trips and is not a roadway capacity increasing project that could carry additional VMT. Therefore, the proposed Project would not result in a net increase in operational GHG emissions. As such, the proposed Project would not interfere or obstruct implementation of an applicable GHG emissions reduction plan. The proposed Project would be consistent with all applicable local plans, policies, and regulations for reducing GHG emissions. Any impacts related to GHG emissions would be ***less than significant.***

Mitigation Measures: None are required.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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	☐	☐	☒	☐

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

RESPONSES:

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?

Less than Significant Impact. While trenching and construction activities may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite, the activities would be short-term or one-time in nature and would be subject to federal, state, and local health and safety regulations.

Long-term operation of the proposed Project would involve little or no hazardous materials. Once operational, the pipelines are sealed and will not emit hazardous materials. Since the Project is intended to improve and upgrade the operation of existing water supply systems, it is assumed to have a positive impact by reducing potential contamination, leakage, or other issues that may result in the release of hazardous materials.

With implementation of the proposed Project, there are no reasonably foreseeable upset and accident conditions that would create a significant hazard to the public due to the release of hazardous materials. Impacts are considered ***less than significant***.

Mitigation Measures: None are required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. There are several schools located within one-half mile of the proposed Project, since the Project is located in various areas of the District. As previously described, long-term operation of the proposed Project would involve little or no hazardous materials. Once operational, the pipelines are sealed and will not emit hazardous materials. Since the Project is intended to replace the existing deteriorated water pipelines, it is assumed to have a positive impact by reducing potential contamination or other issues that may result in the release of hazardous materials.

Mitigation Measures: None are required.

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

No Impact. The proposed Project site is not located on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5. As such, there is ***no impact.***

Mitigation Measures: None are required.

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?

Less Than Significant Impact. There are no airports within two miles of the Project. As previously described, the Project does not include any significant above-grade structures and as such has ***a less than significant impact*** on any airport operations.

Mitigation Measures: None are required.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Pipeline installation may cause temporary partial road closures that could interfere with any adopted emergency response or evacuation plan. Construction schedules pertaining to pipelines within roadways will be coordinated with County police/fire/ambulance and other

emergency services. Adequate emergency access will be maintained at all times. As such, any impacts will be ***less than significant***.

Mitigation Measures: None are required.

g. Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?

No Impact. Implementation of the Project would not change the degree of exposure to wildfires because no new housing or businesses will be constructed. Therefore, there is ***no impact.***

Mitigation Measures: None are required.

X. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

RESPONSES:

a. <u>Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?</u>

Less than Significant Impact. The proposed Project includes replacement and/or repair of the existing water supply system.

Construction

Although the proposed with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

Three general sources of potential short-term construction-related stormwater pollution associated with the proposed Project are: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earth moving activities which, when not controlled, may generate soil erosion and transportation, via storm runoff or mechanical equipment. Generally, routine safety precautions for handling and storing construction materials may effectively mitigate the potential pollution of stormwater by these

materials. These same types of common sense, "good housekeeping" procedures can be extended to non-hazardous stormwater pollutants such as sawdust and other solid wastes.

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination. In addition, grading activities can greatly increase erosion processes. Two general strategies are recommended to prevent construction silt from entering local storm drains. First, erosion control procedures should be implemented for those areas that must be exposed. Secondly, the area should be secured to control offsite migration of pollutants. These Best Management Practices (BMPs) would be required in the Stormwater Pollution Prevention Plan (SWPPP) to be prepared prior to commencement of Project construction. When properly designed and implemented, these "good-housekeeping" practices are expected to reduce short-term construction-related impacts to less than significant.

In accordance with the National Pollution Discharge Elimination System (NPDES) Stormwater Program, the Project will be required to comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the Regional Water Quality Control Board (RWQCB) has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement.

Operation

The Project does not include any processes that would result in the production of chemicals or substances that would adversely impact local water quality beyond existing conditions. The Project is intended to rehabilitate/replace deteriorating water pipelines. The Project will not result in any additional water releases that could potentially impact groundwater or water quality. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

Less Than Significant Impact. The proposed Project includes improvements and upgrades to the District's water supply infrastructure. This includes installation of a new potable water well and water storage tank. This is necessary to ensure the system's long term ability to meet potable water demands and to meet peak hour demands, fire flow requirements and water quality standards. The new well will

have a production capacity of 450 gallons per minute. This minor amount of water demand will not result in a significant impact to water supplies. Additionally, the proposed Project will not significantly interfere with groundwater recharge as it will not introduce significant amounts of impermeable surfaces. As such, any impacts to groundwater supplies will be ***less than significant***.

Mitigation Measures: None are required.

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 offsite;
   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
   iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
   iv. impede or redirect flood flows?

Less than Significant Impact. The proposed pipelines and related improvements will be installed within the existing road right-of-way, or other easements and will not alter any existing drainage patterns. After construction, the pipeline trenches will be restored to pre-Project conditions and are not expected to effect stormwater drainage systems in the area. The new water well and storage tank will slightly increase the amount of impervious surface on the site, but not to a significant degree. There are no waterways in the immediate vicinity of the proposed Project that would be impacted by the Project. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

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?

No Impact. The Project is within a regulatory floodway or within a base floodplain (100 year) elevation. However, the Project does not include any housing or structures that would be subject to flooding either from a watercourse or from dam inundation. There are no bodies of water near the site that would create

a potential risk of hazards from seiche, tsunami or mudflow. The Project will not conflict with any water quality control plans or sustainable groundwater management plan. Therefore, there are ***no impacts.***

Mitigation Measures: None are required.

XI. LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

RESPONSES:

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?

No Impact. The proposed Project is located within the Planada CSD as presented in Figure 2. The improvements to the water lines and water well / storage tank would not cause any land use changes in the surrounding vicinity nor would it divide an established community. Once construction is completed, disturbed ground will be restored to pre-Project conditions. The proposed Project involves upgrades to the existing water supply system and does not conflict with any land use plans, policies or regulations. ***No impacts*** would occur as a result of Project implementation.

Mitigation Measures: None are required.

XI. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

RESPONSES:

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?

No Impact. The proposed Project includes improvements and upgrades to the District's existing water supply system. Construction will take place within the existing streetscape, and/or is otherwise heavily disturbed with urban uses and not in an area with known mineral resources. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XII. NOISE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 groundborne vibration or groundborne 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?	☐	☐	☐	☒

RESPONSES:

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 groundborne vibration or groundborne noise levels?

Less than Significant Impact. The nearest sensitive receptors to the proposed Project would be the residences along the existing pipeline alignments, as presented in Figure 2. Project construction would involve temporary, short-term noise sources including site preparation and installation of the pipeline and site cleanup work is expected to last for approximately 12 months. It should be noted that construction will be spread out at different locations during the 12 months, rather than construction at a single location for 12 months. Construction-related short-term, temporary noise levels would be higher

than existing ambient noise levels in the Project area, but is temporary and would not occur after construction is completed.

Operations-related noise would be similar to existing conditions. The pipelines themselves do not emit noise, nor do the related improvements. Operational noise would be limited to the proposed new water well. However, the well engine structure will be enclosed to reduce noise impacts. As such, any impacts to sensitive receptors would be less than significant.

During the proposed Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. Activities involved in construction will generate maximum noise levels, as indicated in Table 2, ranging from 79 to 91 dBA at a distance of 50 feet, without feasible noise control (e.g., mufflers) and ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise controls.

Table 2
Typical Construction Noise Levels

Type of Equipment	dBA at 50 ft	
	Without Feasible Noise Control	With Feasible Noise Control
Dozer or Tractor	80	75
Excavator	88	80
Scraper	88	80
Front End Loader	79	75
Backhoe	85	75
Grader	85	75
Truck	91	75

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time. Most residents recognize this reality and expect to hear construction activities on occasion.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. Construction associated with the proposed Project is earthmoving activities associated installing pipelines and installing equipment.

The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.[4] Table 3 describes the typical construction equipment vibration levels.

Table 3
Typical Construction Vibration Levels

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the Federal Transit Authority threshold for the nearest sensitive receptors.

As such, any impacts resulting from an increase in noise levels or from groundborne noise levels is ***less than significant.***

Mitigation Measures: None are required.

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. There are no airports in the vicinity of the Project area. As previously described, the Project does not include any above-grade structures and as such has ***no impact*** on or from noise associated with airport operations.

Mitigation Measures: None are required.

[4] Transit Noise and Vibration Impact Assessment. Final Report No. FTA-VA-90-1003 prepared for the U.S. Federal Transit Administration by Harris Miller Miller & Hanson Inc., May 2006. Page 7-5. http://www.rtd-fastracks.com/media/uploads/nm/14_Section_38_NoiseandVibration_Part3.pdf.

XIV. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

RESPONSES:

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?

No Impact. There are no new homes or businesses associated with the proposed Project, nor would Project implementation displace people or housing. The proposed Project is needed to upgrade the existing District water supply system. There are ***no impacts***.

Mitigation Measures: None are required.

XV. PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

RESPONSES:

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:

Fire Protection?

No Impact. The proposed Project consists of improvements to the District's existing water supply system. The Project would not directly or indirectly induce population growth and there would be no changes needed to the existing fire suppression services. There is ***no impact.***

Police Protection?

No Impact. The proposed Project will continue to be served by existing police protection services. No additional police personnel or equipment is anticipated. There is ***no impact.***

Schools, Parks, Other Public Facilities?

No Impact. The proposed Project would not increase the number of residents in the community, as the Project does not include residential units. Because the demand for schools, parks, and other public facilities is driven by population, the proposed Project would not increase demand for those services. As such, the proposed Project would result in ***no impacts.***

Mitigation Measures: None are required.

XVI. RECREATION

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

RESPONSES:

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?

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 the construction of residential uses and would not directly or indirectly induce population growth. Therefore, the proposed Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. The Project would have ***no impact*** to existing parks.

Mitigation Measures: None are required.

XVII. TRANSPORTATION/ TRAFFIC

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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. Would the project 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?	☐	☐	☒	☐

RESPONSES:

a. Conflict with a program 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)?

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?

Less Than Significant Impact. The proposed Project would not cause a substantial increase in traffic, reduce the existing level of service, create any additional congestion at any intersections, or be inconsistent with CEQA Guidelines Section 15064.3. The construction of pipelines and improvements to the existing water supply system will not generate any additional traffic (beyond construction-related traffic trips) and as such, level of service standards and vehicle miles traveled standards would not be

exceeded. There are no components of the proposed Project that would increase hazards due to a geometric design feature. As traffic due to construction activities would be temporary in nature; the proposed Project would not cause a substantial increase in traffic or result in inadequate emergency access. Construction schedules pertaining to pipelines within roadways will be coordinated with police/fire/emergency services. Adequate emergency access will be maintained at all times. Access to existing residences will also be maintained throughout construction.

Once installed, the new pipelines and well/tank would not generate significant additional traffic trips per day, other than as needed for periodic maintenance. The Project would not conflict with a program plan, ordinance, or policy addressing the circulation system and as such, impacts would be ***less than significant.***

Mitigation Measures: None are required.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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 a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

RESPONSES:

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 a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

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

Less Than Significant Impact. In accordance with Assembly Bill (AB) 52, potentially affected Tribes were formally notified of this Project and were given the opportunity to request consultation on the Project.

A Sacred Lands File (SLF) request was submitted to the Native American Heritage Commission (NAHC) on April 8, 2025. The NAHC responded with a negative result to the SLF search. Additionally, the NAHC provided a list of Native American tribes who have knowledge of the Project APE. Consultation request letters were provided to NAHC contact list for additional information pertaining to the APE as follows:

- Amah Mutsun Tribal Band
- North Fork Rancheria of Mono Indians
- Northern Valley Yokut / Ohlone Tribe
- Picayune Rancheria of the Chukchansi Indians
- Southern Sierra Miwuk Nation
- Tule River Indian Tribe
- Wuksachi Indian Tribe / Eshom Valley Band

Follow-up emails were made to the NAHC provided contacts. At the time of the report publication no responses have been made. Confidential Appendix D provides requests to the NAHC, their results, and information request letters to Native American tribes.

Therefore, there is a ***less than significant impact***.

Mitigation Measures: None are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

RESPONSES:

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?

Less Than Significant Impact with Mitigation. The primary purpose of the proposed Project is to alleviate water supply issues in the District. The Project itself is the replacement and/or repair of water pipeline and installation of a new water well and associated water storage tank. All environmental impacts resulting from the improvements are discussed within this document.

Mitigation Measures: The Project will require multiple mitigation measures as identified throughout this document.

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

Less Than Significant Impact. The proposed Project includes improvements and upgrades to the District's water supply infrastructure. This includes installation of a new potable water well and water storage tank. This is necessary to ensure the system's long term ability to meet potable water demands and to meet peak hour demands, fire flow requirements and water quality standards. The new well will have a production capacity of 450 gallons per minute. This minor amount of water demand will not result in a significant impact to water supplies. As such, any impacts to groundwater supplies will be ***less than significant***.

Mitigation Measures: None are required.

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?

Less Than Significant Impact. The proposed Project includes improvements and upgrades to the District's water supply infrastructure. There are no habitable structures or homes associated with the Project. The Project will therefore have no impacts associated with wastewater or wastewater treatment.

Mitigation Measures: None are required.

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?

Less Than Significant Impact. Proposed Project construction and operation will generate minimal amounts of solid waste. The proposed Project will not generate waste on an on-going basis and will comply with all federal, state and local statutes and regulations related to solid waste. Any impacts will be ***less than significant.***

Mitigation Measures: None are required.

XX. WILDFIRE

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 Incorporation	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 uncontrolled spread of a 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?	☐	☐	☒	☐

RESPONSES:

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 uncontrolled spread of a 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?

Less Than Significant Impact. The proposed Project is located in areas within the Planada CSD that have been developed with urban uses. The proposed Project includes improvements and upgrades to the District's existing water supply system. There is no increased risk or on-going risk of wildfire beyond existing conditions associated with the Project.

As such, any wildfire risk to the Project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☒	☐	☐
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)?	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

RESPONSES:

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

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the proposed Project is not expected to have substantial impact on the environment or on any resources identified in the Initial Study. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant***.

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc.). The impact is ***less than significant***.

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

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the Project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant***

Chapter 4

MITIGATION MONITORING & REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Planada CSD Water Supply Improvements Project in Merced County, California. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements as well as conditions recommended by responsible agencies who commented on the Project.

The first column of the Table identifies the mitigation measure. The second column, entitled "Party Responsible for Implementing Mitigation," names the party responsible for carrying out the required action. The third column, "Implementation Timing," identifies the time the mitigation measure should be initiated. The fourth column, "Party Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last column will be used by the District to ensure that individual mitigation measures have been monitored.

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
Biology				
BIO – 1 Protect nesting birds and nesting Swainson's hawks *(Construction Timing).* If feasible, the project will be constructed between September 1 and January 31, outside of the avian nesting season. (*Preconstruction Surveys*). If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of any work within this period. The survey area will encompass the work area and surrounding lands within ½ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for other nesting birds. (*Avoidance of Active Nests*). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. The buffer distance will be determined based on species biology, site-specific conditions, and the level of project-related disturbance that is anticipated near the nest(s) in question. Buffers will be identified on the ground with flagging or fencing and will be	Planada CSD	Prior to and during construction	Planada CSD	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
maintained until the biologist has determined that the young have fledged and are capable of foraging independently. **BIO – 2 Protect Roosting Bats including Pallid Bat and Western Red Bat** (*Construction Timing*). If feasible, demolition and removal of the trees/structures will occur outside of the period between April 15 and September 30. This is the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse. (*Pre-construction Surveys*). Within 10 days prior to the removal of any trees/structures, a qualified biologist will survey these features for roosting bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. (*Avoidance of Maternity Roosts*). Should any active maternity bat roosts be discovered, the biologist will identify a suitable construction-free buffer around the roost(s). The buffer will be identified on the ground with flagging or fencing, and will be				

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
maintained until the biologist has determined that the nursery is no longer active. (*Humane Eviction of Non-breeding Bats*). If a non-breeding bat colony is found, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by tree/structure removal.				
Cultural Resources				
Mitigation Measure CUL-1 – • In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.	Planada CSD	Prior to and during construction	Planada CSD	

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1.1. Basic Project Information

Data Field	Value
Project Name	Planada Water Supply Project
Construction Start Date	10/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	28.8
Location	37.281568448023535, -120.32697968851474
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2307
EDFZ	14
Electric Utility	Merced Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

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
General Light Industry	30.0	1000sqft	0.69	30,000	—	—	—	—

Road Widening	5.04	Mile	—	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.0	27.9	10.1	10.4	0.02	0.46	2.13	2.59	0.43	1.02	1.44	—	1,771	1,771	0.07	0.03	0.02	1,778
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.48	0.47	0.94	1.32	< 0.005	0.04	0.03	0.07	0.04	0.01	0.05	—	253	253	0.01	0.01	0.05	255
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.08	0.17	0.24	< 0.005	0.01	0.01	0.01	0.01	< 0.005	0.01	—	42.0	42.0	< 0.005	< 0.005	0.01	42.3

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.33	1.12	10.1	10.4	0.02	0.46	2.13	2.59	0.43	1.02	1.44	—	1,771	1,771	0.07	0.03	0.02	1,778

2026	28.0	27.9	5.03	7.53	0.01	0.19	0.13	0.32	0.18	0.03	0.21	—	1,524	1,524	0.06	0.03	0.02	1,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.12	0.10	0.94	1.32	< 0.005	0.04	0.03	0.07	0.04	0.01	0.05	—	253	253	0.01	0.01	0.05	255
2026	0.48	0.47	0.75	1.12	< 0.005	0.03	0.02	0.05	0.03	< 0.005	0.03	—	221	221	0.01	< 0.005	0.05	223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.17	0.24	< 0.005	0.01	0.01	0.01	0.01	< 0.005	0.01	—	42.0	42.0	< 0.005	< 0.005	0.01	42.3
2026	0.09	0.08	0.14	0.20	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	0.01	—	36.6	36.6	< 0.005	< 0.005	0.01	36.9

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.77	1.66	1.63	10.3	0.02	0.05	1.73	1.78	0.05	0.44	0.49	33.3	3,033	3,066	3.49	0.17	16.1	3,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.48	1.38	1.79	7.22	0.02	0.04	1.73	1.77	0.04	0.44	0.48	33.3	2,864	2,897	3.50	0.17	8.02	3,044
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.53	1.43	1.59	7.45	0.02	0.04	1.54	1.59	0.04	0.39	0.44	33.3	2,712	2,745	3.49	0.16	11.0	2,890
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.28	0.26	0.29	1.36	< 0.005	0.01	0.28	0.29	0.01	0.07	0.08	5.52	449	455	0.58	0.03	1.83	479

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.83	0.75	1.32	8.79	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,272	2,272	0.07	0.13	8.26	2,320
Area	0.91	0.89	0.01	1.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.37	5.37	< 0.005	< 0.005	—	5.38
Energy	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	728	728	0.06	< 0.005	—	731
Water	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Waste	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Total	1.77	1.66	1.63	10.3	0.02	0.05	1.73	1.78	0.05	0.44	0.49	33.3	3,033	3,066	3.49	0.17	16.1	3,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.76	0.69	1.49	6.97	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,108	2,108	0.07	0.14	0.21	2,151
Area	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	728	728	0.06	< 0.005	—	731
Water	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Waste	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Total	1.48	1.38	1.79	7.22	0.02	0.04	1.73	1.77	0.04	0.44	0.48	33.3	2,864	2,897	3.50	0.17	8.02	3,044
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.70	0.63	1.28	6.55	0.02	0.02	1.54	1.56	0.02	0.39	0.41	—	1,953	1,953	0.06	0.12	3.24	1,994
Area	0.79	0.79	0.01	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.65	2.65	< 0.005	< 0.005	—	2.66
Energy	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	728	728	0.06	< 0.005	—	731
Water	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Waste	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Total	1.53	1.43	1.59	7.45	0.02	0.04	1.54	1.59	0.04	0.39	0.44	33.3	2,712	2,745	3.49	0.16	11.0	2,890
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.13	0.11	0.23	1.20	< 0.005	< 0.005	0.28	0.29	< 0.005	0.07	0.08	—	323	323	0.01	0.02	0.54	330
Area	0.15	0.14	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.44
Energy	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.01	< 0.005	—	121
Water	—	—	—	—	—	—	—	—	—	—	—	2.20	4.65	6.85	0.23	0.01	—	14.1
Waste	—	—	—	—	—	—	—	—	—	—	—	3.32	0.00	3.32	0.33	0.00	—	11.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.29	1.29
Total	0.28	0.26	0.29	1.36	< 0.005	0.01	0.28	0.29	0.01	0.07	0.08	5.52	449	455	0.58	0.03	1.83	479

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.33	5.65	0.01	0.16	—	0.16	0.14	—	0.14	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.02	0.01	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.48	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.0	76.0	0.01	< 0.005	0.01	77.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.15	2.15	< 0.005	< 0.005	< 0.005	2.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.0	38.0	< 0.005	< 0.005	< 0.005	38.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.36	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.0	57.0	< 0.005	< 0.005	0.01	57.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

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

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

Off-Roa Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.09	0.07	0.72	0.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	184	184	0.01	< 0.005	—	184
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02	0.01	0.13	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.4	30.4	< 0.005	< 0.005	—	30.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	0.01	< 0.005	0.01	97.2
Vendor	0.01	0.01	0.18	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.03	14.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.98	2.98	< 0.005	< 0.005	< 0.005	3.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.65	0.93	< 0.005	0.03	—	0.03	0.02	—	0.02	—	176	176	0.01	< 0.005	—	177
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.2	29.2	< 0.005	< 0.005	—	29.3

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.8	93.8	0.01	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	126	126	< 0.005	0.02	0.01	131
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.3
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.02	17.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.16	2.16	< 0.005	< 0.005	< 0.005	2.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.80	2.80	< 0.005	< 0.005	< 0.005	2.93
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

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

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

Off-Roa Equipment	0.59	0.49	4.24	5.30	0.01	0.18	—	0.18	0.16	—	0.16	—	823	823	0.03	0.01	—	826
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.77	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	0.01	0.01	0.01	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	27.8	27.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84

Architect Coatings	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.8	18.8	< 0.005	< 0.005	< 0.005	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Linear, Grubbing & Land Clearing (2025) - Unmitigated

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

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

Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Linear, Grading & Excavation (2025) - Unmitigated

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

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

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Linear, Paving (2025) - Unmitigated

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

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

Off-Roa Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.83	0.75	1.32	8.79	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,272	2,272	0.07	0.13	8.26	2,320
Total	0.83	0.75	1.32	8.79	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,272	2,272	0.07	0.13	8.26	2,320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.76	0.69	1.49	6.97	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,108	2,108	0.07	0.14	0.21	2,151
Total	0.76	0.69	1.49	6.97	0.02	0.02	1.73	1.75	0.02	0.44	0.46	—	2,108	2,108	0.07	0.14	0.21	2,151
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.13	0.11	0.23	1.20	< 0.005	< 0.005	0.28	0.29	< 0.005	0.07	0.08	—	323	323	0.01	0.02	0.54	330
Total	0.13	0.11	0.23	1.20	< 0.005	< 0.005	0.28	0.29	< 0.005	0.07	0.08	—	323	323	0.01	0.02	0.54	330

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	374	374	0.03	< 0.005	—	375
Total	—	—	—	—	—	—	—	—	—	—	—	—	374	374	0.03	< 0.005	—	375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	374	374	0.03	< 0.005	—	375
Total	—	—	—	—	—	—	—	—	—	—	—	—	374	374	0.03	< 0.005	—	375
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	61.9	61.9	< 0.005	< 0.005	—	62.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	61.9	61.9	< 0.005	< 0.005	—	62.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	354	354	0.03	< 0.005	—	355
Total	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	354	354	0.03	< 0.005	—	355
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	354	354	0.03	< 0.005	—	355
Total	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	354	354	0.03	< 0.005	—	355
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.6	58.6	0.01	< 0.005	—	58.8
Total	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.6	58.6	0.01	< 0.005	—	58.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.64	0.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipm	0.23	0.21	0.01	1.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.37	5.37	< 0.005	< 0.005	—	5.38
Total	0.91	0.89	0.01	1.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.37	5.37	< 0.005	< 0.005	—	5.38
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.64	0.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.44
Total	0.15	0.14	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.44

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Total	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Total	—	—	—	—	—	—	—	—	—	—	—	13.3	28.1	41.4	1.37	0.03	—	85.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.20	4.65	6.85	0.23	0.01	—	14.1
Total	—	—	—	—	—	—	—	—	—	—	—	2.20	4.65	6.85	0.23	0.01	—	14.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1

Total	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Total	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	70.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	3.32	0.00	3.32	0.33	0.00	—	11.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.32	0.00	3.32	0.33	0.00	—	11.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.81	7.81

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.29	1.29
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.29	1.29

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	10/1/2025	10/15/2025	5.00	10.0	—
Site Preparation	Site Preparation	10/16/2025	10/17/2025	5.00	1.00	—
Grading	Grading	10/18/2025	10/20/2025	5.00	2.00	—
Building Construction	Building Construction	10/21/2025	3/10/2026	5.00	100	—
Paving	Paving	3/11/2026	3/18/2026	5.00	5.00	—
Architectural Coating	Architectural Coating	3/19/2026	3/26/2026	5.00	5.00	—
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	10/1/2025	10/5/2025	5.00	3.00	—
Linear, Grading & Excavation	Linear, Grading & Excavation	10/6/2025	10/27/2025	5.00	15.0	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	10/28/2025	11/8/2025	5.00	8.00	—
Linear, Paving	Linear, Paving	11/9/2025	11/16/2025	5.00	5.00	—

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	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37

Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	0.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	0.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	0.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	0.00	8.00	36.0	0.38

Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	0.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	0.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	0.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	0.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	0.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	0.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	0.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	0.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	0.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	0.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	12.6	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	4.92	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.52	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	0.00	10.9	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.27	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	0.00	10.9	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	0.00	8.27	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	0.00	10.9	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.27	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	0.00	10.9	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.27	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT

Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	45,000	15,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	0.00	0.00	6.00	0.00	—
Grading	0.00	0.00	6.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00
Linear, Grubbing & Land Clearing	0.00	0.00	6.00	0.00	—
Linear, Grading & Excavation	0.00	0.00	6.00	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	0.00	0.00	6.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Road Widening	—	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	149	59.7	150	49,729	2,395	961	2,415	800,487

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	45,000	15,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	301,033	453	0.0330	0.0040	1,104,928

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	6,937,500	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	37.2	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.2	annual days of extreme heat
Extreme Precipitation	1.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	74.1
AQ-PM	59.7
AQ-DPM	16.1
Drinking Water	71.6
Lead Risk Housing	71.0
Pesticides	78.8
Toxic Releases	17.5
Traffic	3.09
Effect Indicators	—
CleanUp Sites	5.64
Groundwater	76.6
Haz Waste Facilities/Generators	0.00
Impaired Water Bodies	33.2
Solid Waste	52.9
Sensitive Population	—
Asthma	82.6
Cardio-vascular	52.9
Low Birth Weights	37.6

Socioeconomic Factor Indicators	—
Education	97.9
Housing	34.8
Linguistic	97.4
Poverty	88.4
Unemployment	95.9

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	7.506736815
Employed	7.750545361
Median HI	9.842166046
Education	—
Bachelor's or higher	13.1271654
High school enrollment	23.00782754
Preschool enrollment	76.63287566
Transportation	—
Auto Access	40.90850764
Active commuting	35.86552034
Social	—
2-parent households	49.18516617
Voting	14.52585654
Neighborhood	—
Alcohol availability	59.52778134
Park access	27.39638137
Retail density	2.669061979

Supermarket access	2.399589375
Tree canopy	54.21532144
Housing	—
Homeownership	45.79751059
Housing habitability	36.84075452
Low-inc homeowner severe housing cost burden	42.38419094
Low-inc renter severe housing cost burden	62.8127807
Uncrowded housing	24.18837418
Health Outcomes	—
Insured adults	20.69806236
Arthritis	0.0
Asthma ER Admissions	1.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	75.4
Cognitively Disabled	8.5
Physically Disabled	9.6
Heart Attack ER Admissions	0.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	68.8
Physical Health Not Good	0.0
Stroke	0.0

Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	26.6
Elderly	63.3
English Speaking	7.6
Foreign-born	83.3
Outdoor Workers	1.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.5
Traffic Density	3.5
Traffic Access	0.0
Other Indices	—
Hardship	96.0
Other Decision Support	—
2016 Voting	45.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	74.0
Healthy Places Index Score for Project Location (b)	14.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Water and Waste Water	Zero outdoor water use.
Construction: Dust From Material Movement	Linear phase involves installation of pipeline.

Appendix B

Biological Evaluation Report

LIVE OAK
ASSOCIATES, INC.

PLANADA COMMUNITY SERVICES DISTRICT
WATER SUPPLY IMPROVEMENTS PROJECT
BIOLOGICAL EVALUATION
MERCED COUNTY, CALIFORNIA

Prepared by

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EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted an investigation of the biological resources of lands that may be affected by the Planada Community Service District's proposed Water Supply Improvements Project ("project"), evaluated impacts to those resources pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), and made preliminary effect determinations for federally listed species pursuant to Section 7 of the federal Endangered Species Act. The project site consists of a discontinuous, 26,590-linear-foot alignment along which new water mains will be installed and existing water meters will be replaced, and an approximately 1.4-acre property that will be developed with a new groundwater well, water storage tank, and solar PV generation facility. The project site is located in the unincorporated community of Planada in Merced County, California.

The project site consists almost entirely of lands modified and used for anthropogenic purposes, including roads, alleys, portions of residential and commercial lots, and a park. It also contains a small segment of Miles Creek at the location of a proposed water main crossing along Plainsburg Road. Two biotic habitat / land use types were identified within the project site at the time of LOA's field investigation, ruderal/developed and natural drainage.

The project site is expected to support primarily common and/or disturbance-tolerant plant and animal species. However, three special status animal species known from the vicinity, the Swainson's hawk, pallid bat, and western red bat, have some potential to occur on site and may experience significant project-related impacts if their active nest or roost sites are disturbed by construction activities. Project-related impacts are also considered potentially significant for non-special-status nesting birds and roosting bats. Impacts may be reduced to a less than significant level by constructing during lower-risk times of year for these species and/or conducting preconstruction surveys and avoiding any active bird nests or bat roosts that are discovered.

Impacts would be less than significant for all 25 locally occurring special status plant species, 17 locally occurring special status animal species that would not be expected to occur on the project site, and four special status animal species (monarch butterfly, northern harrier, tricolored blackbird and western mastiff bat) expected to utilize the site for non-sensitive activities only. Potential project impacts are also considered less than significant for jurisdictional waters, wildlife movement corridors, sensitive natural communities, and designated critical habitat. It is assumed that the project will be implemented in a manner consistent with the Merced County General Plan and other local policies. The project does not appear to be subject to any habitat conservation plans.

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1.0 INTRODUCTION

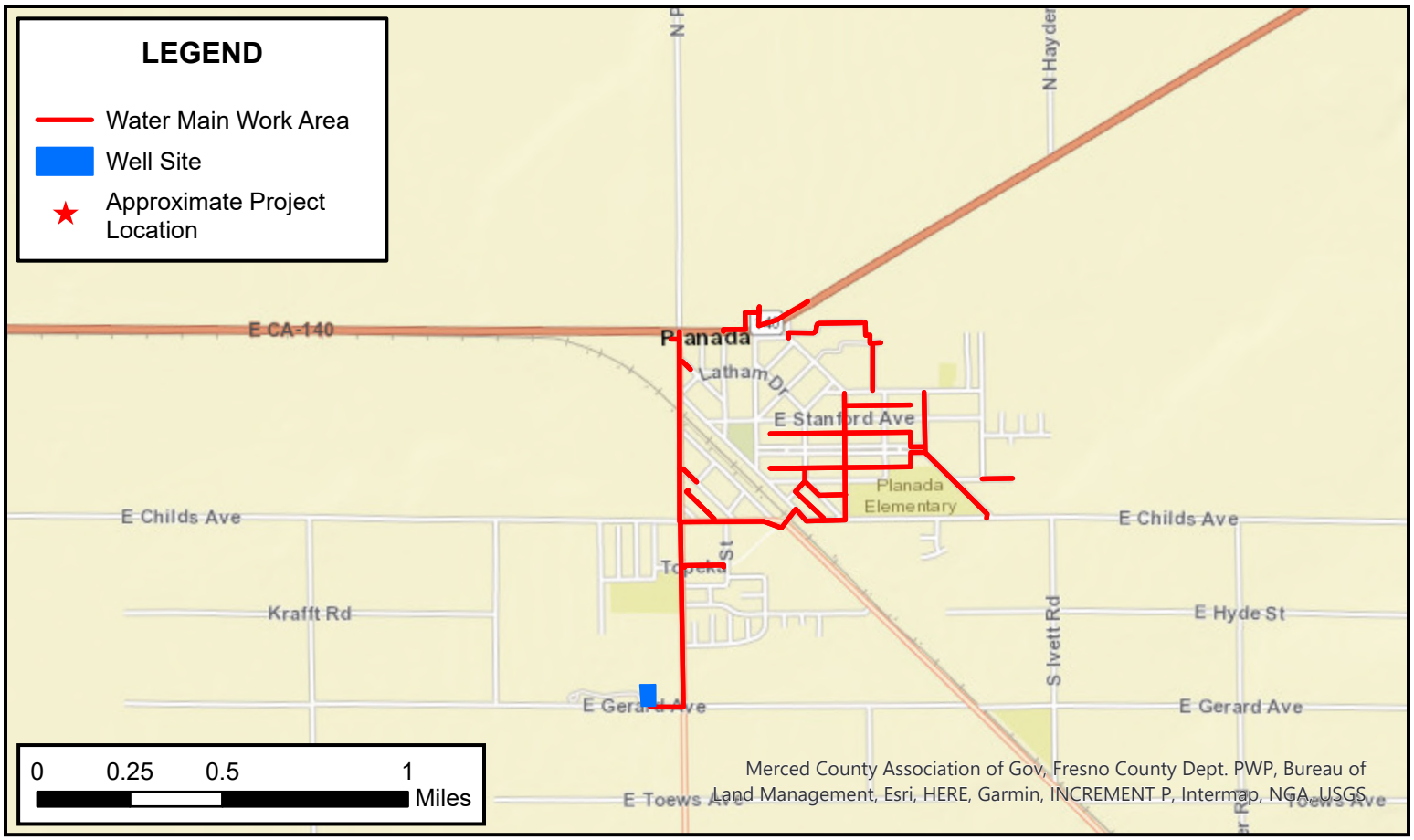
This technical report, prepared by Live Oak Associates, Inc. (LOA) to facilitate compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Section 7 of the federal Endangered Species Act, describes the biotic resources of lands that may be affected by the Planada Community Services District's proposed Water Supply Improvements Project ("project"), and evaluates potential impacts to those resources that could result from the project. The project's area of potential effect, or "project site," consists of a discontinuous, 26,590-linear-foot alignment along which new water mains will be installed and existing water meters will be replaced ("water main work area"), and an approximately 1.4-acre property ("well site") that will be developed with a new groundwater well, water storage tank, and solar PV generation facility.

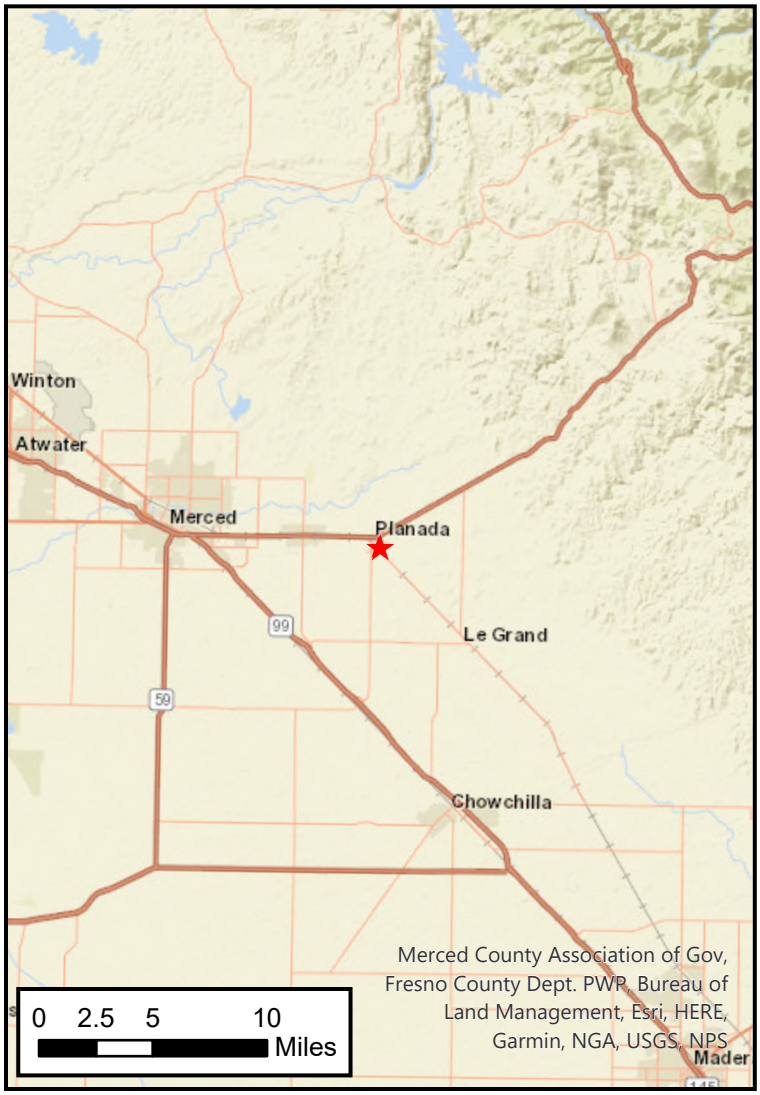
The project site is located in the unincorporated community of Planada in Merced County, California (Figure 1). It may be found on the *Planada* U.S. Geological Survey (USGS) 7.5-minute quadrangle in Sections 27, 28, 33, and 34 of Township 7 South, Range 15 East, Mount Diablo Base and Meridian (Figure 2).

1.1 PROJECT DESCRIPTION

The Planada Community Services District (CSD or "District") is undertaking improvements to its water supply infrastructure to improve reliability and meet peak hour demands and water quality standards. Phase I of this effort, completed in the summer of 2024, entailed replacing 8,600 linear feet of undersized pipeline with new 6-inch C900 pipe. Now, the District is proposing to implement Phase II, which is the project currently undergoing CEQA and addressed in this report. Phase II will involve installing approximately 26,590 linear feet of new 16-inch, 8-inch, and 6-inch C900 water mains, replacing and upgrading approximately 1,120 customer meters with new 1-inch Badger E-Series Ultrasonic Meters, and developing an approximately 1.4-acre property with a new groundwater well, a 750,000-gallon elevated welded carbon-steel water storage tank, and a solar PV system to power the well and storage tank.

Most of the water mains will be installed within roads and alleys, with all construction-related disturbance confined to the traveled way. In the few locations where the water mains will be





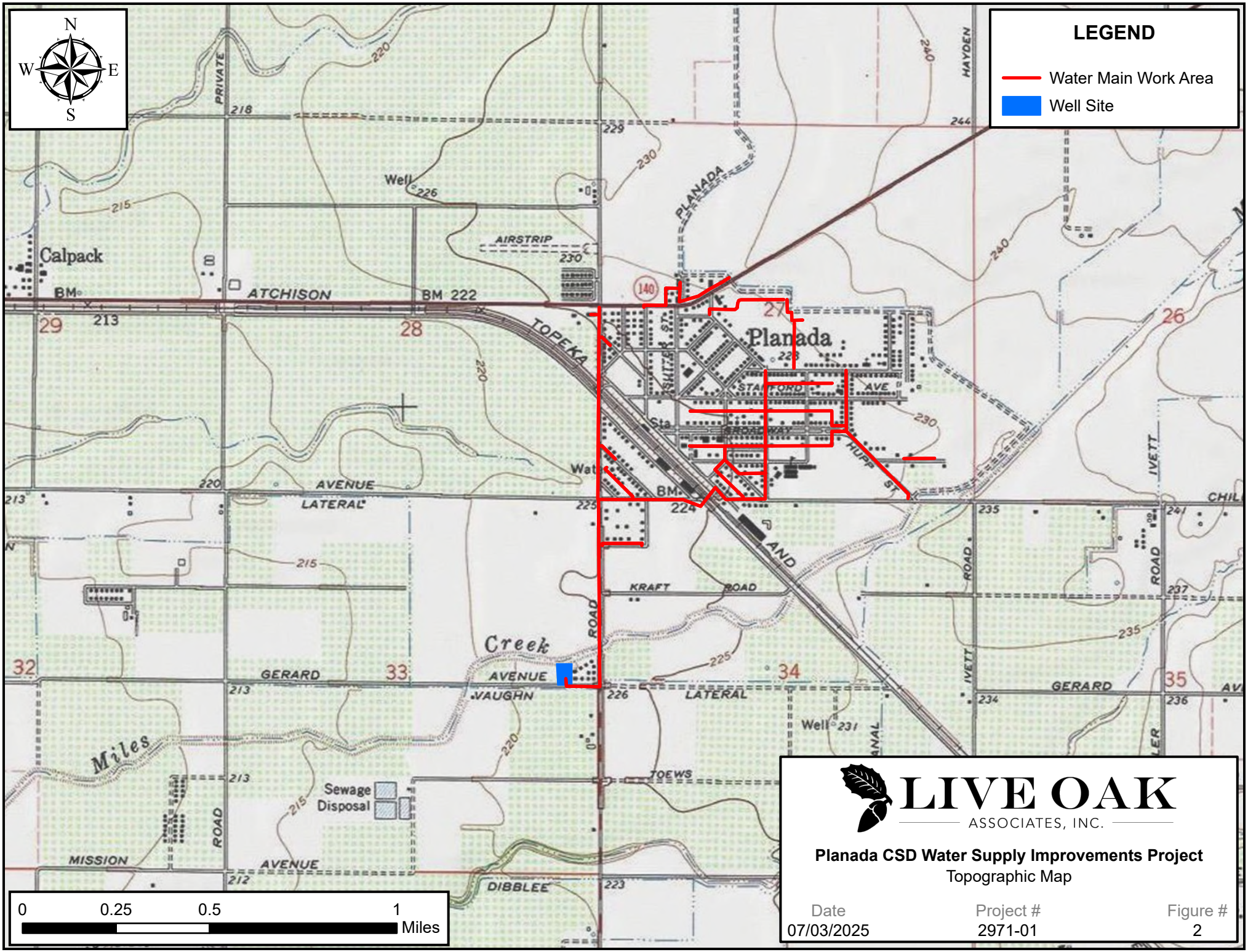


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Planada CSD Water Supply Improvements Project

Vicinity Map

Date	Project #	Figure #
07/03/2025	2971-01	1



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Planada CSD Water Supply Improvements Project
Topographic Map

Date	Project #	Figure #
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installed outside of roads, disturbance will be confined to a corridor approximately 20 feet in width. Construction activities for the water mains will include trench excavation with widths ranging from 18 to 40 inches and depths from 54 to 64 inches. An exception to this is at the water main alignment's crossing of Miles Creek; here, the planned 16-inch pipe will be installed via horizontal directional drilling, with the requisite bore pits to be located approximately 100 feet outside of top of bank. There will be no vegetation clearing, equipment use, or other disturbance to the creek channel itself. Where feasible, all existing water mains will be abandoned in place, with the ends sealed using a concrete wall. All water meter installations will occur within the water main work area, at property frontages.

The proposed groundwater well will have a production capacity of 450 gallons per minute. Working in tandem, the proposed well and water storage tank will accommodate four hours of Peak Hour Demand (PHD) and three hours of fire flow. The well and storage tank will be constructed in the southern portion of the well site, and the solar PV system in the northern portion. The solar PV system would be ground-mounted with fixed, single axis arrays.

1.2 REPORT OBJECTIVES

This report summarizes a biological study conducted by LOA to facilitate environmental review pursuant to CEQA and NEPA, and to facilitate compliance with Section 7 of the federal Endangered Species Act. As such, the report's objectives are to:

- Characterize the project site's existing biological resources, including biotic habitats, flora and fauna, soils, and aquatic resources.
- Evaluate the project site's potential to support sensitive resources such as special status species, sensitive natural communities, and jurisdictional waters and wetlands.
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation.
- Identify and discuss potential project-related impacts to biological resources within the context of CEQA, NEPA, and other state and federal laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of project-related impacts in a manner consistent with CEQA, NEPA, and species-specific guidelines.

- Make preliminary effect determinations pursuant to Section 7 of the federal Endangered Species Act for listed species with the potential to occur in the project vicinity.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on June 4, 2025 by LOA biologist Natalie Neff. The survey entailed walking and driving through the project site while identifying its principal land uses and the constituent plants and animals of each land use. The field survey conducted for this study was sufficient to assess the significance of possible biological impacts associated with the development plans for the project site.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site discussed in Section 2.0. Sources of information used in the preparation of this analysis included: (1) results of the March 2025 reconnaissance-level surveys, (2) the *California Natural Diversity Data Base* (CDFW 2025), (3) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2025), and (4) manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

LOA's field investigation did not include an aquatic resources delineation or focused surveys for special status species. The field survey was sufficient to generally describe those features of the project site that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB), and to assess the significance of possible biological impacts associated with development of the project site.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the northern San Joaquin Valley. The San Joaquin Valley is a large, nearly flat alluvial plain bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coast ranges to the west, and the Sacramento-San Joaquin Delta to the north.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation in the vicinity of the project is about 12.5 inches, nearly all of which falls between the months of October and March. Nearly all precipitation falls in the form of rain (NOAA 2021).

The principal drainage of the project vicinity is Miles Creek, which intersects the project site near its southern extent. Miles Creek initiates in the lower foothills of the Sierra Nevada, approximately 12 miles northeast of the project site. Approximately 11 miles west (downstream) of the project site, it passes into Owens Creek, which ultimately feeds the San Joaquin River.

2.2 PROJECT SITE

The project site consists almost entirely of lands modified and used for anthropogenic purposes, including roads, alleys, portions of residential and commercial lots, and a park. It also contains a small segment of Miles Creek at the location of a proposed water main crossing along Plainsburg Road. The topography of the project site is relatively flat with elevations averaging 230 feet above sea level.

The project site contains four soil mapping units (NRCS 2025). These soils are summarized in Table 1 below.

TABLE 1: SOILS OF THE PROJECT SITE

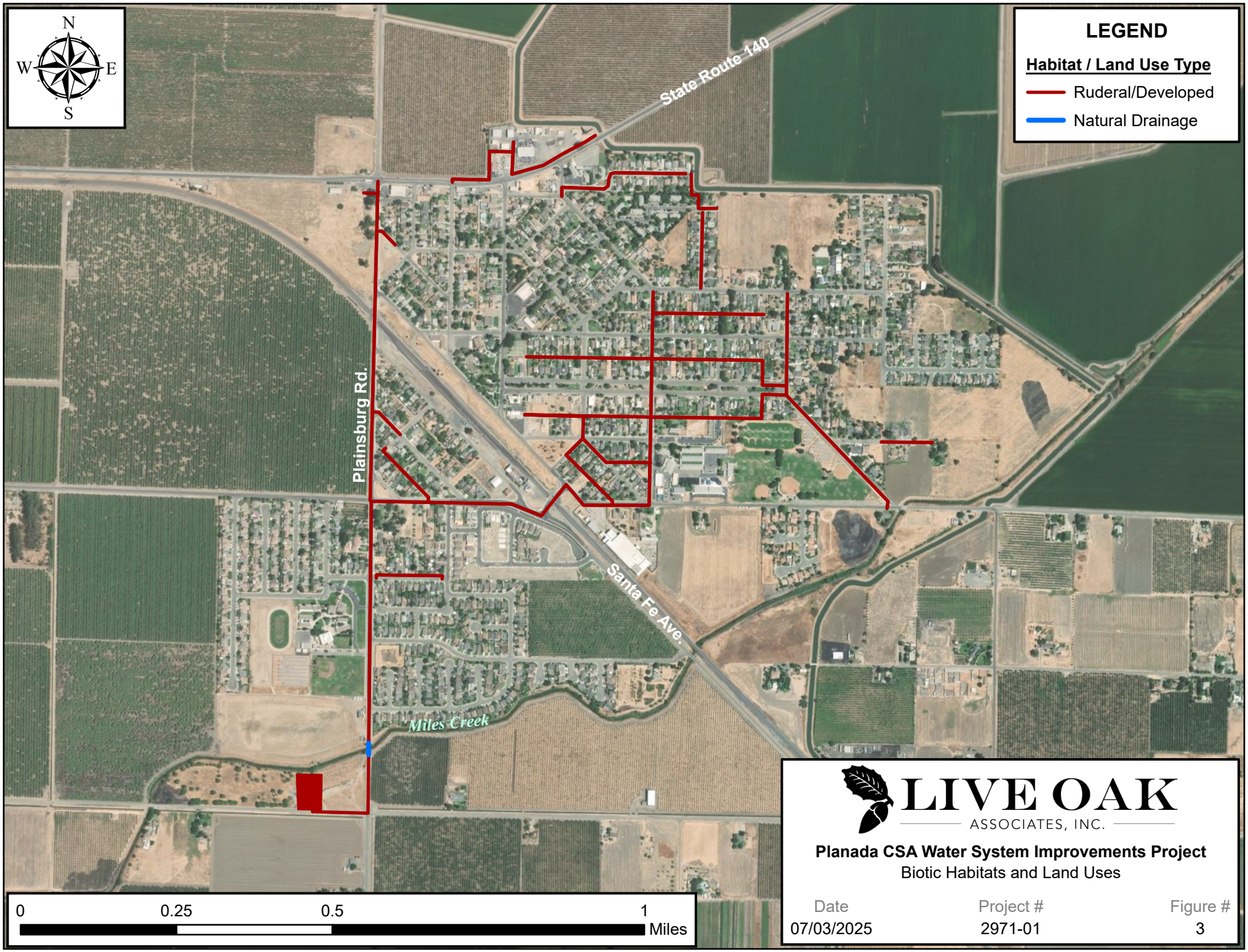
Soil Mapping Unit	Parent Material	Drainage Class	Hydric Rating
PwA: Porterville clay, 0 to 3 percent slopes	Dry alluvial fans and terraces	Well drained	No
WoA: Wyman clay loam, 0 to 3 percent slopes	Dry alluvial fans and terraces	Well drained	No
MfA: Marguerite silty clay loam, 0 to 1 percent slopes	Dry alluvial fans and terraces	Well drained	No
HzA: Honcut silty clay loam, 0 to 8 percent slopes	Subirrigated deep alluvial fans	Well drained	Yes

One of the site's soil mapping units, Honcut silty clay loam, 0 to 8 percent slopes, is considered hydric, meaning it has the propensity to pond water and support hydrophytic (water-loving) vegetation. However, the site's soils have been subjected to decades of disturbance associated with agricultural use, road and canal construction, and urban and rural development, and are not expected to exhibit their native soil characteristics or be particularly relevant to biological resource issues.

A list of vascular plants identified on the site is presented in Appendix A. A list of terrestrial vertebrates using or potentially using the project site is presented in Appendix B. Representative photos of the site are presented in Appendix C.

2.3 BIOTIC HABITATS / LAND USES

LOA identified two habitat / land use types within the project site: ruderal/developed and natural drainage (Figure 3). These habitats / land uses are described in more detail in the following sections.



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Planada CSA Water System Improvements Project

Biotic Habitats and Land Uses

Date	Project #	Figure #
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2.3.1 Ruderal/Developed

The project site consists almost entirely of ruderal/developed lands including roads, road shoulders, alleys, parking lots, portions of residential and commercial lots, and a residential park. At the time of LOA's field survey, most such areas were paved and entirely barren of vegetation. However, where the water main work area traversed residential and commercial lots and the residential park, it was characterized by a mix of ornamental vegetation, weedy grasses and forbs, and compacted dirt substrates. Additionally, the work area within the residential park and adjoining residential lots between North Avenue and Amistad Avenue contained several trees including coast redwood (*Sequoia sempervirens*) and eucalyptus (*Eucalyptus* sp.). The well site appeared to be an abandoned residential property and was characterized by areas of derelict pavement, two remnant outbuildings, weedy grasses and forbs, several pecan (*Carya illinoinenses*) trees, and ornamental Chinese arborvitae (*Platycladus orientalis*).

The project site's ruderal/developed lands are of low habitat value for most native wildlife, given high levels of ambient disturbance and, in most areas, a lack of vegetative cover. Wildlife species expected to be found here would be those that are attracted to urban areas and/or tolerate disturbance, and those that are associated with adjacent lands and use or pass through urban areas incidentally.

Reptiles that could be found in the project site's ruderal/developed lands include the western fence lizard (*Sceloporus occidentalisi*), California alligator lizard (*Elgaria multicarinata multicarinata*), and gopher snake (*Pituophis melanoleucus*). Where the site's ruderal/developed lands adjoin aquatic features, as in the vicinity of Miles Creek and the Planada Canal, amphibian species breeding in these features may disperse through the ruderal/developed lands. Likely amphibians include the Sierran treefrog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*), both common species.

A number of disturbance-tolerant avian species are likely to forage and nest in the site's ruderal/developed lands. Trees and shrubs could support nesting by American robins (*Turdus migratorius*), Anna's hummingbirds (*Calypte anna*), northern mockingbirds (*Mimus polyglottos*), and mourning doves (*Zenaida macroura*), among other species. Mourning doves

may also nest in ground vegetation. All of the aforementioned birds may also forage in the site's ruderal/developed lands, as could winter migrants such as the savannah sparrow (*Passerculus sandwichensis*) and yellow-rumped warbler (*Dendroica coronata*).

Small mammal species likely to occur in the project site's ruderal/developed lands include the deer mouse (*Peromyscus maniculatus),* house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*), among others. Burrowing rodent activity is expected to be limited due to the preponderance of pavement in this land use type, as well as regular maintenance practices in most of the unpaved areas. Less-maintained areas could support California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*).

Disturbance-tolerant mammalian predators such as raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*) are expected to occasionally forage on or pass through the site's ruderal/developed lands. Various bat species may roost in trees within this land use type and may forage on or over these areas.

2.3.2 Natural Drainage

The water main work area contains a short section of Miles Creek at the Plainsburg Road bridge crossing. The creek at this location is densely vegetated, supporting a mix of water-loving and upland vegetation. At the time of LOA's field survey, the bed of the creek was inundated to a depth of 1-2 feet and dominated by hardstem bulrush (*Schoenoplectus acutus*), a wetland obligate species. The banks supported upland grasses and forbs such as wild oats (*Avena* sp.), prickly lettuce (*Lactuca serriola*), and yellow star-thistle (*Centaurea solstitialis*), as well as several small California black walnut (*Juglans hindsii*) and Goodding's black willow (*Salix gooddingii*) trees, both of which are typical of riparian areas.

The vegetation characteristics of Miles Creek within the project site suggest this segment of the creek is perennially inundated or saturated. As such, it is likely to be support breeding by common amphibians such as the Sierran treefrog and western toad. The small riparian trees may support nesting by northern mockingbirds, Anna's hummingbirds, and various other species, while black phoebes (*Sayornis nigricans*) may nest on the on-site bridge. The creek may serve as

a source of drinking water for wildlife passing through or along the creek corridor; these would include, but not be limited to, the species discussed above for ruderal/developed lands.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.0, state and federal laws have provided California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered (CNPS 2025). Collectively, these plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CNDDB; CDFW 2025) was queried for special status plant and animal occurrences in the nine USGS 7.5-minute quadrangles containing and surrounding the project site (*Planada, Yosemite Lake, Haystack Mtn., Indian Gulch, Owens Reservoir, Le Grand, Plainsburg, El Nido,* and *Merced*). An unofficial species list for the project vicinity was obtained using the USFWS Information for Planning and Consultation (IPaC) system (Appendix D). A number of special status plants and animals were returned in these queries and are summarized below in Table 1. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988-1990), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al 2012), the *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2025), *Calflora.org, iNaturalist.org*, and *eBird.org*.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS

Species Listed under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Succulent Owl's-Clover (*Castilleja campestris* ssp. *succulenta*)	FT, CE, CRPR 1B.2	Occurs in vernal pools of the Central Valley that are often acidic; blooms April-May; elevations up to 2,460 ft.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)	CE, CRPR 1B.2	Inhabits the Central Valley, inner North Coast range, and Sierra Nevada foothills. Restricted to clay soils in or near shallow water such as lake edges and vernal pools. Elevations up to 5,250 feet. Blooms April- August.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Colusa Grass *(Neostapfia colusana)*	FT, CE, CRPR 1B.1	Found in large and/or deep vernal pools, in adobe clay soils, up to 650 feet in elevation. Blooms May-August.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
San Joaquin Valley Orcutt Grass (*Orcuttia inaequalis*)	FT, CE, CRPR 1B.1	Occurs in vernal pools of the Central Valley; requires deep pools with prolonged periods of inundation; blooms April-September; elevations up to 2,480 ft.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE, CE	Found in vernal pools of California's Central Valley. Requires deep pools with prolonged inundation; blooms May to September; elevations up to 650 feet.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Hartweg's Golden Sunburst (*Pseudobahia bahiifolia*)	FE, CE, CRPR 1B.1	Found in heavy clay soils in open woodlands and grasslands along the eastern side of the San Joaquin Valley and lower central Sierra Nevada foothills. Elevations between 330 and 650 feet. Blooms March-April.	**Absent.** Suitable habitat is absent from the project site and the site is below the species' elevational range.
Keck's Checkerbloom (*Sidalcea keckii*)	FE, CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grassland habitat with serpentine and/or clay soils between 525 and 2,230 ft. in elevation. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and the site is below the species' elevational range.
Greene's Tuctoria (*Tuctoria greenei*)	FE, CR, CRPR 1B.1	Occurs in vernal pools of California's Central Valley from Shasta Co. on the north to Tulare Co. on the south; blooms May to September; elevations up to 3,500 ft.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.

CNPS-listed Species

Henderson's Bent Grass (*Agrostis hendersonii*)	CRPR 3.2	Found in vernal pools at elevations up to 1,000 feet in the northern and central San Joaquin Valley. Blooms April- June.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CRPR 1B.2	Occurs in saline or alkaline soils in chenopod scrub, meadows, seeps, and grasslands; blooms April-October; elevations below 1,230 ft.	**Absent.** Suitable soils and habitat are absent from the project site.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS-listed Species

Species	Status	Habitat	Occurrence on the Project Site
Lesser Saltscale (*Atriplex minuscula*)	CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils; blooms May-October; elevations up to 660 ft.	**Absent.** Suitable soils and habitat are absent from the project site.
Vernal Pool Smallscale (*Atriplex persistens*)	CRPR 1B.2	Occurs in alkaline vernal pools; blooms July-Oct.; elevations below 400 ft.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Subtle Orache (*Atriplex subtilis*)	CRPR 1B.2	Occurs in valley and foothill grasslands of the San Joaquin Valley; blooms August-October; elevation 130-330 ft.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Watershield (*Brasenia schreberi*)	CRPR 2B.3	An aquatic, perennial herb with floating leaves that grows in ponds, lakes, and slow-moving streams. Requires a water depth of less than 1.5 meters and a constant water level.	**Unlikely.** The on-site reach of Miles Creek appears to have perennial inundation or saturation, but the water level presumably fluctuates seasonally and would be incompatible with this species' life history requirements.
Beaked Clarkia (*Clarkia rostrata*)	CRPR 1B.3	This species occurs in woodland and grassland habitats, often on north-facing slopes. Elevations up to 1,640 feet. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Dwarf Downingia (*Downingia pusilla*)	CRPR 2B.2	Grows at the margins of vernal pools and lakes within grassland habitats; elevations up to 1,500 ft. Blooms March – May.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Spiny-Sepaled Button Celery (*Eryngium spinosepalum*)	CRPR 1B.2	Found in vernal pools, swales and valley and foothill grasslands at the eastern edge of the San Joaquin Valley and in the Tulare Basin; elevation between 330 and 840 ft. Blooms April to May	**Absent.** Suitable habitat is absent from the project site and the site is below the species' elevational range.
Forked Hare-Leaf (*Lagophylla dichotoma*)	CRPR 1B.1	Occurs in woodland openings or grasslands at elevations up to 1,300 feet. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Alkali-Sink Goldfields (*Lasthenia chrysantha*)	CRPR 1B.1	Found in alkaline vernal pools below approximately 650 feet in elevation. Blooms February-April.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Pale-Yellow Layia (*Layia heterotricha*)	CRPR 1B.1	Occurs in foothill woodlands, valley grasslands, pinyon-juniper woodlands, and wetland-riparian areas in clay or sandy soils. Blooms April-June; elevation 660-5,900 feet.	**Absent.** Suitable habitat is absent from the project site and the site is below the species' elevational range.
Pincushion Navarretia (*Navarretia myersii spp. myersii*)	CRPR 1B.1	Occurs in vernal pools in the Central Valley, particularly on the valley's eastern edge. Elevations up to 300 feet. Blooms in May.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Shining Navarretia (*Navarretia nigelliformis* ssp. *radians*)	CRPR 1B.2	Found in grassland and woodland habitats in association with vernal pools; elevation 525-1770 ft. Blooms April-July.	**Absent.** Suitable habitat is absent from the project site and the site is below the species' elevational range.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS-listed Species

Species	Status	Habitat	Occurrence on the Project Site
Merced Phacelia *(Phacelia ciliate var. opaca)*	CRPR 3.2	Restricted to heavy clay soils on the San Joaquin Valley floor and adjacent hills at elevations below 330 feet.	**Absent.** Decades of agricultural and urban disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
California Alkali-Grass (*Puccinellia simplex*)	CRPR 1B.2	Found along alkaline sinks, flats, and lake margins within grassland, scrub, and woodland habitats up to 3,000 ft. in elevation in the Central Valley, San Francisco Bay Area, and Mojave Desert. Blooms March-May.	**Absent.** Suitable habitat is absent from the project site and adjacent lands.
Sanford's Arrowhead (*Sagittaria sanfordii*)	CRPR 1B.2	Occurs in freshwater emergent marsh habitats in drainage ditches and canals of California's Central Valley. Blooms May to October.	**Possible.** While no occurrence records of this species are known in the near vicinity (iNaturalist 2025, CDFW 2025), Miles Creek within the project site appears to be suitable for the Sanford's arrowhead.

ANIMALS

Species Listed under the State and/or Federal Endangered Species Act

Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills, generally along waterways and in floodplains.	**Unlikely.** No elderberry shrubs were observed on the project site at the time of LOA's survey.
Crotch Bumble Bee (*Bombus crotchii*)	CCE	Once common in the Central Valley, this species is now largely absent from this portion of its historic range (CDFW 2019). Where present, it is associated with open grassland and scrub habitats, where it relies on food plants of the *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera (Williams et al. 2014).	**Unlikely.** Although undeveloped portions of the project site contain some foraging resources for the Crotch bumble bee, the site's urban setting and degraded habitats suggest a low probability of occurrence. There are several recent Crotch's bumble bee records in the general vicinity, between 5 and 7 miles from project boundaries, but all are in relatively undisturbed grassland habitats (iNaturalist 2025, Bumble Bee Watch 2025).
Monarch Butterfly (*Danaus plexippus*)	FPT	Overwinters in coastal California and Baja California and breeds throughout California in the spring and summer along its annual migration north and east. The adult monarch lays its eggs on obligate milkweed (*Asclepias* spp.) host plants, which the resultant larvae feed on before pupating and emerging as adults. In addition to milkweed, this species requires abundant nectar resources to nourish migrating adults, and trees for roosting during migratory stopovers.	**Possible.** Undeveloped portions of the project site contain flowering plants on which monarchs could forage, and trees offering potential roosting habitat are present in a few locations. Milkweed was not observed during LOA's survey, at a time of year when these plants should be readily detectable. Monarch reproduction is not expected on site.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS

Species Listed under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	FE	Occurs in large, turbid vernal pools in grasslands of the northern two-thirds of the Central Valley.	**Absent**. Suitable habitat is absent from the project site and adjacent lands.
Vernal Pool Fairy Shrimp *(Branchinecta lynchi)*	FT	Found in vernal pools and swales, basalt flow depression pools, and depressions in sandstone rock outcrops; can occur in roadside ditches and puddles when in association with vernal pools.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)	FE	Primarily found in vernal pools but may use other seasonal wetlands in mesic valley and foothill grasslands.	**Absent**. Suitable habitat is absent from the project site and adjacent lands.
Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*)	FT, CSC	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	**Absent**. Suitable riverine habitat is absent from the project site and adjacent lands.
California Tiger Salamander *(Ambystoma californiense)*	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. CTS are capable of overland travel of up to 1.3 miles (Orloff 2011).	**Absent.** The project site and surrounding lands have experienced decades of agricultural disturbance and urban development, eliminating any potential habitat that may have once existed on or in the vicinity of the project site. The nearest block of open natural land is approximately 1.5 miles northeast of the project site at its closest point, marking the transition of the valley floor to the rolling lower foothill. The closest known CTS breeding pools are approximately 3.5 miles northeast of project boundaries on Cunningham Ranch (CDFW 2025).
Foothill Yellow-Legged Frog -Central Coast DPS *(Rana boylii pop. 4)*	FE, CE	Found in or near rocky streams in a variety of habitats. Use submerged rocks and debris for cover. Requires gravel or rocks in moving water near stream margins for reproduction.	**Absent.** Suitable stream habitat is absent from the project site and surrounding lands. The closest CNDDB records of this species, historical or otherwise, are more than 20 miles east of project boundaries.
Western Spadefoot (*Spea hammondii*)	FPT, CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a maximum distance of around 860 feet between breeding and aestivation sites.	**Absent.** The project site and surrounding lands have experienced decades of agricultural disturbance and urban development, eliminating any potential habitat that may have once existed on or in the vicinity of the project site. The closest CNDDB records of this species are in the Cunningham Ranch area, more than 4 miles northeast of project boundaries.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS

Species Listed under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Giant Garter Snake (*Thamnophis gigas*)	FT, CT, CFP	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. Inhabit small mammal burrows and other upland soil crevices during the winter during hibernation.	**Absent.** The giant garter snake was historically known from the general area; there is a CNDDB occurrence from 1908 that was mapped to the vicinity of Merced (CDFW 2025). Since that time, the species has undergone a dramatic reduction in its range. The closest known extant population is in the North and South Grasslands region, some 25 miles west of the project site (USFWS 2012).
Western Pond Turtle (*Actinemys marmorata*)	FPT, CSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires partially submerged rocks or logs for basking sites. Nesting takes place in open areas, on a variety of soil types, and up to ¼ mile away from water. Overwintering and summertime aestivation includes use of upland habitat, generally with leaf litter or other loose substrate for burying themselves.	**Unlikely.** Miles Creek at the project location is densely vegetated, with essentially no open water, and is unlikely to support this species. Turtles may conceivably be found in canals or ditches near the site, introducing some potential for movement into the site's uplands. However, all of the site's upland habitats are highly degraded and/or developed and would be unlikely to attract turtles for terrestrial use. No western pond turtle occurrence records are known from the Planada area. The nearest CNDDB record is approximately 7 miles northeast at the Nelson Ranch. The nearest iNaturalist records are more than 10 miles east of the site along Mariposa Creek.
Burrowing Owl (*Athene cunicularia*)	CCE	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. May also utilize cropland, foraging in fields and roosting or nesting at field margins. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Unlikely.** While burrowing owls are known from the grasslands north and east of Planada, with occurrences logged as close as 3 miles to project boundaries (eBird 2025, CDFW 2025), they are unlikely to be found in the matrix of intensive agricultural and urban lands that characterizes the immediate project vicinity, nor to be found in the degraded habitats of the site itself.
Swainson's Hawk *(Buteo swainsoni*)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Possible.** Swainson's hawks are commonly sighted in the project vicinity and have been documented nesting along Owens Creek (CDFW 2025, eBird 2025), including an active nest sighted approximately 0.5 mile southeast of project boundaries in 2018 (eBird 2025). Individuals of this species are not expected to nest on the project site itself due to high levels of ambient disturbance and the generally unsuitable structure of the site's trees. However, Swainson's hawks may nest on adjacent lands and occasionally pass through the site. The well site may be used for foraging.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS

Species Listed under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Bald Eagle (*Haliaeetus leucocephalus*)	CE, CFP	Nests and winters on ocean shores, lake margins and rivers. Uses old-growth snags. Mostly forages over water and along shores.	**Unlikely.** The project site does not contain suitable nesting or foraging habitat for the bald eagle. At most, this species may fly over the site, as appears to happen from time to time based on eBird records in the greater Planada area (eBird 2025).
Tricolored Blackbird (*Agelaius tricolor*)	CT, CSC	Breeds colonially near fresh water in dense bulrush, cattails, or thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are occasionally sighted in the greater Planada area (eBird 2025), and were historically known to nest along Owens Creek approximately 3.5 miles east of project boundaries (CDFW 2025). The well site may occasionally be used for foraging by this species, but nesting habitat is absent from the project site and adjacent lands.
San Joaquin Kit Fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged ground squirrel burrows as denning habitat. May become adapted to urban environments, as has occurred in the cities of Bakersfield, Taft, and Coalinga.	**Unlikely.** The project site is situated in an area characterized by residential, commercial, and intensive agricultural uses generally not compatible with kit fox ecology. No urban populations of SJKF are known from Merced County. There are no known, recent records of this species in the project vicinity; the four CNDDB occurrences within 10 miles of the site are all from 2001 or earlier, and there are no iNaturalist records within 30 miles. Finally, the site is located over 50 miles away from the nearest SJKF core population in the Ciervo-Panoche region. For these reasons, the SJKF is unlikely to occur on site.

State Species of Special Concern

Hardhead (*Mylopharadon conocephalus*)	CSC	Occurs in clear deep streams with a slow but present flow, in a low to mid-elevation environment. May also inhabit lakes or reservoirs. Spawns in pools, runs, or rifles with a gravel and rocky substrate.	**Absent**. Miles Creek does not provide the deepwater habitat and flow conditions that this species requires. All known occurrences in the general vicinity are associated with the Merced River (CDFW 2025, iNaturalist 2025).
Mountain Plover (*Charadrius montanus*)	CSC	This species is a winter resident of California's Central and Imperial Valleys, where it forages in short grasslands and freshly plowed fields. Breeds in the western Great Plains and Rocky Mountain states.	**Unlikely.** The site's upland habitats are all highly degraded and/or developed and are not expected to attract or support foraging mountain plovers. This species does not breed in California.
Northern Harrier (*Circus hudsonius*)	CSC	Frequents meadows, grasslands, open rangelands, and freshwater emergent wetlands. Nests on ground, generally in wet areas, although grassland, pasture, and cultivated fields may be used.	**Possible.** Harriers may forage over undeveloped portions of the project site from time to time; in particular the well site. Nesting on site is not expected.

TABLE 2. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS

State Species of Special Concern

Species	Status	Habitat	Occurrence on the Project Site
Pallid Bat (*Antrozous pallidus*)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** Pallid bats could forage over the site, roost in the site's trees, and possibly also roost in the remnant outbuildings of the well site.
Western Mastiff Bat (*Eumops perotis californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** Western mastiff bats may forage over the site from time to time, but roosting habitat is absent.
Western Red Bat (*Lasiurus blossevillii*)	CSC	This mostly solitary bat 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.	**Possible.** The western red bat could forage over the site and has some potential to roost in the site's trees.
American Badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Adult badgers are primarily nocturnal, foraging at night and remaining underground in sleeping dens during the day.	**Unlikely.** The site's habitats are all degraded and/or developed and are not expected to attract or support badgers. No occurrence records of this species are known in the Planada area. The nearest known record is a 2017 sighting of a badger on UC Merced conservation lands, approximately 7.5 miles northwest of project boundaries (iNaturalist 2025).

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 because habitat requirements not met.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate
FPT	Federal Proposed Threatened
CE	California Endangered
CT	California Threatened
CCE	California Candidate Endangered
CFP	California Fully Protected
CSC	California Species of Special Concern
CR	California Rare

CRPR CODES

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

2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands with a continuous surface connection to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. All waters under USACE jurisdiction are also regulated by the RWQCB as waters of the State. Additionally, the RWQCB asserts jurisdiction over certain isolated features disclaimed by the USACE. The CDFW has jurisdiction over waters that have a defined bed and bank. The regulation of jurisdictional waters is discussed in more detail in Section 3.8.

The project site contains a short segment of Miles Creek, which is likely to fall under the jurisdiction of the USACE, RWQCB, and CDFW.

2.6 DESIGNATED CRITICAL HABITAT

As will be discussed further in Section 3.0, the USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project site and adjacent lands. The nearest unit of critical habitat is located approximately 2 miles east of project boundaries at its closest point, and is designated for the protection of the succulent owl's-clover (*Castilleja campestris* ssp. *succulenta*), Greene's tuctoria (*Tuctoria greenei*), vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservatio*), and California tiger salamander (*Ambystoma californiense*).

2.7 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of their Vegetation Classification and Mapping Program (VegCAMP). Natural communities are assigned

state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1 to 5 scale) is considered "sensitive" and must be considered in CEQA review.

Sensitive natural communities are absent from the project site.

2.8 WILDLIFE MOVEMENT CORRIDORS

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. Certain features of the project area have the potential to function as movement corridors for resident and migratory fish and wildlife species.

Miles Creek in the project vicinity is likely to facilitate wildlife movement through the surrounding matrix of agricultural and residential lands.

3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a 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." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (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.

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

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make "mandatory findings of significance" if there is substantial evidence that a project may:

- 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, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 NATIONAL ENVIRONMENTAL POLICY ACT

Projects that are proposed, funded, or authorized by federal agencies are generally subject to the provisions of NEPA. Signed into law in 1970 and amended by the Fiscal Responsibility Act of 2023, NEPA requires federal agencies to evaluate the environmental effects of their proposed actions prior to making decisions. Agencies must utilize systematic, interdisciplinary approach that includes the review of technically and economically feasible alternatives to the proposed action, and must ensure professional and scientific integrity in the environmental documents they prepare.

The level of NEPA review that is required is related to a project's potential to cause "significant" environmental effects. Projects with reasonably foreseeable significant effects on the quality of the human environment require an Environmental Impact Statement (EIS). Among other elements, an EIS requires detailed analyses of the project's environmental effects, development and study of a reasonable range of alternatives to the proposed action, and consideration of public comments received during the scoping process. Projects that do not have reasonably foreseeable significant effects on the quality of the human environment, and projects for which the significance of such effects is unknown, may meet their NEPA obligations with the

preparation of an Environmental Assessment (EA). An EA is a concise public document that either provides the basis for a federal agency's finding of no significant impact or culminates in a determination that an EIS is necessary.

3.3 MERCED COUNTY GENERAL PLAN

In compliance with CEQA, the lead agency must consider conformance with applicable policy documents including the Merced County General Plan. The Merced County General Plan was updated in 2013, and has a planning horizon through 2030. It presents the County's vision for long-term growth and development, and establishes goals and policies to accomplish this vision. Goals and policies relevant to the study area's biological resources are primarily derived from the Plan's Natural Resources Element, and include the following:

- Cooperate with local, state, and federal agencies to ensure that adequate ongoing protection and monitoring occurs adjacent to rare and endangered species habitats or within identified significant wetlands
- Avoid or minimize loss of existing wetland resources by careful placement and construction of any necessary new public utilities and facilities
- Require an appropriate setback, to be determined during the development review process, for developed and agricultural uses from the delineated edges of wetlands
- Protect existing trees and encourage the planting of new trees in existing communities
- Coordinate with private, local, state, and federal agencies to assist in the protection of biological resources and prevention of degradation, encroachment, or loss of resources managed by these agencies

3.4 THREATENED AND ENDANGERED SPECIES

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as "threatened" or "endangered" under one or both Acts, and/or as "rare" under CESA. Under both Acts, "endangered" means a species is in danger of extinction throughout all or a significant portion of its range, and "threatened" means a species is likely to become endangered within the foreseeable future. Under CESA, "rare" means a species may become endangered if their present environment worsens. Both Acts prohibit "take" of listed

species, defined under 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), and more broadly defined under FESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The USFWS commonly interprets "take" to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the "take" of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.5 MIGRATORY BIRDS

The Federal Migratory Bird Treaty Act (FMBTA: 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 actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

3.6 BIRDS OF PREY

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the

incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.7 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.

3.8 HABITAT CONSERVATION PLANS AND NATURAL COMMUNITY CONSERVATION PLANS

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

3.9 WETLANDS AND OTHER JURISDICTIONAL WATERS

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE's joint 2023 Revised Definition of 'Waters of the U.S.' Rule (2023 WOTUS Rule), issued in January 2023 and amended in August 2023. Generally speaking, waters of the U.S. include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
- The territorial seas
- Interstate waters
- Impoundments of waters otherwise defined as waters of the United States
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
- Certain artificial features, e.g. irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
- Swales and erosional features characterized by low volume, infrequent, or short duration flow

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board (SWRCB) has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The SWRCB and RWQCBs also administer the federal National Pollution Discharge Elimination System (NPDES) program, which is concerned with the discharge of stormwater and other pollutants into water bodies. Projects that disturb one or more acres of soil must obtain coverage under the SWRCB's current NPDES Construction Stormwater General Permit. A prerequisite for permit coverage is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Other types of pollutant discharges into waters of the U.S., such as wastewater, may require coverage under a different NPDES general permit, and in some cases an individual permit.

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

4.0 IMPACTS AND MITIGATIONS

This impact assessment assumes that: (1) all project-related disturbance associated with water mains in roadways will be confined to the traveled way, (2) water main installation across Miles Creek will be accomplished via horizontal directional drilling, with no project-related disturbance to the creek channel itself, (3) elsewhere where water mains will be installed outside of roadways, all project-related disturbance will be confined to a 20-foot-wide corridor, (4) all water meter installations will occur within the water main work area, and (5) no tree or building removal will be required for any project component other than well site development.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS

4.1.1 Construction-Related Mortality/Disturbance of Nesting Birds and Raptors including Swainson's Hawk

Potential Impacts. The project site has the potential to be used for nesting by a variety of nesting birds and raptors protected by the Migratory Bird Treaty Act and related state laws. The California threatened Swainson's hawk (*Buteo swainsoni*), while unlikely to nest on the site itself, could nest in mature trees adjacent to the site. If project construction takes place during the nesting season, birds nesting on the site could be injured or killed by construction activities, while birds nesting on or adjacent to the site could be disturbed such that they would abandon their nests. Construction-related mortality of nesting birds and disturbance leading to nest abandonment would violate state and federal laws and be considered a significant impact of the project under CEQA and NEPA.

Swainson's hawks also have some potential to forage over the well site from time to time, but would not be vulnerable to construction-related injury or mortality during this activity because they are highly mobile and are expected to avoid active work areas. The project is not expected to adversely affect this species through loss of foraging habitat. At only 1.4 acres in size, and with a fairly degraded condition, the well site is unlikely to represent an important part of any individual foraging range. Considerable habitat of similar or higher quality for this species will remain available in the project vicinity following project development.

Mitigation. To avoid and minimize the potential for construction-related mortality/disturbance of nesting birds and raptors including the Swainson's hawk, the following measures will be implemented:

> ***Measure 4.1.1a (Construction Timing).*** If feasible, the project will be constructed between September 1 and January 31, outside of the avian nesting season.
>
> ***Measure 4.1.1b (Preconstruction Surveys*).** If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of any work within this period. The survey area will encompass the work area and surrounding lands within ½ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for other nesting birds.
>
> ***Measure 4.1.1c (Avoidance of Active Nests*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. The buffer distance will be determined based on species biology, site-specific conditions, and the level of project-related disturbance that is anticipated near the nest(s) in question. Buffers will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will reduce project impacts to nesting birds and raptors including Swainson's hawk to a less than significant level under CEQA and NEPA and facilitate compliance with state and federal laws.

4.1.2 Potential Project Impacts to Roosting Bats including Pallid Bat and Western Red Bat

Potential Impacts. The trees and remnant outbuildings of the well site have the potential to be used for roosting by various bat species, possibly including the pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*), both California Species of Special Concern. It is assumed that these features will be removed to accommodate buildout of this property. Any bats roosting in the trees or structures at the time of their removal are likely to be injured or killed. Construction-related injury or mortality of the pallid bat, western red bat, and other roosting bats is considered a potentially significant impact of the project.

The project will not result in a significant loss of roosting or foraging habitat for the pallid bat or western red bat. Although potential roost sites will be removed, numerous similar features will remain available elsewhere in the project vicinity. The site does not offer unique foraging habitat

for the pallid bat or western red bat, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and urban setting. Similar and higher quality foraging habitats are abundant in the project vicinity and elsewhere in the region.

Mitigation. The following measures will be implemented for the protection of roosting bats including the pallid bat and western red bat.

> ***Mitigation 4.1.2a* (*Construction Timing*).** If feasible, demolition and removal of the trees/structures will occur outside of the period between April 15 and September 30. This is the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.
>
> ***Mitigation 4.1.2b* (*Pre-construction Surveys*).** Within 10 days prior to the removal of any trees/structures, a qualified biologist will survey these features for roosting bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.
>
> ***Mitigation 4.1.2c* (*Avoidance of Maternity Roosts*).** Should any active maternity bat roosts be discovered, the biologist will identify a suitable construction-free buffer around the roost(s). The buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the nursery is no longer active.
>
> ***Mitigation 4.1.2d* (*Humane Eviction of Non-breeding Bats*).** If a non-breeding bat colony is found, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by tree/structure removal.

Implementation of the above measures will reduce potential construction-related impacts to roosting bats including the pallid bat and western red bat to a less than significant level under CEQA and NEPA.

4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Potential Project Impacts to Special Status Plants

Potential Impacts. Twenty-five special status plant species have been documented in the general vicinity of the project site (see Table 2). All but one of these species, the Sanford's arrowhead (*Sagittaria sanfordii*), are considered absent from or unlikely to occur on the project site due to an absence of suitable habitat and/or the site's being situated outside of the species'

elevational distribution. The Sanford's arrowhead has some potential to occur in the on-site reach of Miles Creek; however, there will be no project-related disturbance to the creek channel because the water main at this location will be installed via horizontal directional drilling. The project is not expected to adversely affect any special status plant species, either directly or indirectly, and impacts are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

4.2.2 Project Impacts to Special Status Animal Species that Would Use the Site for Non-sensitive Activities Only

Potential Impacts. Of the 24 special status animal species potentially occurring on site, four are not expected to use the site for sensitive activities such as breeding, nesting, or communal roosting, nor are they likely to breed, nest, or communally roost close enough to the site that they would be vulnerable to construction-related disturbance during these activities (see Table 2). These species are the monarch butterfly (*Danaus plexippus*), northern harrier (*Circus hudsonius*), tricolored blackbird (*Agelaius tricolor*), and western mastiff bat (*Eumops perotis californicus*). The well site contains trees within which monarch adults could potentially rest during seasonal migration, and this and other portions of the project site contain some nectar resources for foraging. Monarch resting and foraging in such areas is expected to be infrequent and ephemeral if it occurs at all. Moreover, monarch adults are volant and would presumably depart the work area if disturbed, such that they would not be at risk of construction-related injury or mortality. Similarly, northern harriers, tricolored blackbirds, and western mastiff bats all have the potential to forage on site from time to time but are highly mobile during this activity and would be expected to simply avoid active work areas.

The project would not adversely affect any of these species through loss of habitat. The site does not offer unique habitat for these species, nor is it likely to represent an important part of any individual home range, given its disturbed nature and urban setting. Similar and higher quality habitats are regionally abundant. For these reasons, impacts to the monarch butterfly, northern harrier, tricolored blackbird, and western mastiff bat are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

4.2.3 Project Impacts to Special Status Animal Species Absent from, or Unlikely to Occur within, the Project Site

Potential Impacts. Of the 24 special status animal species that potentially occur in the general vicinity of the site, 17 are considered absent or unlikely to occur within the project site due to the absence of suitable habitat and/or the project site's being situated outside of the species' known distribution (see Table 2). These are the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Crotch bumblebee (*Bombus crotchii*), Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11), hardhead (*Mylopharadon conocephalus*), California tiger salamander (*Ambystoma californiense* pop. 1), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), giant garter snake (*Thamnophis gigas*), western pond turtle (*Actinemys marmorata*), bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), mountain plover (*Charadrius montanus*), San Joaquin kit fox (*Vulpes macrotis muitca*), and American badger (*Taxidea taxus*). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the project, directly or indirectly. Project impacts are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

4.2.4 Project Impacts to Sensitive Natural Communities

Potential Impacts. The project does not contain any sensitive natural communities. There will be no impact to such resources.

Mitigation. Mitigation measures are not warranted.

4.2.5 Potential Project Impacts to Waters of the State and U.S.

Potential Impacts. The proposed water main alignment crosses Miles Creek, a likely jurisdictional water. The water main at this location will be installed via horizontal directional

drilling underneath the creek channel, such that the channel itself will not be physically disturbed. Project impacts to waters of the State and U.S. are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

4.2.6 Project Impacts to Wildlife Movement Corridors

Potential Impacts. The reach of Miles Creek passing through the project site could function as a wildlife movement corridor. As discussed, water main installation at this location will be accomplished via horizontal directional drilling, such that the creek and any associated movement corridor will not be physically disturbed by project activities. Some noise disturbance is anticipated from operation of the drill rig and may cause animals to temporarily shift their use of or movement through this area while work is occurring. Construction activities at the crossing location will be short-term, following which wildlife use of the Miles Creek corridor is expected to return to baseline conditions. Project-related impacts to wildlife movement corridors are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

4.2.7 Project Impacts to Designated Critical Habitat

Potential Impacts. The project will have no effect on designated critical habitat because critical habitat is absent from the project site and adjacent lands.

Mitigation. Mitigation is not warranted.

4.2.8 Local Policies or Habitat Conservation Plans

Potential Impacts. It is assumed that the project will be implemented in a manner consistent with Merced County General Plan policies related to biological resources. No habitat conservation plans are known to pertain to the area containing the project site.

Mitigation. No mitigation is required.

4.3 SECTION 7 DETERMINATIONS FOR FEDERALLY LISTED SPECIES

Table 3 below presents LOA's preliminary FESA Section 7 effect determinations for federally listed and proposed species found on the USFWS IPaC list and CNDDB list generated for the project, based on currently available information and a level of analysis appropriate for a CEQA Mitigated Negative Declaration and/or NEPA Environmental Assessment.

Table 3: Section 7 Effect Determinations for Federally Listed Species

Species	FESA Status	Determination	Rationale for the Determination
Succulent Owl's-Clover (*Castilleja campestris* ssp. *succulenta*)	Threatened	***No effect***	Species is absent (no suitable habitat)
Colusa Grass *(Neostapfia colusana)*	Threatened	***No effect***	Species is absent (no suitable habitat)
San Joaquin Valley Orcutt Grass (*Orcuttia inaequalis*)	Threatened	***No effect***	Species is absent (no suitable habitat)
Hairy Orcutt Grass (*Orcuttia pilosa*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Hartweg's Golden Sunburst (*Pseudobahia bahiifolia*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Keck's Checkerbloom (*Sidalcea keckii*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Greene's Tuctoria (*Tuctoria greenei*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)	Threatened	***No effect***	Species is absent (no suitable habitat)
Monarch Butterfly (*Danaus plexippus*)	Proposed Threatened	***No effect***	Species is expected to utilize the site infrequently and for non-sensitive activities only
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Vernal Pool Fairy Shrimp *(Branchinecta lynchi)*	Threatened	***No effect***	Species is absent (no suitable habitat)
Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)	Endangered	***No effect***	Species is absent (no suitable habitat)
Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*)	Threatened	***No effect***	Species is absent (no suitable habitat)

Table 3 (cont'd)

Species	FESA Status	Determination	Rationale for the Determination
California Tiger Salamander *(Ambystoma californiense)*	Threatened	***No effect***	Species is absent (no suitable habitat)
Foothill Yellow-Legged Frog -Central Coast DPS *(Rana boylii pop. 4)*	Endangered	***No effect***	Species is absent (no suitable habitat)
Western Spadefoot (*Spea hammondii*)	Proposed Threatened	***No effect***	Species is absent (no suitable habitat)
Giant Garter Snake (*Thamnophis gigas*)	Threatened	***No effect***	Species is absent (no suitable habitat)
Western Pond Turtle (*Actinemys marmorata*)	Proposed Threatened	***No effect***	Species is absent (no suitable habitat)
San Joaquin Kit Fox (*Vulpes macrotis mutica*)	Endangered	***No effect***	No appreciable potential for species to occur on site (landscape-level factors, marginal to unsuitable habitat, no known occurrences in vicinity for 25+ years)

5.0 LITERATURE REFERENCED

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D. G. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Baumberger, K. L., M. V. Eitzel, M. E. Kirby, and M. H. Horn. 2019. Movement and habitat selection of the western spadefoot (*Spea hammondii*) in southern California. PLoS ONE 14(10): e0222532. Available at: https://doi.org/10.1371/journal.pone.0222532

Calflora. 2025. Calflora: An online database of plant identification and distribution [web application]. Calflora, Berkeley, California. Available: http://www.calflora.org.

California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database. The Resources Agency, Sacramento, CA.

_____. 2002. California Fish and Game Code. Gould Publications. Binghamton, NY.

California Native Plant Society. 2025. Inventory of Rare and Endangered Vascular Plants of California. Available online at: http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi.

California Soil Resource Lab. 2008. Streaming, seamless interface to USDA-NCSS SSURGO and STATSGO Soil Survey Products.

eBird. 2025. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org.

iNaturalist. 2025. Available: https://www.inaturalist.org/

Natural Resources Conservation Service. 2011. National Hydric Soils List by State, California. U.S. Department of Agriculture.

NOAA National Centers for Environmental Information. 2021. U.S. Climate Normals 2020: U.S. Annual Climate Normals (1991-2020). Available at: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-annualseasonal&timeframe=30&location=CA&station=USC00045532.

Orloff, S. G. 2011. Movement patterns and migration distances in an upland population of California tiger salamander (*Ambystoma californiense*). Herpetological Conservation and Biology 6(2):266-276.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. 5 pp.

The Xerces Society. 2019. A Quick Guide to Monarch Habitat on Farms in California's Central Valley. Publication 19-033_01.

U.S. Fish and Wildlife Service. 2025. IPaC Resource List, Information for Planning and Consultation (IPaC). Available: https://ecos.fws.gov/ipac.

Wetland Training Institute, Inc. 1991. Federal Wetland Regulation Reference Manual. B.N. Goode and R.J. Pierce (eds.) WTI 90-1. 281pp.

Zeiner, David C., William F. Laudenslayer, Kenneth E. Mayer and Marshal White. Ed. 1988. California's wildlife, volume I, amphibians and reptiles, volume II, birds, and volume III, mammals. Department of Fish and Game. Sacramento, CA. Online: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx



APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

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The plant species listed below were observed on the project site during surveys conducted by Live Oak Associates, Inc. on June 4, 2025. The wetland indicator status of each plant, derived from the USACE-administered National Wetland Plant List for the Arid West Region, has been shown following its common name if available.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
NR - No review
NA - No agreement
NI - No investigation

ANACARDIACEAE – Sumac Family		
Pistacia chinensis	Chinese Pistache	
Pistacia vera	Cultivated Pistachio	
Rhus copallinum	Shining Sumac	
Schinus molle	Peppertree	FACU
APOCYNACEAE – Dogbane Family		
Nerium oleander	Oleander	UPL
ARALIACEAE – Ginseng Family		
Hedera helix	English Ivy	FACU
ARECACEAE – Palm Family		
Washingtonia filifera	California Fan Palm	FAC
Washingtonia robusta	Mexican Fan Palm	FACW
ASPARAGACEAE – Asparagus Family		
Agave sp.	Agave	
ASTERACEAE – Sunflower Family		
Baccharis salicifolia	Mule Fat	FAC
Carduus pycnocephalus	Italian Thistle	UPL
Centaurea solstitialis	Yellow Star Thistle	UPL
Centromadia pungens	Common Spikeweed	FAC
Erigeron bonariensis	Flax-leaved Horseweed	FACU
Grindelia camporum	Great Valley Gumweed	
Helianthus annus	Sunflower	FACU
Lactuca serriola	Prickly Lettuce	FACU
Sonchus oleraceus	Sowthistle	UPL
BIGNONIACEAE – Trumpet Vine Family		
Catalpa bignonioides	Southern Catalpa	
BRASSICACEAE – Mustard Family		
Brassica spp.	Mustard	UPL
BUXACEAE – Box Family		
Buxus sempervirens	European Boxwood	UPL

CACTACEAE – Cactus Family		
Opuntia spp.	Prickly Pear	UPL
CONVOLVULACEAE – Morning Glory Family		
Convolvulus arvensis	Field Bindweed	UPL
CUPRESSACEAE – Cypress Family		
Calocedrus decurrens	Incense Cedar	UPL
Cupressus sempervirens	Mediterranean Cypress	
Juniperus californica	California Juniper	FACU
Platycladus orientalis	Chinese Arborvitae	
Sequoia sempervirens	Coast Redwood	UPL
CYPERACEAE – Sedge Family		
Cyperus eragrostis	Tall Flat Sedge	FACW
EUPHORBIACEAE – Spurge Family		
Croton setiger	Turkey Mullein	UPL
FABACEAE – Bean Family		
Albizia julibrissin	Mimosa Tree	UPL
Wisteria sp.	Wisteria	
FAGACEAE – Oak Family		
Quercus lobata	Valley Oak	FACU
Quercus wislizeni	Interior Live Oak	UPL
IRIDACEAE – Iris Family		
Dietes grandiflora	Fortnight Lily	
JUGLANDACEAE – Walnut Family		
Carya illinoinensis	Peacan	FAC
Juglans californica	California Black Walnut	
Juglans regia	English Walnut	
LAMIACEAE – Mint Family		
Lavendula sp.	Lavender	
Salvia rosmarinus	Rosemary	
LYTHRACEAE – Mahogany Family		
Lagerstroemia spp.	Crepe Myrtle	UPL
Punica granatum	Pomegranate	UPL
MAGNOLIACEAE – Magnolia Family		
Magnolia spp.	Magnolia	UPL
MALVACEAE – Mallow Family		
Abutilon theophrasti	Velvetleaf	UPL
Alcea sp.	Hollyhock	
Hibiscus sp.	Hibiscus	
Malva parviflora	Cheeseweed	UPL
MORACEAE – Fig Family		
Ficus carica	Fig	UPL
Morus alba	White Mulberry	FACU
MYTACEAE – Myrtle Family		
Eucalyptus globulus	Blue Gum	UPL
Eucalyptus sp.	Eucalyptus	
Myrtus communis	Common Myrtle	UPL

OLEACEAE – Olive Family		
Ligustrum lucidum	Korean Privet	
Olea europaea	Olive	UPL
ONAGRACEAE – Evening Primrose Family		
Clarkia sp.	Ornamental Clarkia	
PINACEAE – Pine Family		
Cedrus deodara	Deodar Cedar	UPL
Pinus sabiniana	Foothill Pine	UPL
Pinus sp.	Ornamental Pine	UPL
PLATANACEAE – Plane Family		
Platanus racemosa	California Sycamore	FAC
POACEAE – Grass Family		
Bromus diandrus	Ripgut Brome	UPL
Digitaria sanguinalis	Large Crabgrass	FACU
Hordeum marinum	Mediterranean Barley	FAC
Hordeum murinum	Foxtail Barley	FACU
Lolium multiflorum	Italian Ryegrass	
Sorghum halapense	Johnson Grass	FACU
Zea mays	Corn	
ROSACEAE – Rose Family		
Eriobotrya japonica	Loquat	
Prunus dulcis	Almond	
Prunus subcordata	False Plum	
Pyrus calleryana	Bradford Pear	UPL
Rosa sp.	Ornamental Rose	
RUTACEAE – Citrus Family		
Citrus x limon	Lemon	UPL
Citrus x sinensis	Orange	UPL
SALICACEAE – Willow Family		
Populus fremontii	Fremont's Cottonwood	FAC
Salix laevigata	Red Willow	FACW
SIMAROUBACEAE – Quassia Family		
Ailanthus altissima	Tree of Heaven	FACU
VITACEAE – Elm Family		
Vitis vinifera	Grape	

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may be expected to routinely and predictably use or pass through the project site during some or all of the year. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed on or adjacent to the project site during surveys conducted by Live Oak Associates, Inc. on June 4, 2025 have been noted with an asterisk.

CLASS: AMPHIBIA (Amphibians)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE (True Toads)
Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and relatives)
Sierran Treefrog (*Pseudacris sierra*)
FAMILY: RANIDAE (True Frogs)
Bullfrog (*Lithobates catesbeianus*)

CLASS: REPTILIA (Reptiles)
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Western Fence Lizard (*Sceloporus occidentalis*)
Side-blotched Lizard (*Uta stansburiana*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Pacific Gopher Snake (*Pituophis catenifer catenifer*)
Common Kingsnake (*Lampropeltis getulus*)
Common Garter Snake (*Thamnophis sirtalis*)
FAMILY: VIPERIDAE (Vipers)
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES
ORDER: PELECANIFORMES (Wading Birds)
FAMILY: ARDEIDAE (Herons)
Great Egret (*Ardea alba*)
Great Blue Heron (*Ardea herodias*)
ORDER: ACCIPITRIFORMES (Hawks, Eagles, Vultures, and Kites)
FAMILY: CATHARTIDAE (New World Vultures)
Turkey Vulture (*Cathartes aura*)
FAMILY: ACCIPITRIDAE (Hawks, Eagles, Kites, Old World Vultures, and Harriers)
Cooper's Hawk (*Accipiter cooperi*)
*Red-tailed Hawk (*Buteo jamaicensis*)
Red-shouldered Hawk (*Buteo lineatus*)
Swainson's Hawk (*Buteo swainsoni*)
FAMILY: FALCONIDAE (Caracaras and Falcons)

Merlin (*Falco columbarius*)
*American Kestrel (*Falco sparverius*)
ORDER: GALLIFORMES (Megapodes, Currassows, Pheasants, and Relatives)
FAMILY: ODONTOPHORIDAE (New World Quails)
California Quail (*Callipepla californica*)
FAMILY: PHASIANIDAE (Pheasants, Chickens, Turkeys and Allies)
Domestic Chicken (*Gallus gallus domesticus*)
ORDER: GRUIFORMES (Cranes and Rails)
FAMILY: RALLIDAE (Rails, Gallinules, and Coots)
American Coot (*Fulica americana*)
ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)
FAMILY: CHARADRIIDAE (Plovers and relatives)
Killdeer (*Charadrius vociferus*)
ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)
Eurasian Collared Dove (*Streptopelia decaocto*)
ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)
Barn Owl (*Tyto alba*)
ORDER: APODIFORMES (Swifts and Hummingbirds)
FAMILY: TROCHILIDAE (Hummingbirds)
Black-chinned Hummingbird (*Archilochus alexandri*)
Anna's Hummingbird (*Calypte anna*)
ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
*Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
*Western Kingbird (*Tyrannus verticalis*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
*California Scrub Jay (*Aphelocoma coerulescens*)
*American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
Cliff Swallow (*Petrochelidon pyrrhonota*)
Barn Swallow (*Hirundo rustica*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
FAMILY: AEGITHALIDAE (Titmice)
Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtits)
Bushtit (*Psaltriparus minimus*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)

American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

*Northern Mockingbird (*Mimus polyglottos*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)

Yellow-rumped Warbler (*Dendroica coronata*)

FAMILY: STURNIDAE (Starlings and Allies)

*European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubrescens*)

FAMILY: EMBERIZIDAE (Sparrows)

Savannah Sparrow (*Passerculus sandwichensis*)
White-crowned Sparrow (*Zonotrichia leucophrys*)
Golden-crowned Sparrow (*Zonotrichia atricapilla*)
California Towhee (*Pipilo crissalis*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Western Meadowlark (*Sturnella neglecta*)
Red-winged Blackbird (*Agelaius phoeniceus*)
Great-tailed Grackle (*Quiscalus mexicanus*)
Brewer's Blackbird (*Euphagus cyanocephalus*)
Brown-headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Haemorhous mexicanus*)
Lawernce's Goldfinch (*Spinus lawrencei*)
Lesser Goldfinch (*Carduelis psaltria*)

FAMILY: PASSERIDAE (Old World Sparrows)

*House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Pale Big-eared Bat (*Corynorhinus townsendii pallescens*)
Big Brown Bat (*Eptesicus fuscus*)
Yuma Myotis (*Myotis yumanensis*)
California Myotis (*Myotis californicus*)
Western Pipistrelle (*Pipistrellus hesperus*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Western Mastiff Bat (*Eumops perotis californicus*)
Brazilian Free-tailed Bat (*Tadarida brasiliensis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)
Audubon's Cottontail (*Sylvilagus audubonii*)
Black-tailed Jackrabbit (*Lepus californicus*)
ORDER: RODENTIA (Rodents)
FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)
California Ground Squirrel (*Otospermophilus beecheyi*)
FAMILY: GEOMYIDAE (Pocket Gophers)
Botta's Pocket Gopher (*Thomomys bottae*)
FAMILY: MURIDAE (Mice, Rats and Voles)
Western Harvest Mouse (*Reithrodontomys megalotis*)
Deer Mouse (*Peromyscus maniculatus*)
Norway Rat (*Rattus norvegicus*)
House Mouse (*Mus musculus*)
California Vole (*Microtus californicus*)
FAMILY: HETEROMYIDAE (Kangaroo Rats)
Heermann's Kangaroo Rat (*Dipodomys heermanni*)
ORDER: CARNIVORA (Carnivores)
FAMILY: CANIDAE (Foxes, Wolves, and Relatives)
Red Fox (*Vulpes vulpes*)
Coyote (*Canis latrans*)
*Domestic Dog (*Canis familiaris*)
FAMILY: PROCYONIDAE (Raccoons and Relatives)
Raccoon (*Procyon lotor*)
FAMILY: MUSTELIDAE (Weasels and Relatives)
Striped Skunk (*Mephitis mephitis*)
FAMILY: FELIDAE (Cats)
*Feral Cat (*Felis catus*)

APPENDIX C: SELECTED SITE PHOTOGRAPHS





Photos 1 and 2: Representative photos of paved roadways within the water main work area.



Photos 3 and 4: Representative photos of unpaved alleys within the water main work area.





Photo 5 (above): Water main work area along State Route 140. This pipeline segment may be installed, wholly or in part, outside of the traveled way. **Photo 6 (below):** Residential park that will be traversed by the proposed water main; photo faces the approximate direction of the alignment.





Photo 7 (above): On-site portion of Miles Creek, located on the west side of Plainsburg Road. The pipeline will be installed across Miles Creek via horizontal directional drilling. **Photo 8 (below):** Entrance to the well site.





Photo 9 (above): One of the remnant outbuildings on the well site. **Photo 10 (below):** Trees and open areas on the well site.



APPENDIX D: USFWS INFORMATION FOR PLANNING AND CONSULTATION UNOFFICIAL SPECIES LIST

IPaC resource list

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

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

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Location

Merced County, California



Local office

Sacramento Fish And Wildlife Office

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

Federal Building
2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

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

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

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

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

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
San Joaquin Kit Fox Vulpes macrotis mutica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot Spea hammondii No critical habitat has been designated for this species.	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

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Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus — Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio	Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/8246

Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi	Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME	STATUS
Colusa Grass Neostapfia colusana	Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/5690

Fleshy Owl's-clover Castilleja campestris ssp. succulenta	Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/8095

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Greene's Tuctoria	Tuctoria greenei	Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1573

San Joaquin Valley Orcutt Grass	Orcuttia inaequalis	Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/5506

Critical habitats

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

There are no critical habitats at this location.

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

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Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Bald and Golden Eagle information is not available at this time

Bald & Golden Eagles FAQs

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

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

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Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (FWS). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The FWS interprets the MBTA to prohibit incidental take.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Migratory bird information is not available at this time

Migratory Bird FAQs

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

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that

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subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Proper interpretation and use of your migratory bird report

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

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

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Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

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

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1Cx
- PEM1Ah
- PEM1Ax

RIVERINE

- R4SBCx
- R5UBFx

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

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

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Data limitations

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

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

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

Data exclusions

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

Data precautions

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

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Appendix C

Cultural Resources Report

A
PHASE I CULTURAL RESOURCE SURVEY
FOR PLANADA COMMUNITY SERVICES DISTRICT,
WATER SYSTEM IMPROVEMENTS PROJECT,
PLANADA, MERCED COUNTY, CALIFORNIA

Submitted to:

Crawford and Bowen Planning, Inc.
113 N. Church Street, Suite #302
Visalia, California 93291

Keywords:
Planada 7.5' Quadrangle, Merced County,
California Environmental Quality Act

Submitted by:
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309

Author:
Scott M. Hudlow

June 2025

Management Summary

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted for the Planada Community Service District Water System Improvement Project in Planada, Merced County, California in Merced County, California. The Phase I Cultural Resource Survey consisted of a cultural resource survey and a cultural resource record search.

Four cultural resources were identified. The first cultural resource is P-24-001909, the Le Grand/Planada Canal, which is a portion of the Merced Irrigation District. This canal extension runs perpendicular to Plainsburg Road, north of Route 140, extending underneath Plainsburg Road, where a proposed 8-inch water line is to be installed. Although, the Merced Irrigation District has been judged eligible for inclusion to the National Register of Historic Places as a historic district; the Le Grand/Planada Canal is not individually eligible for inclusion on the National Register of Historic Places or the California Register of Historic Resources.

The second cultural resource, P-24-001881, is the Burlington Northern Santa Fe rail line, which was originally built as the San Francisco and San Joaquin Valley Railroad in the mid to late 1890s. It connected Stockton and Bakersfield. The Atchison, Topeka, and Santa Fe purchased the rail line in 1898; rechristened as the AT&SF's Valley Division. Although the rail line is presumably eligible for nomination to both the National Register of Historic Places and the California Register of Historic Resources; it has not been formally evaluated. The Planada section lacks integrity, because the Planada railroad station has been demolished. The railroad station has been gone, since the mid-1980s. As such, the Planada section of the BNSF rail line, where a proposed 8-inch water line and a proposed 16-inch water line, will cross the existing right-of-way, is not individually eligible for nomination to either the National Register of Historic Places or the California Register of Historic Resources.

C&B-5 is the 1938 Miles Creek Bridge on Plainsburg Road. This timber framed bridge is in poor condition and the Miles Creek channel is choked with vegetation. Rather than being judged eligible for the California Register of Historic Resources, the people of Merced County, would be better served by replacing this aging rural two-lane bridge. The Miles Creek Bridge is a typical aging rural, timber-framed bridge. This bridge is not associated with any significant events at the local, state or regional levels; thus, the bridge is not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the bridge is not eligible for listing on the California Register under Criterion 2. The Miles Creek Bridge does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the bridge is not eligible for listing on the California Register under Criterion 3. Finally, the bridge does not retain research potential that can not be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

C&B-6 is a pair of concrete Mission-style light standards. These two light standards are is disrepair. Their age is tough to determine, due to a lack of comparable examples. These two light standards are located in the grass area between the sidewalk and the gutter along Broadway and should not be directly impacted by the proposed new six-inch water line to be placed within Broadway and the adjacent northbound alley. As such, C&B-6 is not associated with any significant events at the local, state or regional levels; thus, the light standards are not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the light standards not eligible for listing on the California Register under Criterion 2. C&B-6 does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the light standards are not eligible for listing on the California Register under Criterion 3. Finally, the light standards do not retain any research potential that can not be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

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1.0 Introduction

At the request of Crawford and Bowen Planning, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey in accordance with the California Environmental Quality Act for proposed water system improvements in Planada, Merced County, California. This is a right-of-way project traversing multiple streets and alleyways throughout the community of Planada and the surrounding Merced County region. This project is being undertaken in accordance with the California Environmental Quality Act (CEQA) with Merced County responsible as Lead Agency to implement CEQA. The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

CEQA is a California statute passed in 1970. Governor Ronald Reagan signed it into law, after the federal government passed the National Environmental Policy Act (NEPA). CEQA institutes a statewide policy of environmental protection. CEQA does not directly regulate land uses, but instead requires state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and, in a departure from NEPA, adopt all feasible measures to mitigate those impacts. CEQA makes environmental protection a mandatory part of every California state and local agency's decision making process.

CEQA was signed into law in 1970, in a time of increasing public concern for the environment. The statute required that for any public project, the government must conduct an environmental study to examine what impacts the project might have on things like air/water quality, noise, transportation, biological resources, or cultural resources, and generate an assessment documenting the impacts as well as any potential and planned mitigations. In 1972, state courts interpreted a public project as a development project that needed government approval.

In 1969, NEPA passed into law. It is similar to CEQA in that both statutes set forth a policy of environmental protection, and a protocol by which all agencies in their respective jurisdictions make environmental protection part of their decision making process. NEPA is narrower in scope than CEQA. NEPA applies only to projects receiving federal funding or approval by federal agencies, while CEQA applies to projects receiving any form of state or local approval, permit, or oversight. Thus, development projects in California funded only by private sources and not requiring approval by a federal agency would be exempt from NEPA; but would likely be subject to CEQA.

The CEQA statute, California Public Resources Code § 21000 et seq., codifies a statewide policy of environmental protection. According to CEQA, state and local agencies must give consideration to environmental protection in regulating public and private activities and should not approve projects for

which feasible and environmentally superior mitigation measures or alternatives exist.

CEQA mandates actions that all state and local agencies must do to advance this policy. Specifically, for any project under CEQA's jurisdiction with potentially significant environmental impacts, agencies must identify mitigation measures and alternatives by preparing an Environmental Impact Report and must approve projects with feasible mitigation measures and the environmentally superior alternative. The California Natural Resources Agency promulgates the CEQA Guidelines, California Code of Regulations Title 14 § 15000 et seq., which detail the protocol by which state and local agencies must comply with CEQA requirements. CEQA originally applied to only public projects, but California Supreme Court interpretation of the statute, as well as later revisions, expanded CEQA's jurisdiction to nearly all projects within California, including those proposed by private businesses and individuals. § 21002.1 states "Each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." For private projects, CEQA applies when a discretionary government permit or other entitlement for use is necessary.

The lead agency, Merced County, is responsible for conducting the CEQA review and has final approval of the project. Merced County is also responsible for coordinating with the project applicant, public, and associated agencies during the CEQA process.

2.0 Project Location

The project area is in Merced County, California. The water system improvement project right-of-way is located along the section line between sections 21, 22, 27,28, 33, and 34 along Plainsburg Road and throughout the S ½ of Section 27, the NE ¼ of Section 33, and the N ½ of Section 34, T.7S., R.15E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Planada 7.5-minute quadrangle map (Figure 1). The proposed water system improvements will be located in public right-of-ways, which are primarily existing roads, streets, and alleyways throughout Planada and the surrounding Merced County area in Merced County, California (Figure 2).

3.0 Record Search

A record search of the project area and the environs within one half-mile was conducted at the Central California Information Center. Information Center Staff conducted the record search, RS# 13266I, on March 12, 2025 (Appendix II). The record search revealed that twenty-two cultural resource surveys have been conducted within one half-mile of the project area. Twenty cultural resource surveys have previously addressed portions of the parcel in question. The previous surveys identified five cultural resources within the

boundaries of the current project area, the Merced irrigation District, the Atchison, Topeka, and Santa Fe Railroad, the Planada Canal, a historic site, and the historic archaeological site of Planada's AT&SF train station. The Merced Irrigation District, is a proposed Historic District nominated for inclusion on either the National Register of Historic Places or the California Register of Historic Resources, although the Le Grand/Planada Canal section of the Merced Irrigation District is not individually eligible for nomination to either the National Register of Historic Places or the California Register of Historic Resources (Appendix II). The Planada Canal has been recorded, where it crosses Route 140.

4.0 Environmental Background

The project area is located at elevations between 220 and 230 feet above mean sea level in the Great Central Valley, which is composed of two valleys-the Sacramento Valley and the San Joaquin Valley. Planada is located within the Merced River delta north of Miles Creek at the edge of the Sierra Nevada foothills to the west. The streets, roads, and alleyways are covered in dirt, concrete, and asphalt. Decorative plant species, including Eucalyptus and palms, are found in yards and sidewalk medians. No native vegetation survives in the rural farm town of Planada. Fruit and nut orchards bound Planada on all sides, including almonds (Figures 3 and 4).

5.0 Prehistoric Archaeological Context

A limited amount of archaeological research has been conducted in the southern San Joaquin Valley. Thus, consensus on a generally agreed upon regional cultural chronology has yet to be developed. Most cultural sequences can be summarized into several distinct time periods: Early, Middle, and Late. Sequences differ in their inclusion of various "horizons," "technologies," or "stages." A prehistoric archaeological summary of the southern San Joaquin Valley is available in Moratto (Moratto 1984).

Despite the preoccupation with chronological issues in most of the previous research, most suggested chronological sequences are borrowed from other regions with minor modifications based on sparse local data.

The following chronology is based on Parr and Osborne's Paleo-Indian, Proto-Archaic, Archaic, Post-Archaic periods (Parr and Osborne 1992:44-47). Most existing chronologies focus on stylistic changes of time-sensitive artifacts such as projectile points and beads rather than addressing the socioeconomic factors, which produced the myriad variations. In doing so, these attempts have encountered similar difficulties. These cultural changes are implied as environmentally determined, rather than economically driven.

Paleo-Indians, whom roamed the region approximately 12,000 years ago, were highly mobile individuals. Their subsistence is assumed to have been

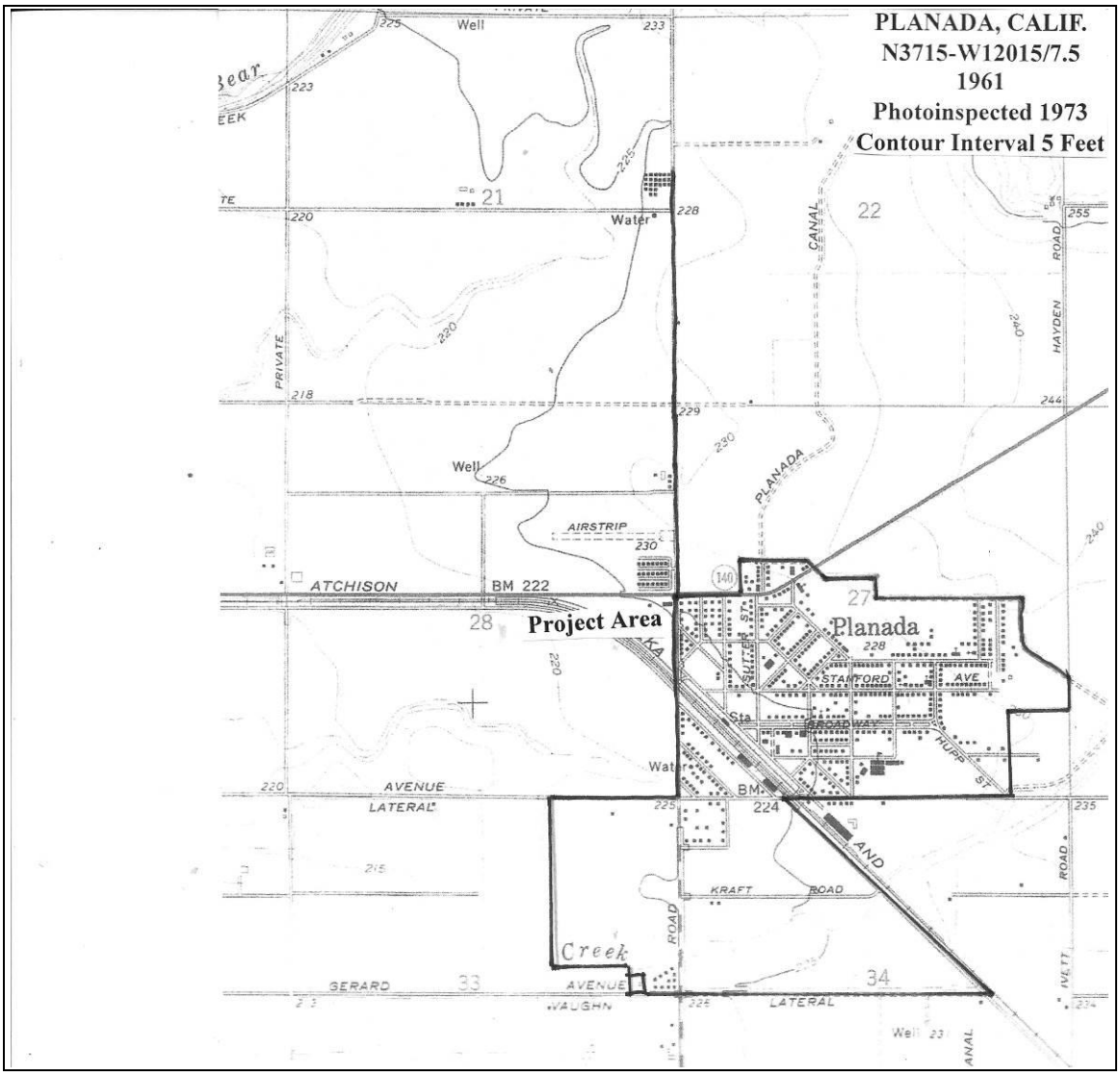


Figure 1
Project Area Location Map

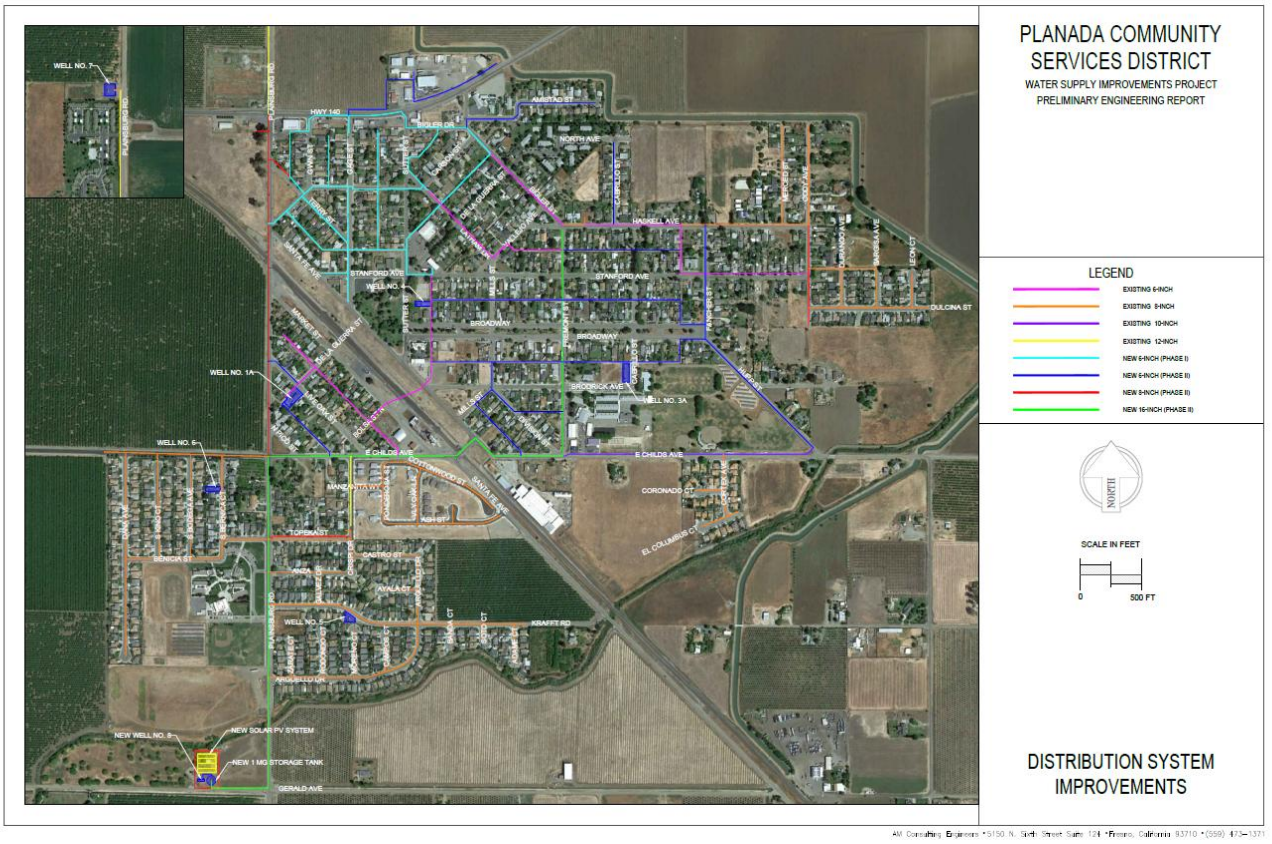


Figure 2
Planada Community Services District Water System Improvement Project Map

primarily big game, which was more plentiful 12,000 years ago than in the late twentieth century. However, in the Great Basin and California, Paleo people were also foragers who exploited a wide range of resources. Berries, seeds, and small game were also consumed. Their technology was portable, including manos (Parr and Osborne 1992:44). The paleo period is characterized by fluted Clovis and Folsom points, which have been identified throughout North America. The Tulare Lake region in Kings County has yielded several Paleo-Indian sites, which have included fluted points, scrapers, chipped crescents, and Lake Mojave-type points (Morratto 1984:81-2).

The Proto-Archaic period, which dates from approximately 11,000 to 8,000 years ago, was characterized by a reduction in mobility and conversely an increase in sedentism. This period is classified as the Western Pluvial Lake Tradition or the Proto-Archaic, of which the San Dieguito complex is a major aspect (Moratto 1984: 90-99; Warren 1967). An archaeological site along Buena Vista Lake in southwestern Kern County displays a similar assemblage to the San



Figure 3
Project Area, Childs and Bodega Avenues, View to the South



Figure 4
Project Area, Plainsburg Road, View to the South

Dieguito type site. Claude Warren proposes that a majority of Proto-Archaic southern California could be culturally classified as the San Dieguito Complex (Warren 1967). The Buena Vista Lake site yielded manos, millingstones, large stemmed and foliate points, a mortar, and red ochre. During this period, subsistence patterns began to change. Hunting focused on smaller game and plant collecting became more integral. Large stemmed, lancelote (foliate) projectile points represents lithic technology. Millingstones became more prevalent. The increased sedentism possibly began to create regional stylistic and cultural differences not evident in the paleo period.

The Archaic period persisted in California for the next 4000 years. In 1959, Warren and McKusiak proposed a three-phase chronological sequence based on a small sample of burial data for the Archaic period (Moratto 1984:189; Parr and Osborne 1992:47). It is distinguished by increased sedentism and extensive seed and plant exploitation. Millingstones, shaped through use, were abundant. Bedrock manos and metates were the most prevalent types of millingstones (Parr and Osborne 1992:45). The central valley began to develop distinct cultural variations, which can be distinguished by different regions throughout the valley, including Merced County.

In the Post-Archaic period enormous cultural variations began manifesting themselves throughout the entire San Joaquin Valley. This period extends into the contact period in the seventeenth, eighteenth and nineteenth centuries. Sedentary village life was emblematic of the Post-Archaic period, although hunting and gathering continued as the primary subsistence strategy. Agriculture was absent in California, partially due to the dense, predictable, and easily exploitable natural resources. The ancestral Yokuts have possibly been in the valley for the last three thousand years, and by the eighteenth century were the largest pre-contact population, approximately 40,000 individuals, in California (Moratto 1984).

6.0 Ethnographic Background

The Yokuts are a Penutian-speaking, non-political cultural group. Penutian speakers inhabit the San Joaquin Valley, the Bay Area, and the Central Sierra Nevada Mountains. The Yokuts are split into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts.

The San Joaquin Valley in the Merced area was home to the Yokuts tribelet, Ausumne. The tribelet had approximately 550 people, had a special name for themselves, and spoke a unique dialect of the Yokuts language. Land was owned, collectively, and every group member enjoyed the right to utilize food resources. The Ausumne occupied the area on the north side of the Merced River, east of the San Joaquin River (Latta 1999).

The Southern Valley Yokuts had a mixed economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent resource and was a productive activity throughout the entire year.

Fish were caught in many different manners, including nets, conical basket traps, catching with bare hands, shooting with bows and arrows, and stunning fish with mild floral toxins. Geese, ducks, mud hens and other waterfowl were caught in snares, long-handled nets, stuffed decoys, and brushing brush to trick the birds to fly low into waiting hunters. Mussels were gathered and steamed on beds of tule. Turtles and dogs were consumed (Wallace 1978:449-450).

Wild seeds and roots provided a large portion of the Yokuts' diet. Tule seeds, grass seeds, fiddleneck, alfilaria were also consumed. Acorns, the staple crop for many California native cultures, were not common in the San Joaquin Valley. Acorns were traded into the area. Land mammals, such as rabbits, ground squirrels, antelope and tule elk, were not taken often (Wallace 1978:450).

The Yokuts occupied permanent structures in permanent villages for most of the year. During the late and early summer, families left for several months to gather seeds and plant foods, shifting camp locations when changing crops. Several different types of fiber-covered structures were common in Yokuts settlements. The largest was a communal tule mat-covered, wedge-shaped structure, which could house upwards of ten individuals. These structures were established in a row, with the village chief's house in the middle and his messenger's houses were located at the ends of the house row. Dance houses and assembly buildings were located outside the village living area (Nabokov and Easton 1989:301).

The Yokuts also built smaller, oval, single-family tule dwellings. These houses were covered with tall mohya stalks or with sewn tule mats. Bent-pole ribs that met a ridgepole held by two crotched poles framed these small houses. The Yokuts also built a cone-shaped dwelling, which was framed with poles tied together with a hoop and then covered with tule or grass. These cone-shaped dwellings were large enough to contain multiple fireplaces (Nabokov and Easton 1989:301). Other structures included mat-covered granaries for storing food supplies, and a dirt-covered, communally owned sweathouse.

Clothing was minimal, men wore a breechclout or were naked. Women wore a narrow-fringed apron. Cold temperatures brought out rabbitskin or mud hen blankets. Moccasins were worn in certain places; however, most people went barefoot. Men wore no head coverings, but women wore basketry caps when they carried burden baskets on their heads. Hair was worn long. Women wore tattoos from the corners of the mouth to the chin; both men and women had ear and nose piercings. Bone, wood or shell ornaments were inserted (Wallace 1978:450-451).

Tule dominated the Yokut's material culture. It was used for many purposes, including sleeping mats, wall coverings, cradles, and basketry. Ceramics are uncommon to Yokuts culture as is true throughout most California native cultures. Basketry was common to Yokuts culture. Yokuts made cooking

containers, conical burden baskets, flat winnowing trays, seed beaters, and necked water bottles. Yokuts also manufactured wooden digging sticks, fire drills, mush stirrers, and sinew-backed bows. Knives, projectile points, and scraping tools were chipped from imported lithic materials including obsidian, chert, and chalcedony. Stone mortars and pestles were secured in trade. Cordage was manufactured from milkweed fibers, animal skins were tanned, and awls were made from bone. Marine shells, particularly olivella shells, were used in the manufacture of money and articles of personal adornment. Shells were acquired from the Chumash along the coast (Wallace 1978:451-453).

The basic social and economic unit was the nuclear family. Lineages were organized along patrilineal lines. Yokuts fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was an animal or bird that no member would kill or eat and that was dreamed of and prayed to. The mother's totem was not passed to her offspring; but was treated with respect. Families sharing the same totem formed an exogamous lineage. The lineage had no formal leader nor did it own land. The lineage was a mechanism for transmitting offices and performing ceremonial functions. The lineages formed two moieties, East and West, which consisted of several different lineages. Moieties were customarily exogamous. Children followed the paternal moiety. Certain official positions within the villages were associated with certain totems. The most important was the Eagle lineage from which the village chief was appointed. A member of the Dove lineage acted as the chief's assistant. He supervised food distribution and gave commands during ceremonies. Another hereditary position was common to the Magpie lineage, was that of spokesman or crier.

7.0 Historical Overview

Merced County was formed in 1855 from parts of Mariposa County. Fresno County was created from Merced County in 1856. Merced County was settled in the 1850s, soon after California joined the United States after the passage of the Compromise of 1850. The Compromise of 1850 allowed California to join the Union as a free state even though a major portion of the state lay beneath the Missouri Compromise line; and was potentially subject to southern settlement and slavery. Americans had long been visiting and working in California prior to the admission of California into the Union.

The Spanish moving north from Baja California into Alta California began European settlement of California 1n 1769. Father Junipero Serra, a Franciscan friar founded Mission San Diego de Alcala, beginning California active European settlement. However, Spanish mission efforts were focused on California's coastal regions. Spanish exploration of the San Joaquin Valley region begins in the 1770s. In 1772, Pedro Fages arrived in the San Joaquin Valley searching for army deserters. Father Francisco Garces, a Franciscan priest, soon visited the vicinity in 1776. The Spanish empire collapsed in 1820, all of Spain's former Central and South American colonies became independent nations. As a result, California became Mexican territory. California stayed in

Mexican hands until the Mexican-American War. Mexican California remained a coastal society with little interest in settling in California's hot, dry interior valleys.

Merced County derives its name from the Merced River, or *El Río de Nuestra Señora de la Merced* (River of Our Lady of Mercy). Gabriel Moraga, a Spanish explorer, whose expedition in 1806, encountered and named the river. American exploration of the San Joaquin Valley begins in the 1820s with Jedediah Smith, Kit Carson, and Joseph Walker looking for commercial opportunities. The United States government began exploring California in the 1830s. Soon, the Americans will be searching for intercontinental railroad routes to link the eastern and western halves of the continent.

The defeat of the Mexicans during the Mexican-American War and the subsequent discovery of gold will drastically alter the complicated political realities of the west. The Mexican-American War was ostensible fought to settle a boundary dispute with the Mexicans over the western boundary of the newly-annexed state of Texas, which had fought a successful rebellion against the Mexican Army in the mid 1830s. The Republic of Texas was an independent country for nine years until Texas was annexed by the United States in 1845. One major outcome of the Mexican-American War was that Mexico rescinded its claims to much of the American southwest. In 1848 these territories were folded into the United States, including California.

In January 1848, the discovery of gold in Coloma, California changed the settlement of California, forever. In the summer of 1848, when the gold strike was publicly announced, the overnight settlement of California began. The Mexican population of California was small and limited to the coasts and a few of southern California's interior valleys. A sizable native population settled the remainder of California; Tulare County was Yokuts territory. The Gold Rush tipped the balance of native communities throughout California, as many of California's natives were decimated.

In 1855, Merced County was created from the southern half of Mariposa County. The first county seat was at Snelling; however, Merced was established that same year, and later became the county seat. Merced City and County began to grow as the miners, who were attracted to the gold rush in the Sierra Nevada Mountains, returned to the San Joaquin valley and began farming.

While farmers were settling the San Joaquin valley, cattle ranchers, timber mill operators, and resort operators settled the heavily timbered highlands of the southern Sierra Mountains. Road builders, such as John Jordan, opened the mountains, following native (Yokuts) trails into the mountains. By 1865, timber mills were found in the general vicinity, and were responsible for opening areas for settlement and for providing lumber to fuel the local economy. Cattle ranchers and shepherds grazed their animals throughout the region until 1903, when the laws changed.

The San Francisco and San Joaquin Valley Railroad was a California rail line, built between 1895 and 1898 between Stockton and Bakersfield. Planada was originally named Whitton, probably for a railroad official in 1895. The impetus for building the rail line was the southern Pacific Railroad's monopolistic position; it was thought that a competitor would help lower the prices being charged to farmers to ship their crops to San Francisco. Claus Spreckels, a leading sugar manufacturer, pledged $500,000 for the building of the line in January 1895, if $3,000,000 more could be raised. The line was constructed between 1895 and 1898. The rail line was sold quickly to the Atchison, Topeka and Santa Fe railroad before the end of 1898. The area's first Anglo settlers were a group of Swiss dairy farmers, who renamed the settlement, Geneva. The Geneva post office opened in 1896, closed in 1897, then reopened in 1898.

Geneva remained a sleepy dairy community until 1911, when the entire community was purchased by a notorious southern California real estate developer named John Harvey McCarthy. McCarthy was born in San Diego, educated in San Francisco, and the son of Daniel O. McCarthy, another real estate developer and businessman. As a young man, J. Harvey McCarthy worked for his father until he and his parents moved to Los Angeles. In Los Angeles, father and son became involved in the Central Pacific Oil Company, a speculative oil concern that roped in gullible investors promising riches from oil fields in unspecified tracts. Within a few years, J. Harvey McCarthy was a charter member of the Pioneer Investment & Trust Company, active operators in financial and realty circles in Los Angeles. He was elected its President and General Manager. Pioneer Investment & Trust Company developed several valuable residence subdivisions in the path of Los Angeles' growth, among these developments were University Place, Windermere, and Cresta Del Arroyo, in Boyle Heights.

By 1911, McCarthy's legal and ethical issues led him to Geneva. McCarthy retained his seat on the directorate of the Pioneer Investment & Trust Company. Mr. McCarthy organized and became President and General Manager of the Planada Development Company. McCarthy bought Geneva (Planada), including several thousand acres in Merced County, which were located on the main line of the Atchison, Topeka and Santa Fe rail line, east of Merced. Development work commenced immediately. The building of a model city was started. Wilbur David Cook, a noted landscape architect, who developed the master plan for Beverly Hills and Exposition Park in Los Angeles prepared Planada's master plan. Within a year, Planada had a bank, a hotel, electric lights, water system, graded, curbed and palm-lined streets, schools, public parks and playgrounds, and scores of comfortable houses. However, the isolated city quickly failed, and by 1912, McCarthy was desperate to unload the property. When the Los Angeles Investment Company, which had already invested heavily in the project, refused to buy the rest of the bad asset, McCarthy allegedly set out on a deliberate campaign to ruin the company. At a stockholders meeting, investors were told of mysterious telephone calls; it was claimed that many of the residents of the town had gone bankrupt. J. Harvey

McCarthy eventually got out the Planada debacle, just like he always did, and today Planada is a small town with around 4,000 residents.

8.0 Field Procedures and Methods

Between May 2 and May 10, 2025, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian cultural resource survey of the entire proposed project area, the . Hudlow surveyed the entirety of the Water System Improvement Project in both east/west and north/south transects across the entire project area.

9.0 Report of Archaeological Findings

Four cultural resources were identified. The first cultural resource is the Planada/Le Grand Canal, P-24-001909. An extension of the Planada/Le Grand Canal intersects Plainsburg Road from the east and runs beneath the road through a culvert or a pipe. A series of pumps are located on the west side of Plainsburg Road. The primary canal is on the east side of Planada, travelling south from Bear Creek to the northeast (Figure 5).



Figure 5
Project Area, P-24-001909, Planada/Le Grand Canal extension, View to the East

The second cultural resource is the Atchison, Topeka, and Santa Fe rail line, P-24-001909, which was originally constructed as the San Francisco and San Joaquin Valley Railroad in 1895. The rail line slashed across Planada in a southeasterly direction; it crosses Plainsburg Road and East Childs Avenue (Figure 6).



Figure 6
Project Area, P-24-001881, AT&SF Rail line, View to the East

The third cultural resource, C&B-5, is the Plainsburg Road Bridge across Miles Creek, which dates to 1938. The two-lane bridge has a timber substructure and guard rail. It is covered with an asphalt deck. The bridge is not in good condition and the Miles Creek channel is choked with plants (Figure 7).



Figure 7
Project Area, Plainsburg Road, Miles Creek Bridge, C&B-5, View to the North

The last cultural resource, C&B-6, is a pair of mission-style concrete light standards that are located at the eastern end of Broadway. These unique light standards were electrified and have fluted posts and square bases (Figure 8).

10.0 Management Recommendations

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted for the Planada Community Service District Water System Improvement Project in Planada, Merced County, California in Merced County, California. The Phase I Cultural Resource Survey consisted of a cultural resource survey and a cultural resource record search.

Four cultural resources were identified. The first cultural resource is P-24-001909, the Le Grand/Planada Canal, which is a portion of the Merced Irrigation District. This canal extension runs perpendicular to Plainsburg Road, north of Route 140, extending underneath Plainsburg Road, where a proposed 8-inch water line is to be installed. Although, the Merced Irrigation District has been judged eligible for inclusion to the National Register of Historic Places as a historic district; the Le



Figure 8
Project Area, Broadway, Concrete mission-style light standards, C&B-6
View to the East

Grand/Planada Canal is not individually eligible for inclusion on the National Register of Historic Places or the California Register of Historic Resources.

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section lacks integrity, because the Planada railroad station has been demolished. The railroad station has been gone, since the mid-1980s. As such, the Planada section of the BNSF rail line, where a proposed 8-inch water line and a proposed 16-inch water line, will cross the existing right-of-way, is not individually eligible for nomination to either the National Register of Historic Places or the California Register of Historic Resources.

C&B-5 is the 1938 Miles Creek Bridge on Plainsburg Road. This timber framed bridge is in poor condition and the Miles Creek channel is choked with vegetation. Rather than being judged eligible for the California Register of Historic Resources, the people of Merced County, would be better served by replacing this aging rural two-lane bridge. The Miles Creek Bridge is a typical aging rural, timber-framed bridge. This bridge is not associated with any significant events at the local, state or regional levels; thus, the bridge is not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the bridge is not eligible for listing on the California Register under Criterion 2. The Miles Creek Bridge does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the bridge is not eligible for listing on the California Register under Criterion 3. Finally, the bridge does not retain research potential that can not be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

C&B-6 is a pair of concrete Mission-style light standards. These two light standards are is disrepair. Their age is tough to determine, due to a lack of comparable examples. These two light standards are located in the grass area between the sidewalk and the gutter along Broadway and should not be directly impacted by the proposed new six-inch water line to be placed within Broadway and the adjacent northbound alley. As such, C&B-6 is not associated with any significant events at the local, state or regional levels; thus, the light standards are not eligible for listing on the California Register under Criterion 1. Research failed to identify anyone at this location that has made a substantial contribution to local or national historical events; thus, the light standards not eligible for listing on the California Register under Criterion 2. C&B-6 does not retain the characteristics that reflect a type, period, or method of construction associated with a master craftsman; thus, the light standards are not eligible for listing on the California Register under Criterion 3. Finally, the light standards do not retain any research potential that can not be gleaned from archival research; thus, the property is not eligible for listing on the California Register under Criterion 4.

No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in

accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

11.0 References

Latta, Frank F.
1999 *Handbook of Yokuts Indians*. Coyote Press, Salinas, California.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, Orlando, Florida.

Nabokov, Peter and Robert Easton
1989 *Native American Architecture*. Oxford University Press, New York, New York.

Parr, Robert E. and Richard Osborne
1992 *Route Adoption Study for Highway 58, Kern County, California.* Report on file, Southern San Joaquin Information Center, California State University, Bakersfield, Bakersfield, California.

Wallace, William J.
1978 "Southern Valley Yokuts" in *Handbook of North American Indians*. Vol. 8, California, Robert F. Heizer, ed. Washington, D.C.: Smithsonian Institution, pp. 437-445.

Warren, Claude N. and M. B. McKusiak
1959 A Burial Complex from the southern San Joaquin Valley. Los Angeles: *University of California, Los Angeles, Archaeological Survey Annual Report, 1959*: 17-26.

Warren, Claude N.
1967 "The San Dieguito Complex: A Review and Hypothesis" *American Antiquity* 32(2): 168-185.

Appendix I

Scott M. Hudlow
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183

Education

The George Washington University
M.A. American Studies, 1993
Specialization in Historical Archaeology
and Architectural History

University of California, Berkeley
B.A. History, 1987
B.A. Anthropology, 1987
Specialization in Historical Archaeology
and Colonial History

Public Service

3/94-12/02 *Historic Preservation Commission*. City of Bakersfield, Bakersfield, California 93305.

7/97-12/01 *Newsletter Editor. California History Action,* newsletter for the California Council for the Promotion of History.

Relevant Work Experience

8/96- *Adjutant Faculty*. Bakersfield College, 1801 Panorama Drive, Bakersfield, California, 93305. Teach History 17A, Introduction to American History and Anthropology 5, Introduction to North American Indians.

Owner, Sole Proprietorship. Hudlow Cultural Resource Associates. 1405 Sutter Lane, Bakersfield California 93309. Operate small cultural resource management business. Manage contracts, respond to RFP's, bill clients, manage temporary employees. Conduct Phase I archaeological and architectural surveys for private and public clients; including the cultural resource survey, documentary photography, measured drawings, mapping of structures, filing of survey forms, historic research, assessing impact and writing reports. Evaluated archaeological and architectural sites and properties in lieu of their eligibility for the National Register of Historic Places in association with Section 106 and 110 requirements of the National Historic Preservation Act of 1966 and CEQA (California Environmental Quality Act).

Full resume is available upon request.

Appendix II

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, Mono, San Joaquin, Stanislaus & Tuolumne Counties

Date: 3/12.2025

Records Search File No.: 13266I
Project: Crawford and Bowen 24-13

Scott M. Hudlow
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, CA 93309
661-834-9183 shudlow@sbcglobal.net

The Central California Information Center received your record search request for the project area referenced above, located on the Planada 7.5' quadrangle in Merced County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☒ Custom GIS maps ☐ GIS Data/shape files

Summary Data:

Resources within the project area:	4: P-24-000609, 1879, 1881, 1909
Resources within the 1/4-mile radius:	1: P-24-000411
Reports within the project area:	20: ME-00692, 1776, 2000, 2087, 2089, 2390, 2930, 3628, 3995, 4681, 6704, 6955, 7045, 7704, 7994, 8017, 8682, 8885, 8988, 9258
Reports within the 1/4-mile radius:	2: ME-02083, 2775

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 Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD)
Dated 9/23/2022: NOTE: Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.
☐ enclosed ☒ not requested ☐ nothing listed

Archaeological Resource Directory (ARD excerpt): ☐ 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

See also: http://ngmdb.usgs.gov>topoview

Local Inventories: ☐ enclosed ☒ not requested ☐ nothing listed

GLO and/or Rancho Plat Maps: ☐ enclosed ☒ not requested ☐ nothing listed

See also: https://glorecords.blm.gov

Shipwreck Inventory: ☒ not available at CaCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: ☒ not available at CCaIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

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). **Note:** Billing will be transmitted separately via email by our Financial Services office* ($325.20), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial

Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
ME-00692	NADB-R - 1361492	1991	Syda, K.	Cultural Resources Investigation for the Proposed New Century Park and New Century Estates, Merced County, California	Par Environmental Services, Inc., for New Century Construction	
ME-01776	NADB-R - 1361399	1991	Dougherty, J. W. and R. H. Werner	An Archaeological Survey of the Proposed Sunrise Terrace #2 Subdivision Near Planada, Merced County, California	Archaeological Services Inc., for Self-Help Enterprises	
ME-02000	NADB-R - 1360601; Other - 90-174	1991	Peak & Associates, Inc.	Cultural Resource Assessment of the Planada Garden Apartments, Merced County, California (FmHA 901018A)	Peak & Associates, Inc., for CBM Capital Resources, Inc.	24-000411
ME-02083	NADB-R - 1360592	1993	Napton, L. K.	Cultural Resources Investigations of the Proposed Ranchito Planada Apartments Project (3 acres), Merced County, California	CSU Stanislaus, Institute for Archaeological Research; for PAM Development	
ME-02087	NADB-R - 1360610	1993	Peak & Associates, Inc.	Cultural Resource Assessment of the Planada Senior Apartment Complex, Planada, Merced County, California	Peak & Associates, Inc., for R & R Development Company	
ME-02089	NADB-R - 1360612	1993	Peak & Associates, Inc.	Cultural Resource Assessment of the Planada Multi-Family Apartment Complex, Planada, Merced County, California	Peak & Associates, Inc., for R & R Development Company	
ME-02390	NADB-R - 1361243	1994	Varner, D. M.	An Archaeological Study of Property for the Proposed Middle School Site, Planada School District, Merced County, California	Varner Associates, for Michael Paoli and Associates	
ME-02775	NADB-R - 1362418	1996	Varner, Dudley M.	An Archaeological Study of Property on Plainsburg Road, Near Planada, Merced County, California	Varner Associates for Self-Help Enterprises	
ME-02930	NADB-R - 1366248	1996	Jensen, Peter	Archaeological Inventory Survey; Tracy to Fresno Longhaul Fiberoptics Data Transmission Line, Portions of Fresno, Madera, Merced, Stanislaus, and San Joaquin Counties, California.	Jensen & Associates; for North State Resources, Inc.	39-000088, 39-000098, 39-000104
ME-03628	Caltrans - 06A0182, Task order 07; NADB-R - 1363588	1999	Pierce, W. N.	An Archaeological Survey Report for a Proposed Rehabilitation of State Route 140 Between Highway 99 and the Mariposa County Line, Merced County, California, 10-MER-140 (KP 57.6/80.9, [PM 35.8/50.3]), EA 10-1A460K, Contract No. 06A0182, Task Order 07	Archaeological Research Center, CSU Sacramento; for Caltrans District 10	24-000606, 24-000607, 24-000608, 24-000609, 24-000610

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
ME-03995	NADB-R - 1366234	2000	Nelson, W. J.	Cultural Resource Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield	Far Western Anthropological Research Group, Inc., for Parsons Brinckerhoff Network Services	39-000002, 39-000321, 39-000354, 50-000001, 50-000439
ME-04681	NADB-R - 1364597	2002	Varner, Dudley M.	A Cultural Resource Study of the Bear Creek Orchards Housing Project in Planada, Merced County, California.	Varner Associates for Self-Help Enterprises	
ME-06704	NADB-R - 1366944	2008	Losee, C.	Letter Report RE: Cultural Resources Investigation for AT&T Project CN2412-A "Glen Davis Ball Park", East Childs Ave., East of Fremont Street, Planada, Merced County, California 95365, EBI Project #61082047	Archaeological Resources Technology, for EBI Consulting, Inc.	
ME-06955	NADB-R - 1367262	2009	Tang, Bai "Tom"	Historic Property Survey Report, 10-Merced-BNSF RR, PM 1039.9 to 1056.4, Le Grand to Merced, CA Double Track Project. [includes HRER--Tang and Smallwood, 2009; and ASR--Hogan and Smallwood, 2009]	CRM TECH; for State of California Dept. of Transportation, Division of Rail	24-000648, 24-001877, 24-001878, 24-001879, 24-001880, 24-001881
ME-06955A		2009	Tang, Bai "Tom" and J. Smallwood	Attachment B: Historical Resources Evaluation Report, Le Grand to Merced, CA Double Track Project, BNSF Railway Company Mainline Track (MP 1039.9 to MP 1056.4), Merced County, California, Caltrans District 10	CRM Tech for Caltrans	
ME-06955B		2009	Hogan, Michael and J. Smallwood	Attachment C: Archaeological Survey Report, Le Grand to Merced, CA Double Track Project, BNSF Railway Company Mainline Track (MP 1039.9 to 1056.4), Merced County, California	CRM Tech for Caltrans	
ME-07045	NADB-R - 1367342	2009	Billat, S. and L. Billat	New Tower ("NT") Submission Packet, FCC Form 620, Project Name: Planada Elementary, Project Number: SAC-065D, 9525 E. Brodrick Avenue, Planada, Merced County, California	Earth Touch, Inc., for Metro PCS	
ME-07704	NADB-R - 1368076	2011	Michael Brandman Associates	Section 106 Cultural Resources Assessment for the Garibaldi Lateral and McCoy Lateral Project, Merced Irrigation District, County of Merced, California (Revised)	Michael Brandman Associates; for MID; Fremming, Parson, and Pecchenino Consulting Civil Engineers; BUR also in consultation?	24-001909, 24-001910, 24-001911

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
ME-07994		2014	Leuchtmann, Amy	FCC Wireless Telecommunications Bureau, New Tower ("NT") Submission Packet, FCC Form 620, Project Name: Planada Old East. Project Address: Broadway Ave. @ Santa Fe Ave., Merced County, CA 95365	HDR; prepared for BNSF Railway	
ME-07994A		2014	Justin, Michael	Phase I Background Investigation for the CP Planada Old East Planada Control Tower, Merced, California	HDR for BNSF Railway for FCC	
ME-08017		2014	Allan, J. M.	Letter Report RE: NAHC Consultation, Merced County Pedestrian Sidewalks Infill, Merced County, CA (City of Delhi, Dos Palos, Hilmar, Le Grand, Planada, and Winton)	William Self Associates; for GPA Consulting	
ME-08682	Other - Ensite #29148	2016	Etheridge, J., and A. Travers	Archaeological Survey Report, Planada/Ensite #29148, 9290 E. Central Yosemite Highway, Planada, Merced County, California 95365, EBI Project No. 6116003140	EBI Consulting for Verizon Wireless	
ME-08885		2016	Peak & Associates, Inc.	Cultural Resources Assessment for the Planada Self-Help Housing Project, Planada, Merced County, California	Peak & Associates, Inc., for Adrienne Graham, AICP, CEQA and NEPA Services	
ME-08885A		2018	Peak & Asspcoaites, Inc.	Determination of Eligibility and Effect for the Planada Self-Help Housing Project, Planada, Merced County, California	Peak & Associates, Inc. for Crawford and Bowen Planning, Inc.	
ME-08988		2019	Parker, A. and A. Whitaker	Archaeological Survey Report for Director's Orders Hazard Tree Removal in District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, CA	Far Western Anthropological Research Group, Inc. for Caltrans	24-000580, 24-000655, 24-001685, 24-001800, 24-001881, 24-002180, 24-002208
ME-09258		2019	Waechter, S. A.	Historic Property Survey Report for Director's Orders Hazard Tree Removal Project District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, California, State Routes 4, 5, 12, 26, 49, 88, 108, 120 and 140; E-FIS 10-1600-0133, EA 10-1F6403, Contract 06A2312, Task Order 11	Far Western Anthropological Group, Inc.	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-24-000411	CA-MER-000321H	Other - PA-90-145; Resource Name - PA-90-145	Site	Historic	AH02	1990 (MILLER, J., Peak & Associates, Inc.)	ME-02000
P-24-000609	CA-MER-000366H	Resource Name - Planada Canal	Structure	Historic	HP20	1999 (Wendy Pierce, R. Bethard, T. Overly, N. Stevens, Archaeological Resource Center)	ME-03628
P-24-001879		Resource Name - CRM TECH 2312-3H; Resource Name - Former site of Planada ATSF station	Site	Historic	AH03; AH16	2009 (Josh Smallwood, CRM TECH)	ME-06955
P-24-001881		Resource Name - Burlington Northern Santa Fe Railroad; Resource Name - Formerly - Atchison, Topeka & Santa Fe Railroad; OHP Property Number - 130531; OHP PRN - FHWA050324D	Structure	Historic	AH07	2002 (F. Lortie, Caltrans District 10); 2009 (J. Smallwood, CRM Tech); 2018 (Wisely, Far Western); 2021 (Zack Starke and Nick Lucatorto, Kleinfelder)	ME-06955, ME-07352, ME-08026, ME-08988, ME-09706
P-24-001909		Resource Name - Merced Irrigation District (proposed historic district)	District	Historic	HP11; HP20; HP21; HP22	2007 (M. Bunse, S. J. Melvin, JRP Historical Consulting); 2010 (Michael H. Dice, Michael Brandman Associates); 2010 (Michael H. Dice, Michael Brandman Associates); 2011 (Shannon L. Loftus, ACE Environmental); 2021 (Zack Starke, Nick Lucatorto, Kleinfelder)	ME-06468, ME-07488, ME-07704, ME-07959, ME-08192, ME-08444, ME-08548, ME-08598, ME-08624, ME-08678, ME-09003, ME-09006, ME-09007, ME-09008, ME-09257, ME-09280, ME-09706