



State Water Resources Control Board Division of
Drinking Water
**Meadowbrook 1MG Tank and Booster Station
Project, Merced, California**

May 2024

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State Water Resources Control Board Division of
Drinking Water
**Meadowbrook 1MG Tank and Booster Station
Project, Merced, California**
Draft Initial Study/Mitigated Negative Declaration

May 2024

Prepared for:

State Water Resources Control Board
Division of Drinking Water
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Acronyms and Abbreviations

2013 Update	<i>2013 Scoping Plan Update</i>
2018 RTP/SCS	<i>2018 Regional Transportation Plan/Sustainable Communities Strategy</i>
AB	Assembly Bill
Bargas	Bargas Environmental Consulting LLC
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal Am	California-American Water Company
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCIC	Central California Information Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH ₄	methane
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent
CRHR	California Register of Historical Resources
dB	decibel(s)
dBA	A-weighted decibel(s)
DDW	Division of Drinking Water
DOC	California Department of Conservation
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRP	fiberglass-reinforced plastic
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
hp	horsepower
HRA	health risk assessment

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IND	Industrial (land use designation)
in/sec	inches per second
iPAC	USFWS Information for Planning and Consultation
IS/MND	Initial Study/Mitigated Negative Declaration
kHz	kilohertz
kW	kilowatt(s)
kWh	kilowatt-hours
Ldn	day-night average sound level
Leq	equivalent sound level
Lmax	maximum sound level
LUST	leaking underground storage tank
M-1	Light Manufacturing (zoning designation)
MCAG	Merced County Association of Governments
MD	Medium Density Residential (land use designation)
MG	million gallon(s)
MIUGSA	Merced Irrigation-Urban Groundwater Sustainability Agency
MLD	most likely descendant
MM	Mitigation Measure
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOx	nitrogen oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OEHHA	California Office of Environmental Health Hazard Assessment
PCAPCD	Placer County Air Pollution Control District
PI	principal investigator
PM2.5	particulate matter less than 2.5 micrometers
PM10	particulate matter less than 10 micrometers
PPV	peak particle velocity
PRC	California Public Resources Code
project	Meadowbrook 1 Million Gallon (MG) Tank and Booster Station Project
PVC	polyvinyl chloride
R-1	Single Family Residential (zoning designation)
RACT	Reasonably Available Control Technology
ROG	reactive organic gas
SB	Senate Bill
SbA	San Joaquin loam
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
State Water Board	State Water Resources Control Board
UCMP	University of California Museum of Paleontology

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USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VdB	vibration decibel(s)
VFD	variable frequency drive
VOC	volatile organic compound

1 INTRODUCTION

1 Introduction

1.1 Purpose of the Mitigated Negative Declaration

California-American Water Company (Cal Am) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Meadowbrook 1 Million Gallon (MG) Tank and Booster Station Project (project) in Merced County, California. This document was prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended), in compliance with the CEQA Guidelines (14 California Code of Regulations [CCR] Sections 15000 et seq.).

The State Water Resources Control Board's (State Water Board) Division of Drinking Water (DDW) is the lead agency under CEQA and will consider the project's environmental impacts when determining whether to approve the project. This IS/MND is an informational document to be used in project planning and decision-making and does not recommend approval or denial of the project.

1.2 Public Review Process

Public disclosure and dialogue are priorities under CEQA. Sections 15073 and 15105(b) of the CEQA Guidelines require that the lead agency designate a period during the CEQA process when the public and other agencies can provide comments on potential project impacts. Accordingly, DDW is circulating this document for a 30-day public and agency review period.

The Draft IS/MND is available for review at the following locations:

- State Water Board, District 11, 265 West Bullard Ave., Ste. 101, Fresno, CA 93704 The Draft IS/MND will also be available for review on the State Water Board website:

[Lead Agency California Environmental Quality Act \(CEQA\) Documents | California State Water Resources Control Board](#)

All comments that are submitted in writing and/or by email should be received and postmarked before 5 p.m. on the date for closure of the public comment period, identified in the Notice of Intent.

1 INTRODUCTION

Comments on the Draft IS/MND should be submitted to the following contact:

Wendy Pierce
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100
Email: wendy.pierce@waterboards.ca.gov

1.3 Organization of this Document

This IS/MND contains the following components:

- Chapter 1, Introduction, gives a brief description of the intent and scope of the IS/MND, the public involvement process under CEQA, and the organization the IS/MND.
- Chapter 2, Project Description, describes the project, its location and site conditions, proposed facilities, project construction methods, operational requirements, and required permits and approvals.
- Chapter 3, Environmental Checklist, presents the checklist used to assess the project's potential environmental effects, consistent with Appendix G of the CEQA Guidelines. Chapter 3 also includes a brief description of the environmental setting for most resource topics and describes the project's anticipated environmental impacts as well as any mitigation measures that would be required to reduce significant impacts to a less-than-significant level.
- Chapter 4, Report Preparers, lists the individuals who were involved in preparing this IS/MND.
- Chapter 5, References, is a list of the printed references, websites, and personal communications cited in this IS/MND.

2 PROJECT DESCRIPTION

2 Project Description

2.1 Background

Cal Am is a privately owned public utility that serves approximately 675,000 customers throughout California. Cal Am is regulated by the California Public Utility Commission and is subject to environmental, health, safety, and water regulations set by federal, State, and local governments. The Cal Am Meadowbrook water system is served by groundwater wells in the unincorporated community of Franklin/Beachwood in Merced County (Cal Am, n.d.). The Meadowbrook system includes approximately 1,700 connections and serves approximately 5,700 people (State Water Board, n.d.-a).

The project would install a new 1-MG water storage tank and booster station in Merced County. The existing Cal Am Meadowbrook water system does not meet the current demands of projected peak hour demand or maximum fire flow requirements. Thus, the project is needed to meet Title 22 requirements and Cal Am's planning criteria for effective water storage volume and pumping capacity to sustain peak hour demands and fire flow standards. The project would be constructed on Cal Am's property, next to an existing Cal Am well.

The project would include installation and operation of the following:

- water storage tank
- booster station with shade structure
- electrical building
- chlorine building
- transformer
- backup generator
- on-site piping from the new water storage tank to existing water mains
- security fencing and lighting

Project implementation would require a Domestic Water Supply Permit Amendment from DDW, in compliance with Division 104, Part 12, Chapter 4 of the California Health and Safety Code, (California Safe Drinking Water Act).

2.2 Project Location and Site Description

The project is located in the unincorporated community of Franklin-Beachwood in Merced County, California (Figure 1). The 0.72-acre project site is on Assessor's Parcel Number 057-200-087 (Figure 2).

2 PROJECT DESCRIPTION

The project site has a land use designation of Industrial (IND) and a zoning designation of Light Manufacturing (M-1) (Merced County 2010a; 2010b). Regional access is provided to the project site via State Highway 59 and State Highway 99.

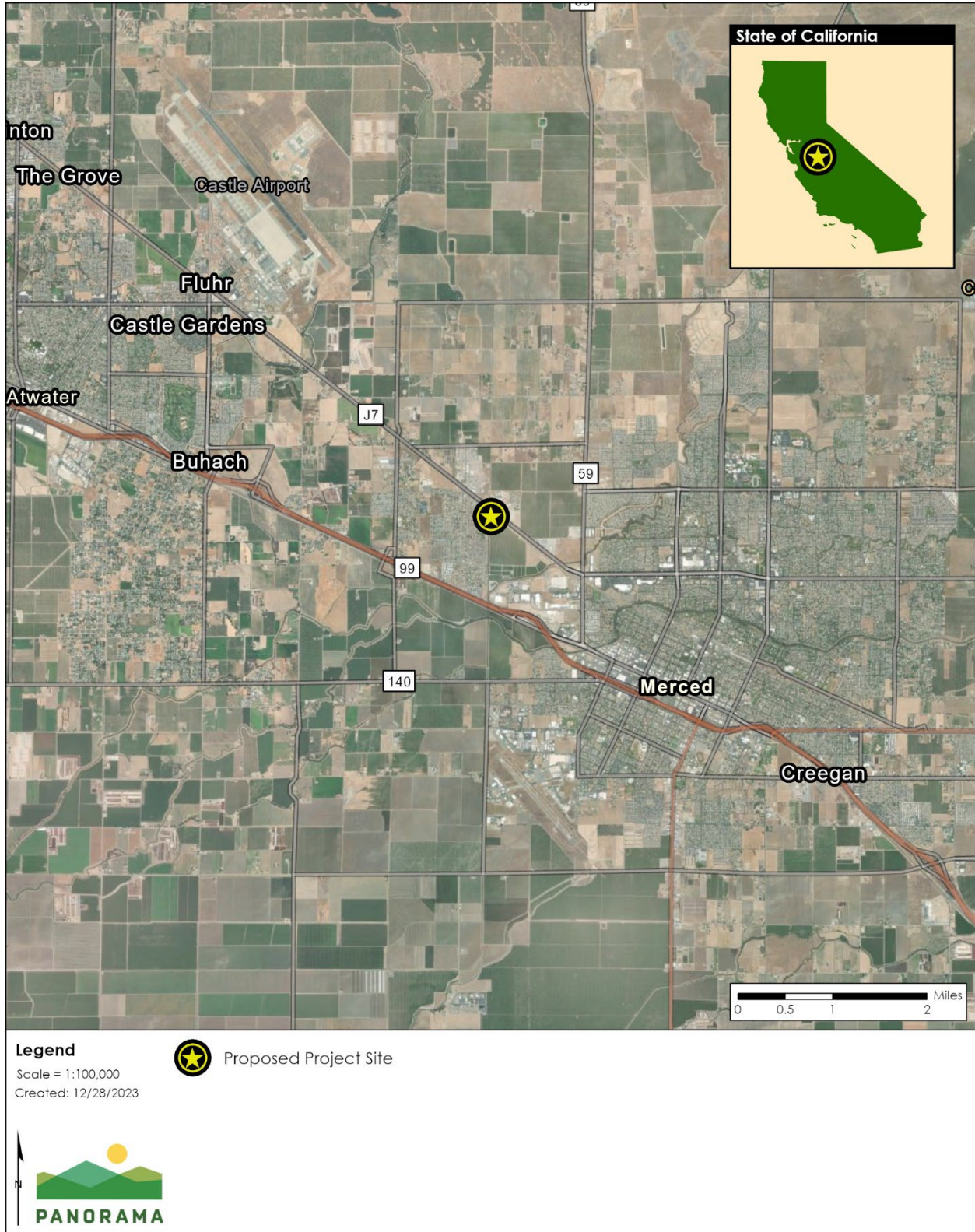
Existing structures on the project site include a hydropneumatic tank,¹ well, electrical building, electrical panel, backup generator, and security fence with gate access from Santa Fe Road. The project site is flat and disturbed, with a ground surface consisting of dirt and short grasses.

The project site has residential communities to the west, and industrial and commercial businesses to the north and east. The parcel south of the project site contains ruderal vegetation adjacent to the project site and agricultural orchards to the south, and has a land use designation of Industrial (IND) and a zoning designation of Light Manufacturing (M-1) (the same as the project site). A Merced Irrigation District canal (Black Rascal Canal) runs along the west side of the project site, and Bryant Road and single-family residences are located west of the canal. The single-family residences have a land use designation of Medium-Density Residential (MD) and zoning designation of Single-Family Residential (R-1) (Merced County 2010a; 2010b). Santa Fe Road runs along the northeast side of the parcel boundary. A railroad line runs parallel to Santa Fe Road, between Santa Fe Road and Santa Fe Drive.

¹ The hydropneumatic tank holds water and air under pressure to regulate system pressures.

2 PROJECT DESCRIPTION

Figure 1 Regional Location



2 PROJECT DESCRIPTION

Figure 2 Project Location



2 PROJECT DESCRIPTION

2.3 Project Facilities

The project would install a new 1 MG water storage tank and booster station with associated appurtenances, described further in the following subsections. The project site plan is shown in Figure 3.

2.3.1 New 1 MG Water Storage Tank

The new water storage tank would be a 1 MG welded steel storage tank with a bent plate/formed rafter-style roof. The finished tank would be 36 feet high and 82 feet in diameter. The vent at the top of the tank roof would be an additional 3 feet high, making the tank with the vent approximately 39 feet high. The tank would include a cathodic protection system, access ladder, mixing system, aboveground piping, and appurtenances. The tank would be painted light beige to blend with its surroundings.

2.3.2 Booster Pump Station

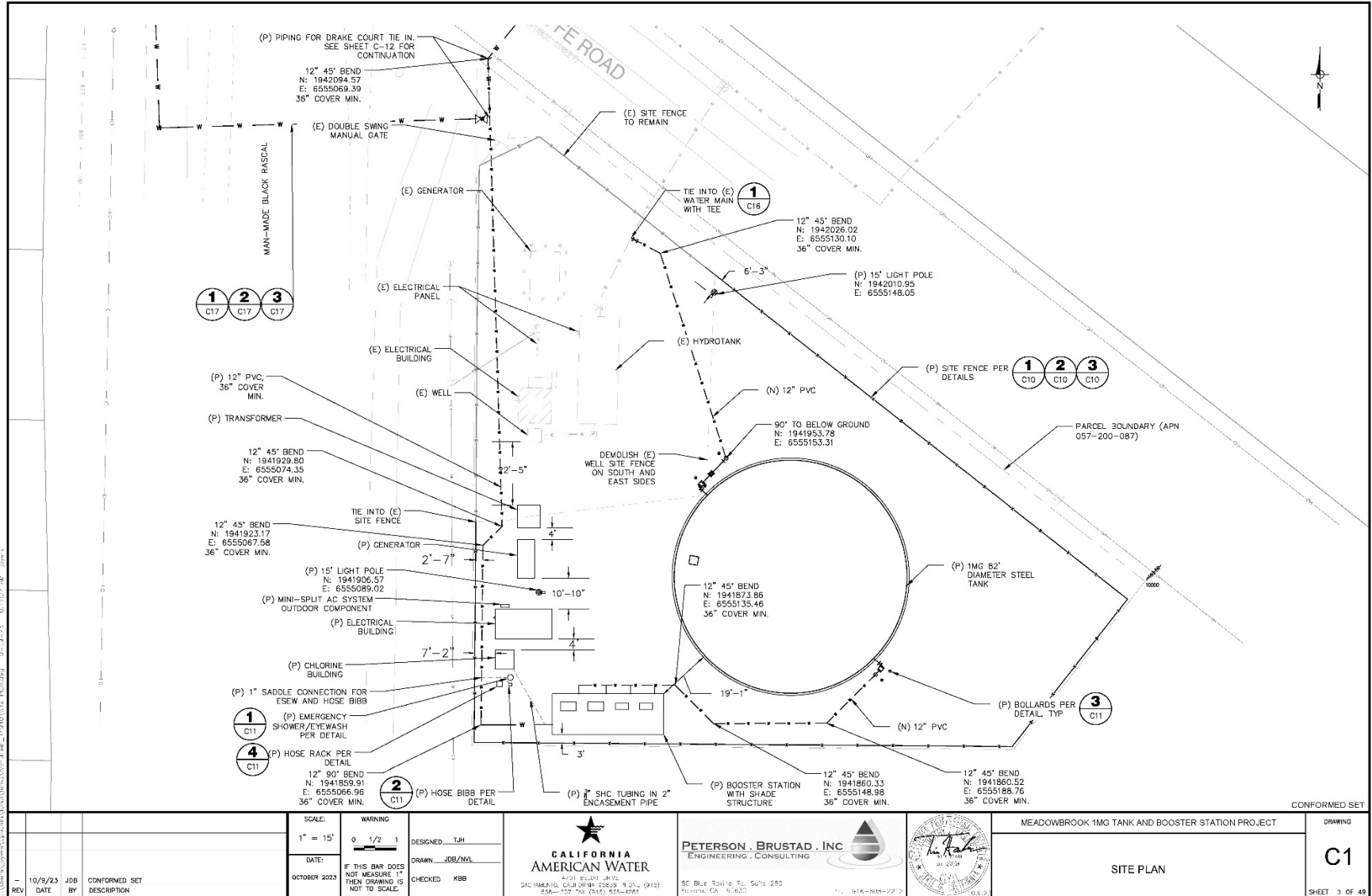
The new booster pump station would include four pumps with variable frequency drives (VFDs), welded steel piping, valves, appurtenances, and an approximately 11-foot-tall shade structure covering the booster station. The booster station would be electrically powered.

2.3.3 Electrical Building

The electrical controls building would be a precast concrete 20-foot by 10.5-foot building, approximately 10 feet high, which would house the electrical power and controls equipment panels, and other miscellaneous site electrical and instrumentation. The existing electrical service that serves the well is not sufficient to power both the existing well facility and the proposed booster station and other new facilities. Therefore, as part of the project, a new Merced Irrigation District electrical service and transformer would be installed on the site to provide power to the booster pump station and other new equipment.

2 PROJECT DESCRIPTION

Figure 3 Project Site Plan



2 PROJECT DESCRIPTION

2.3.4 Chemical Building

The proposed chemical facilities would be used to boost sodium hypochlorite levels as the booster station pumps water from the tank into the distribution system. The chemical building would be a prefabricated fiberglass-reinforced plastic (FRP) 6-foot by 6-foot building, approximately 8 feet high. The chemical building would include a feed system and analyzer.

Sodium hypochlorite, for chlorination, would be stored in a 120-gallon tank that would include secondary containment. The tank would be approximately 4 feet tall. The tank and building would be installed on a concrete pad, 4 inches above the future grade of the site. The sodium hypochlorite would be distributed to the booster pump station through an underground 3/8-inch polyethylene tubing within a 2-inch-diameter polyvinyl chloride (PVC) encasement pipe. An emergency shower/eyewash station would be installed adjacent to the chemical building.

The existing chemical storage and metering facilities that serve the existing well on site would not be modified.

2.3.5 Backup Generator

One 350-kilowatt (kW) diesel generator would be installed on site for emergency use only. The backup generator would be U.S. Environmental Protection Agency (EPA) certified Tier 4, would comply with San Joaquin Valley Air Pollution Control District's (SJVAPCD) emissions requirements, and would use the current best available control technology.

2.3.6 Water Mains and Connections

New on-site piping would be installed to provide connections between the tank, booster station, and existing water mains in Santa Fe Road. This on-site piping would consist of below-grade 12-inch-diameter PVC pipes with associated valves and appurtenances. A total of approximately 460 linear feet of on-site piping would be installed.

2.3.7 Security Fence

A portion of the existing chain-link security fencing would be demolished, and new security fencing would be installed around the perimeter of the proposed facilities. The new fence would be a 6 to 7-foot-high chain link fence with an additional 1 foot of barbed wire at the top, to match the existing site fence. Project site security would also include new badge readers, intrusion alarms (silent alarms through the Supervisory Control and Data Acquisition [SCADA] system), cameras, and lighting.

2.4 Project Construction

2.4.1 Construction Disturbance Area

Project construction would occur within Cal Am's existing property on Santa Fe Road. The area of disturbance would include the entire parcel area, encompassing 31,000 square feet (0.72 acre). Newly disturbed areas within the existing property would be required for grading and

2 PROJECT DESCRIPTION

placement of new aggregate base. The area of 8-inch aggregate base surfacing would be approximately 24,650 square feet (0.57 acre).

Construction staging of equipment and materials would occur within the boundaries of the project site. Larger equipment (e.g., water tank) would be assembled on site. Equipment refueling would occur on site in a containment area; an example containment area is shown in Figure 4.

Figure 4 Example Equipment Refueling Containment Area



2.4.2 Excavation

All underground 12-inch-diameter piping would require excavation to a depth of up to approximately 60 inches. The booster station, emergency generator, electrical building, and chemical building would require excavation to a depth of up to approximately 48 inches for engineered fill and concrete foundation slabs. The 1-MG tank would have a maximum excavation depth of up to approximately 60 inches.

2.4.3 Construction Equipment and Truck Trips

Approximately 500 cubic yards of soil would be exported from the site, from the proposed excavations, requiring approximately 30 to 50 truck trips in total. Approximately 26 truck trips would be required to transport imported construction materials and engineered fill to the site. The number of truck trips would vary by day, depending on the construction phase, but a maximum of approximately 10 truck trips would occur per day. Materials and equipment would be transported to the site via local roads including Santa Fe Road and Santa Fe Drive, with regional access provided by State Highway 59 and State Highway 99. The project would not involve transport of oversized loads on state highways that would require a California Department of Transportation (Caltrans) permit.

Construction equipment required for the project would include the following:

- concrete/industrial saws
- excavators
- mechanical mixers
- concrete trucks

2 PROJECT DESCRIPTION

- tractors/loaders/backhoes
- rollers/compactors
- rough terrain forklifts
- generator sets
- boom lift
- cranes
- pumps
- welders

2.4.4 Stormwater Management

Stormwater erosion and sediment control best management practices (BMPs) would be implemented during construction. The BMPs would include the use of silt fences and straw wattles. General site drainage would remain the same as the existing conditions, with stormwater draining away from the site in all directions. Water would be used for dust control during grading and other ground-disturbing activities. Approximately 40,000 gallons of water would be used during construction.

2.4.5 Construction Schedule and Workers

Construction activities would occur between 8 a.m. to 5 p.m., Monday through Friday. No noise-generating work would occur on Saturdays, Sundays, or federal holidays. Project construction is anticipated to begin in 2024 and would take approximately 12 months to complete.

An average of 5 to 10 construction workers would be on site daily during construction, with a maximum crew size of 10 workers on site at any one time.

2.5 Project Operation

Once construction of the proposed project is complete, project operation and maintenance activities would be conducted by Cal Am employees. Maintenance visits to check the facilities and chlorine residuals would be incorporated into existing daily visits to the site; there would be no net increase in operational worker vehicle trips associated with the project. Operational energy use for the proposed project facilities is estimated to be 500,000 kW annually. Refer to Section 3.2.6, Energy, for additional detail on project energy use. Daily operational water use would not change from the existing conditions; water use would remain approximately 5 gallons per day.

2.6 Required Permits and Approvals

Required permits and approvals are anticipated to consist of the following:

- Domestic Water Supply Permit Amendment from State Water Board DDW
- County of Merced Department of Environmental Health permit amendments for proposed backup generator fuel tank and sodium hypochlorite storage tank

2 PROJECT DESCRIPTION

- San Joaquin Valley Air Pollution Control District (SJVAPCD) permit amendment for an additional backup generator

3 ENVIRONMENTAL EVALUATION

3 Environmental Evaluation

3.1 Project Summary

1. Project Title Meadowbrook 1-Million Gallon Tank and Booster Station Project
2. Lead Agency Name and Address State Water Resources Control Board
Division of Drinking Water
265 West Bullard Ave., STE 101, Fresno, CA 93704
3. Contact Person and Phone Number Wendy Pierce
(916) 449-5178
4. Project Location Merced County, CA
5. Project Sponsor's Name and Address California-American Water Company (Cal Am)
Steve Dutch
4701 Beloit Drive
Sacramento, CA 95838
6. General Plan Designation Industrial (IND)
7. Zoning Light Manufacturing (M-1)
8. Description of the Project The project would include installation of a new 1 MG water storage tank and booster station with associated appurtenances on an existing Cal Am property.
9. Surrounding Land Uses Residential, roadway, canal, and railroad
10. Other public agencies whose approval is required Merced County Division of Environmental Health
San Joaquin Valley Air Pollution Control District

3 ENVIRONMENTAL EVALUATION

3.1.1 Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project, involving at least one impact that would be less than significant with mitigation, as indicated on the checklists on the following pages.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy Use |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Tribal Cultural Resources | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Table 1 summarizes the mitigation measures identified for the project, as indicated on the checklists on the following pages.

Table 1 Summary of Mitigation Measures

Resource Category	Impact Statement	Mitigation Measure
Biological Resources	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	BIO-1: Erosion and Sedimentation Best Management Practices BIO-2: Burrowing Owl BIO-3: Worker Environmental Awareness Training BIO-4: Nesting Birds
Biological Resources	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	BIO-1: Erosion and Sedimentation Best Management Practices

3 ENVIRONMENTAL EVALUATION

Resource Category	Impact Statement	Mitigation Measure
Biological Resources	Would the project 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?	BIO-1: Erosion and Sedimentation Best Management Practices BIO-2: Burrowing Owl BIO-3: Worker Environmental Awareness Training
Cultural Resources	Would the project cause a substantial adverse change in the significance of a historical resource or archaeological resource pursuant to § 15064.5?	CUL-1: Discovery Protocol BIO-3: Worker Environmental Awareness Training
Geology and Soils	Would the project result in substantial soil erosion or the loss of topsoil?	BIO-1: Erosion and Sedimentation Best Management Practices
Geology and Soils	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	BIO-3: Worker Environmental Awareness Training GEO-1: Unanticipated Discovery of Paleontological Resources
Hydrology and Water Quality	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	BIO-1: Erosion and Sedimentation Best Management Practices
Hydrology and Water Quality	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?	BIO-1: Erosion and Sedimentation Best Management Practices

3 ENVIRONMENTAL EVALUATION

Resource Category	Impact Statement	Mitigation Measure
Tribal Cultural Resources	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?	CUL-1: Discovery Protocol BIO-3: Worker Environmental Awareness Training
Mandatory Findings of Significance	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?	BIO-1: Erosion and Sedimentation Best Management Practices BIO-2: Burrowing Owl BIO-3: Worker Environmental Awareness Training BIO-4: Nesting Birds CUL-1: Discovery Protocol
Mandatory Findings of Significance	Does the project have impacts that are individually limited, but cumulatively considerable?	BIO-1: Erosion and Sedimentation Best Management Practices BIO-2: Burrowing Owl BIO-3: Worker Environmental Awareness Training BIO-4: Nesting Birds CUL-1: Discovery Protocol GEO-1: Unanticipated Discovery of Paleontological Resources
Mandatory Findings of Significance	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	BIO-1: Erosion and Sedimentation Best Management Practices

3.1.2 Environmental Determination

On the basis of this initial evaluation the State Water Board finds that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

3 ENVIRONMENTAL EVALUATION

Pursuant to Section 21082.1 of the California Environmental Quality Act, the State Water has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration for the proposed project and finds that the Initial Study and Mitigated Negative Declaration reflect the independent judgement of State Water Board. The State Water Board further finds that the project mitigation measures shall be implemented as stated in this Mitigated Negative Declaration.

3.1.3 Approach to Environmental Analysis

This IS checklist evaluates the potential environmental impacts of the project. The level of significance for each resource topic is determined by considering the predicted magnitude of the impact. Four levels of impact significance are evaluated in this IS checklist:

No Impact. The project would not have the impact described. The project may have a beneficial effect, but there is no potential for the project to create or compound the impact described.

Less than Significant Impact. The project would have the impact described, but the impact would not be significant. Mitigation is not required; however, the project applicant may choose to modify the project to avoid the impact.

Less than Significant with Mitigation. The project would have the impact described, and the impact could be significant. One or more mitigation measures have been identified that will reduce the impact to a less-than-significant level.

Potentially Significant Impact. The project would have the impact described, and the impact could be significant. The impact cannot be reduced to a less-than-significant level by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Resource topics that would have no impact as a result of the project are not discussed beyond the resource checklist.

3.2 Environmental Checklist

3.2.1 Aesthetics

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3 ENVIRONMENTAL EVALUATION

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 points).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The project is located in Merced County, surrounded by residential, industrial, and agricultural land use. The topography of the project site and the surrounding vicinity is relatively flat.

The Merced County General Plan identifies rural and agricultural landscapes as primary scenic resources in Merced County. The scenic vistas in Merced County include the Coast Range Mountains and the Sierra Nevada ranges, and the Los Banos Creek, Merced, San Joaquin, and Bear Creek river corridors. State Route 152 and Interstate 5 are also designated as scenic routes in parts of the county in the *Merced County General Plan* (Merced County 2013). There are no designated state scenic highways within the project area (Caltrans 2019).

Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

The project site is not located within or near a scenic vista. The project site is surrounded by residential, industrial, and agricultural land uses. Project facilities are visible from the nearby roads, railway, and adjacent commercial businesses and residents. Scenic viewpoints in the region are generally in the mountainous areas in the eastern and western parts of the county. The project site is not visible from scenic viewpoints in the region. Therefore, the project would not adversely affect a scenic vista. No impact would occur.

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

There are no state scenic highways or county-designated scenic routes near the project site (Merced County 2013; Caltrans 2019). The closest state scenic highway, State Route 5, is approximately 30 miles west of the project site. Therefore, the project would not be visible from a state or county-designated scenic highway, and therefore would not substantially damage any scenic resources. No impact would occur.

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- c) Would the project 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 points).**

The project site is a developed Cal Am well site in unincorporated Merced County, surrounded by residential, industrial, and agricultural land uses. The visual character of the project site is characterized by flat terrain with single-family homes, Black Rascal Canal, railroad tracks, industrial buildings, and agricultural orchards. The existing site includes a chain-link security fence surrounding a well, with associated appurtenances such as a hydro tank, electrical building, and electrical panel.

Project development would include temporary construction activities that would last for approximately 12 months, which would not substantially degrade the existing visual character. The permanent improvements would include installation of a 1-MG water tank and booster station. The tank would be 36 feet high and 82 feet in diameter and would be painted a light beige to be similar in appearance and color to the surrounding area. Other agricultural and industrial facilities are visible in the area that would be visible from public roads, including a multi-story facility near the intersection of Santa Fe Drive and Beachwood Drive. The project facilities would be consistent with the existing visual character of the site and its surroundings, and would not substantially degrade existing visual character or quality. The impact would be less than significant.

- d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Project construction would occur during daytime hours, and therefore temporary lighting equipment is not anticipated to be required. Permanent project features would include two 15-foot-tall light poles, one along the northern side of the project site adjacent to Santa Fe Road, and the other one on the western edge of the project site adjacent to Black Rascal Canal. The light would be shielded and directed downward, to avoid light spillage or glare onto neighboring properties. Proposed lighting would have a color temperature of 4,000 Kelvins, consistent with Cal Am operations and maintenance safety standards. The proposed light poles would be similar to the existing street light poles on Santa Fe Road and Bryant Road.

The proposed 1-MG water tank would be painted a neutral matte beige and would not create glare. The other proposed facilities, including the booster station, electrical building, and chemical building, would also not produce any glare as they would be a similar color and texture as the proposed water tank. The project would not create any new source of substantial light or glare during construction or operation that would adversely affect day or nighttime views. The impact would be less than significant.

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3.2.2 Agricultural and Forestry Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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])?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

According to the California Department of Conservation (DOC) Important Farmland Finder, the project site is classified as Urban and Built-Up Land (California Department of Conservation 2022). The site is not on or near Prime Farmland, nor is it under a Williamson Act Contract (Merced County 2022). The surrounding properties are also classified as Urban and Built-Up Land, except for the property directly south of the project site, which is currently used for agriculture, and is classified as Unique Farmland. The project site is zoned Light Manufacturing (M-1) and is not zoned as forest land or agriculture (Merced County 2010a; 2010b).

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Discussion

- a) **Would the project 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?**

The project site is currently developed as a well site within a developed, urbanized area. The DOC Important Farmland Finder classifies the project site as Urban and Built-Up Land. Therefore, the project would not convert Farmland, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. No impact would occur.

- b) **Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

The project site is not on land zoned for agricultural use. The project site is classified as Urban and Built-Up Land and is not an agricultural preserve subject to a Williamson Act contract (Merced County 2022; California Department of Conservation 2022). The project would not conflict with zoning for agricultural use or a Williamson Act contract. No impact would occur.

- c) **Would the project 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))?**

The project site is on an existing Cal Am well site and is surrounded by residential communities to the west, industrial and commercial businesses to the north and east, and agricultural orchards to the south. The project site is not on land designated as forest land, timberland, or timberland zoned for timberland production. No impact would occur.

- d) **Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

The project site is not zoned for forest land, timberland, or Timberland Production. Therefore, the project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

- e) **Would the project 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?**

The project site is not designated for agricultural use. Areas to the north, east, and west of the project site are on land designated as Urban and Built-Up Land. The area directly south of the project is currently used for agricultural purposes and is classified as Unique Farmland. The

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project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

3.2.3 Air Quality

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

This section describes construction and operational air quality impacts associated with the project. SJVAPCD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a).

The air quality analysis included a review of criteria pollutant emissions, such as carbon monoxide (CO), nitrogen oxide (NO_x), sulfur oxide (SO_x), volatile organic compounds (VOCs) as reactive organic gases (ROGs), particulate matter less than 10 micrometers (coarse particulates or PM₁₀), and particulate matter less than 2.5 micrometers (fine particulates or PM_{2.5}). Diesel particulate matter (DPM) was included in health risk assessment (HRA). Potential odor impacts were also evaluated.

Air Quality Standards

EPA has established National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for criteria pollutants, and the California Air Resources Board (CARB) has established California Ambient Air Quality Standards (CAAQS). Air basins where NAAQS and/or CAAQS are exceeded are designated as a “nonattainment” area. If standards are met, the area is designated as an “attainment” area.

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Air Quality Plans

The project site is in the San Joaquin Valley Air Basin (SJVAB). The SJVAB is currently designated nonattainment for the ozone and PM_{2.5} NAAQS, and for ozone, PM_{2.5}, and PM₁₀ CAAQS. The SJVAPCD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS and CAAQS. The SJVAPCD air quality plans include emissions inventories to measure the sources of air pollutants, evaluate how well different control methods have worked, and show how air pollution will be reduced. The following attainment plans apply to SJVAB for criteria pollutants that are in nonattainment status.

Ozone

The SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard* in December 2022 (SJVAPCD 2022). This plan satisfies CAA requirements and ensures expeditious attainment of the 70 parts per billion 8-hour ozone standards. The plan satisfies applicable CAA requirements, including reasonable further progress and reasonably available control measures, among other requirements. Furthermore, the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* was adopted on June 18, 2020 (SJVAPCD 2020).

PM_{2.5}

SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* on November 15, 2018 (SJVAPCD 2018). This plan addresses the EPA federal 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³; the 2006 24-hour PM_{2.5} standard of 35 µg/m³; and the 2012 annual PM_{2.5} standard of 12 µg/m³. This plan demonstrates attainment of the federal PM_{2.5} standards as expeditiously as practicable. In addition to mobile source measures, this plan includes a comprehensive suite of fiscally responsible local measures for stationary and area sources, including measures to further reduce emissions from industrial sources, residential wood burning and commercial charbroiling.

PM₁₀

SJVAPCD adopted the *2007 PM₁₀ Maintenance Plan* in September 2007, to assure the San Joaquin Valley's continued attainment of EPA's PM₁₀ standard. EPA designated the Valley as an attainment/maintenance area for PM₁₀ (SJVAPCD 2007). Even though EPA revoked the annual PM₁₀ standard on December 18, 2006 (71 Federal Register 61144), the *2007 Maintenance Plan and Request for Redesignation* addresses the annual and 24-hour PM₁₀ standards, because both standards were included in the *Amended 2003 PM₁₀ Plan* that EPA approved into the State Implementation Plan.

Air Quality Emissions Thresholds

The SJVAPCD recommends the use of quantitative thresholds to determine the significance of annual construction and operation-related criteria air pollutant emissions. SJVAPCD has two sets of significance thresholds for operational emissions, depending on whether the activities are for permitted equipment or non-permitted equipment (although the adopted numerical thresholds are the same for both categories). Project operation includes permitted equipment, such as the use of an emergency generator. Therefore, the operational thresholds for permitted

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equipment are appropriate for evaluating project impacts. The annual emission thresholds for construction and operation are shown in Table 1.

Table 2 Air Quality Thresholds of Significance

Pollutant	Construction (tons/year)	Operation (tons/year)
Carbon Monoxide (CO)	100	100
Nitrogen Oxides (NOx)	10	10
Reactive Organic Gases (ROG)	10	10
Coarse Particulate Matter (PM10)	15	15
Fine Particulate Matter (PM2.5)	15	15
Sulfur Oxide (SOx)	27	27

Source: SJVAPCD 2015b

In addition to the annual significance thresholds, SJVAPCD has published the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance (SJVAPCD 2013). This guidance provides a screening threshold of 100 pounds per day of CO, NOx, ROG, PM10, PM2.5, and SOx to evaluate construction and operation activities. An ambient air quality assessment, which includes refined dispersion modeling, would be necessary if an exceedance occurs.

The SJVAPCD also maintains thresholds of significance for toxic air contaminants, as shown in Table 2 (SJVAPCD 2015c). These thresholds apply to both permitted and non-permitted sources. Carcinogenic (cancer) risk is expressed as cancer cases per one million. Noncarcinogenic (acute or chronic) hazard indices are expressed as a ratio of expected exposure levels to acceptable exposure levels. DPM has a cancer potency factor and a chronic hazard index, but no acute hazard index (OEHHA, n.d.). The significance of the impacts of toxic air contaminant emissions from both permitted and non-permitted equipment and activities is evaluated under a single threshold.

Table 3 Toxic Air Contaminants Thresholds of Significance

Pollutant	Threshold
Carcinogens	Maximally exposed individual risk equals or exceeds 20 in one million.
Non-Carcinogens	Chronic: Hazard index equals or exceeds 1 for the maximally exposed individual.

Source: SJVAPCD 2015

Methodology

Air Quality Emissions Modeling

Short-term construction emissions associated with the project were calculated using the California Emissions Estimator Model (CalEEMod, version 2022.1.1.22). California Air Pollution Control Officers Association (CAPCOA) CalEEMod land use emissions model estimates emissions due to demolition and construction activities and operations for land use

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development (CAPCOA 2022). Emissions were quantified for site preparation, grading, tank construction, and architectural coating. Air quality analysis assumptions and output files for construction activities are provided in Appendix A.

Long-term operational emissions associated with the project were calculated using the CalEEMod. Emissions were quantified for area sources, energy use, water use, waste generation, and emergency generator use. Air quality analysis assumptions and output files for operational activities are provided in Appendix A.

Health Risk Assessment

An HRA was prepared in accordance with the California Office of Environmental Health Hazard Assessment's (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). The HRA was conducted to determine the health impacts, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified by the SJVAPCD (refer to Appendix A for the detailed HRA results).

Discussion

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

The *2022 Plan for the 2015 8-Hour Ozone Standard* (SJVAPCD 2022), *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* (SJVAPCD 2020), *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* (SJVAPCD 2018), and the *2007 PM₁₀ Maintenance Plan* (SJVAPCD 2007) are the air quality plans applicable to the SJVAB.

The *2022 Plan for the 2015 8-Hour Ozone Standard* includes compliance with CARB off-road vehicle standards as well as District Rule 9510 for Indirect Source Review for mobile source control. District Rule 9510 requires emission reductions from construction of development projects but does not apply to utility projects. The project would comply with CARB off-road vehicle standards and, as a utility project, would not be subject to District Rule 9510. Therefore, the project would not conflict with the *2022 Plan for the 2015 8-Hour Ozone Standard*. The impact would be less than significant.

The *2020 RACT Demonstration for the 2015 8-Hour Ozone Standard* requires the adoption of RACT level requirements for major stationary sources of VOC and NO_x, as defined by EPA. The plan includes SJVAPCD Rule 4702, which limits internal combustion engines, such as backup generators, to 100 hours of operation per year for maintenance and testing. The project's emergency generator use would comply with Rule 4702; therefore, the project would not conflict with the *2020 RACT Demonstration for the 2015 8-Hour Ozone Standard*. The impact would be less than significant.

The *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* requires implementation of State mobile source reduction measures. The project would comply with all the applicable State mobile source reduction control measures, and therefore would not conflict with or obstruct the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards*. The impact would be less than significant.

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The *2007 PM10 Maintenance Plan* is a plan to assure the San Joaquin Valley's continued attainment of the EPA PM10 standard because EPA designated the SJVAB as an attainment/maintenance area for PM10. Applicable measures from the *2007 PM10 Maintenance Plan* consist of Regulation VIII Rules 8011, 8021, 8031, 8041, 8051, 8061, and 8071. These rules require practices to control fugitive PM10 emissions, such as watering unpaved surfaces, limiting vehicle speeds on unpaved roads, watering or covering stockpiles, and controlling and cleaning up soils tracked out of the construction site. Because of the small size of the project (less than 1 acre), an SJVAPCD-approved Dust Control Plan would not be required. Regulation VIII and its associated rules have been adopted by SJVAPCD and are regulatory requirements; the project would be required to comply with Regulation VIII. Therefore, the project would be consistent with the applicable control measures in the *2007 PM10 Maintenance Plan*. The impact would be less than significant.

Project implementation would not conflict with or obstruct implementation of the applicable air quality plans. The impact would be less than significant.

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

Construction

Project construction would generate emissions of air pollutants, including fugitive dust and combustion exhaust emissions. No buildings would be demolished. The area of disturbance would include the entire parcel, 31,000 square feet (0.72 acre). Approximately 500 cubic yards of soil would be exported from the site, requiring a total of approximately 30 to 50 truck trips. Approximately 26 truck trips would be required to import construction materials and engineered fill to the site. Various construction equipment would be required for the project, including excavators, tractors/loaders/backhoes, concrete trucks, and welders. Based on the CalEEMod results and standard fuel conversion factors, project construction activities would require approximately 19,500 gallons of diesel fuel.²

Table 3 shows the estimated annual construction emissions for the project. Table 4 shows the estimated maximum daily construction emissions for the project. Construction-related emissions would be below the significance threshold.

² Fuel use was estimated using the CalEEMod output for CO₂, and a 10.15 kg of CO₂ per gallon conversion factor for diesel fuel (EPA 2018).

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Table 4 Estimated Annual Construction Emissions (tons)

Condition	CO	ROG	NO _x	PM10	PM2.5	SO _x
Construction	0.61	0.07	0.57	0.05	0.03	<0.01
Significance Threshold	100	10	10	15	15	27
Significant (Yes or No)?	No	No	No	No	No	No

Table 5 Estimated Daily Construction Emissions (pounds)

Condition	CO	ROG	NO _x	PM10	PM2.5	SO _x
Construction	21.4	2.26	26.9	6.22	2.13	0.15
Significance Threshold	100	100	100	100	100	100
Significant (Yes or No)?	No	No	No	No	No	No

Project construction emissions would not exceed any criteria pollutant threshold, and thus would not result in a significant impact on regional or local air quality conditions. Furthermore, project construction, including grading activities, would be required to comply with SJVPACD Regulation VIII (Fugitive PM10 Prohibitions) (SJVPACD 2004). Mandatory compliance with SJVPACD Regulation VIII would further reduce emissions of fugitive dust from the project site and minimize the project’s potential to adversely affect nearby sensitive receptors. By compliance with SJVPACD Regulation VIII, emissions of PM10 and PM2.5 would be further reduced. For these reasons, construction-generated emissions would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. The impact would be less than significant.

Operation

Project operations would generate combustion emissions of air pollutants (ROG, NO_x, CO, sulfur dioxide, PM10, and PM2.5), primarily from emergency generator use and electrical use, as well as from minor emissions sources, such as the re-application of coatings.

One standby 350-kW (470 horsepower) diesel generator would operate at the project site. The generator would be used for emergency use only, with an allotted maintenance use of 24 hours per year (or 2 hours per month). SJVPACD defines a standby generator for non-utility power generation as one that is operated only in the event of an emergency power failure or for routine testing and maintenance, with maintenance and testing use limited to 100 hours per year (SJVPACD 2021). The emergency generator would be EPA-certified Tier 4 Final factory-installed emissions equipment. The generator would comply with local air quality management district emissions requirements and use SJVPACD’s current Best Available Control Technology at the time of application. Based on the CalEEMod results and standard

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fuel conversion factors, project operations associated with the generator would require approximately 425 gallons of diesel fuel annually.³

CalEEMod was used to model the project’s operation-related emissions. Table 5 and Table 6 show the estimated daily and annual emissions from project operations compared to thresholds of significance.

Table 6 Estimated Annual Operational Emissions (tons)

Condition	CO	ROG	NOx	PM10	PM2.5	SOx
Operation	0.07	0.03	0.01	<0.01	<0.01	<0.01
Significance Threshold	100	10	10	15	15	27
Significant (Yes or No)?	No	No	No	No	No	No

Table 7 Estimated Daily Operational Emissions (pounds)

Condition	CO	ROG	NOx	PM10	PM2.5	SOx
Operation	4.30	0.40	0.48	0.14	0.13	0.01
Significance Threshold	100	100	100	100	100	100
Significant (Yes or No)?	No	No	No	No	No	No

Based on the air emissions analysis conducted, long-term operation of the project would not exceed applicable significance thresholds intended to protect regional and local air quality conditions and public health. Project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. The impact would be less than significant.

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

The project site has residential communities to the west, industrial and commercial businesses to the north and east, and agricultural orchards to the south. The nearest sensitive receptors are residences within 100 meters west of the project site. In accordance with State guidance (OEHHA 2015), because project construction would last more than 2 months and would be in proximity to sensitive receptors, health impacts on existing residences from diesel offroad equipment and haul truck emissions associated with project construction activities as well as the diesel emergency generator use during project operations were analyzed.

³ Fuel use was estimated using the CalEEMod output for CO₂, and a 10.15 kg of CO₂ per gallon conversion factor for diesel fuel (EPA 2018).

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Project DPM emissions were used to calculate a screening level score for two types of health risks: cancer risk and non-cancer chronic health impacts. The term “screening level” refers to a rough estimate of potential risk based on conservative assumptions, such as worst-case exposure parameters. Unlike a refined HRA that provides a numerical probability of cancer risk, a screening level risk analysis yields a “risk score.” The objective in preparing a screening level risk analysis is to avoid preparing a detailed HRA if the screening level risk scores are below the thresholds of significance. The screening level risk calculations that were completed for this project were based on the Air Toxics “Hot-Spots” Emissions Potency Method under California’s AB-2588 regulation.

According to the California Environmental Protection Agency (CalEPA), an HRA should not be interpreted as the expected rates of cancer or other potential human health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available.

The maximum cancer risk and chronic hazard impacts from project construction and operation emissions are shown in Table 7. The values provided are for a residential receptor. The cancer risk from project activities would be below the SJVAPCD threshold for a residential receptor. The chronic hazard impacts would also be below the SJVAPCD threshold. The impact would be less than significant.

Table 8 Toxic Air Contaminants Risk from Project Construction

Pollutant	Significance Threshold	Project Construction	Project Operation	Project Construction Plus Operation	Significant (Yes or No)?
Carcinogens	Maximally exposed individual risk equals or exceeds 20 in one million	3.1 per one million	3.4 per one million	6.5 per one million	No
Non-Carcinogens	Chronic: Hazard index equals or exceeds 1 for the maximally exposed individual	0.56	<0.01	0.56	No

Note:

The screening level risk analysis did not account for actual meteorological conditions, and the predominant wind direction is from the northwest, which is from the direction of the nearest residential receptor toward the project site (i.e., upwind instead of downwind) and would tend to result in lower health impacts.

Source: SJVAPCD 2015c

The project would not exceed SJVAPCD thresholds that have been set to protect the health of sensitive receptors. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations. The impact would be less than significant.

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

Other emissions potentially associated with the project would be predominantly associated with the generation of odors during project construction. The occurrence and severity of odor impacts would depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. Project construction would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes, while project operations would involve the use of a diesel emergency generator.

Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition, architectural coatings would also emit temporary odors. However, these emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. Therefore, these activities would not be likely to expose a substantial number of people to frequent odorous emissions. The impact would be less than significant.

3.2.4 Biological Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Regional Setting

The project site is in the San Joaquin Valley in Merced County. The county is primarily an agricultural region, with scattered remnant vernal pool grasslands, shrubland, and freshwater marsh natural habitats. The semi-arid environment supports hot, dry summers and mild, wet winters.

Project Setting

The project site encompasses approximately 0.72 acres. An active orchard is to the south, and industrial development is along the north and east sides of the project site. An irrigation canal is approximately 40 feet west of the project site, with residential housing beyond. An existing Cal Am well facility is in the northern portion of the project site.

Methodology

Literature Review

A desktop review of biological resources in the project area was completed before the field survey by conducting searches of the following databases with a 2-mile search radius around the project site:

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2024b)
- USFWS Critical Habitat maps (USFWS 2024c)
- USFWS Information for Planning and Consultation (iPAC) (USFWS 2024a)
- California Department of Fish and Wildlife’s (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2024).

Field Survey

Senior Biologist Dan Pittenger conducted a reconnaissance-level biological resource investigation of the project site and surrounding habitat on January 17, 2024, and completed an analysis of potential project impacts on biological resources. Mr. Pittenger determined the extent of the survey area based on the characteristics of the project site and its surrounding environment, such as the potential presence of sensitive habitats, special-status species, and other ecological features of interest. The results of the field survey are summarized in the

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following subsections, and details are provided in Appendix B (Surf to Snow Environmental Resource Management 2024).

Project Site Plant and Wildlife Habitats

The project site consists of a previously disturbed lot that has been repopulated with ruderal annual vegetation, non-native weedy species, and annual grasses. Plants identified in the project site and adjacent area included compact brome (*Bromus madritensis*), ripgut brome (*Bromus diandrus*), fiddleneck (*Amsinckia sp.*), filaree (*Erodium sp.*), wild oats (*Avena sp.*), sunflower (*Helianthus annuus*), prickly lettuce (*Lactuca serriola*), curly dock (*Rumex crispus*), fitch's tarweed (*Centromadia fitchii*), doveweed (*Croton setiger*), pigweed (*Amaranthus blitoides*), great valley gumweed (*Grindelia camporum*), datura (*Datura wrightii*), tarweed (*Holocarpha virgata*), Spanish clover (*Acemispom americanus*), ragweed (*Ambrosia acanthicarpa*), silver-leaf nightshade (*Solanum elaeagnifolium*), and telegraphweed (*Heterotheca grandiflora*).

Habitat in the project site consists of unvegetated/developed land within the footprint of the existing Cal Am well facility and ruderal vegetation within the remaining portion of the project site (Figure 5), potentially providing foraging habitat for common wildlife species, such as Botta's pocket gopher (*Thomomys bottae*), and various other small mammals and birds.

Special-Status Plant and Wildlife Species

The project site and surrounding area may provide limited habitat for several special-status species that are known to occur in the project region. A total of 18 species (five plants and 13 wildlife) were documented by the CNDDDB within 2 miles of the project site and were evaluated for their potential to occur in the project area (Table 8 and Table 9). The project area contains no suitable habitat for special-status plants because of the disturbed nature of the site. Of the wildlife species, 11 were excluded based on the lack of suitable habitat or because the project area is outside the current geographic distributions. The remaining seven species were evaluated for potential impacts as a result of project development.

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Figure 5 Project Site Habitats



Project Site Habitats



Surf to Snow
Environmental Resource Management
2246 Camino Ramon
San Ramon, CA 94583

Meadowbrook 1-MG Tank and Booster Station Project
Santa Fe Rd, Merced CA

Source: Surf to Snow Environmental Resource Management 2024

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Table 9 Special-Status Plant Species with Potential to Occur on the Proposed Project Site

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
water shield	<i>Brasenia schreberi</i>	CRPR 2B.3	Occurs from approximately 30 to 2,200 meters in elevation in shallow freshwater lakes, ponds, ditches, and slow-moving streams.	None. There is only one historic occurrence of this species within 2 miles of the project site. No suitable habitat occurs on the project site.
succulent owl's clover	<i>Castilleja campestris</i> var. <i>succulenta</i>	FT, SE	Occurs in vernal pools of the eastern San Joaquin Valley.	None. No suitable habitat occurs on the project site.
forked hare-leaf	<i>Lagophylla dichotoma</i>	CRPR 1B.1	Found in clay soils in woodlands and grasslands in Fresno, Monterey, and San Benito counties.	None. There is only one historic occurrence of this species within 2 miles of the project site. No suitable habitat occurs on the project site.
Colusa grass	<i>Neostapfia colusana</i>	FE, CRPR 1B.1	Found on the rim of alkaline basins in the Sacramento and San Joaquin valleys, this plant inhabits vernal pools. Seeds need to be covered by water for approximately 3 months for germination, so this plant is more often found in deeper pools and ponds. Grows at elevations under 350 feet (Solano County Water Agency 2012a).	None. No suitable habitat occurs on the project site.
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	CRPR 1B.2	Found in shallow freshwater marshes and swamps.	None. No suitable habitat occurs on the project site.

Notes:

FE = Federally Endangered

FT = Federally Threatened

SE = State Endangered

CRPR = California Rare Plant Rank; CRPR ranges from presumed extinct species (1A) to watch list species (4). Ranks at each level also include a threat rank (e.g., CRPR 4.3) from seriously threatened (0.1) to not very threatened (0.3).

Source: CDFW, n.d.; USFWS, n.d.

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Table 10 Special-Status Wildlife Species with Potential to Occur on the Project Site

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	This species inhabits ephemeral vernal pools ranging from small, clear sandstone rock pools, to larger, turbid, alkaline pools in grasslands. It prefers smaller pools of less than 0.05 acre, with cooler water temperatures (Solano County Water Agency 2012c).	Low. The project site does not contain suitable habitat for this species. There are recorded observances of vernal pool fairy shrimp within 2 miles. Suitable habitat is located within a swale adjacent to the project site, but no branchiopods were observed in ponded water features during the site visit.
conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	This species inhabits ephemeral vernal pools and is only found in California's Central Valley. It lives primarily in relatively large, somewhat turbid vernal pools formed in depressions in deep alluvial soils (Solano County Water Agency 2012b).	Low. The project site does not contain suitable habitat for this species. There are recorded observances of these species within 2 miles. Suitable habitat is located within a swale adjacent to the project site and ponded water features along an adjacent access road not to be used by project vehicles, but no branchiopods were observed in ponded water features during the site visit.
monarch butterfly	<i>Danaus plexippus</i>	FC	This butterfly, which lives mainly in prairies, meadows, grasslands, and roadsides, relies on the host plant milkweed which is a required source of food for their larvae. While adults can feed on a variety of plant nectars, milkweed is required for breeding and is therefore a requirement for habitat to be suitable. This species overwinters along the coast in California (Flockhart et al. 2015).	Low. No suitable host plants were observed on the project site. Individuals could occur in the area during migration but would be transient.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	This species inhabits riparian areas and foothill oak woodlands in the Central Valley of California where its host plant, the elderberry can be found (Collinge et al. 2001).	None. There are no recorded occurrences of this species within 2 miles of the project site. The project site and adjacent habitat are not suitable for this species.

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California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	Found in annual grasslands and oak woodlands, this species requires both aquatic and upland habitat. It breeds in ephemeral vernal pools and uses small mammal burrows in upland habitat during non-breeding periods (Loredo, Van Vuren, and Morrison 1996).	Low. No suitable breeding habitat occurs on the project site. Small mammal burrows occur on the project site. However, the vegetated swale west of the project site is not likely to support sufficient inundation to provide suitable breeding habitat. No California tiger salamander occurrences have been recorded within 5 miles of the project site, and occurrence on the project site is unlikely.
Northwestern pond turtle	<i>Actinemys marmorata</i>	FPT, SSC	This aquatic turtle lives in streams, ponds, lakes, and permanent and ephemeral wetlands located in either grasslands and open woodlands (Zaragoza et al. 2015).	None. There are no recorded occurrences of this species within 2 miles of the project site. The project site and adjacent habitat are not suitable for this species.
giant garter snake	<i>Thamnophis gigas</i>	FT, ST	Found in the Central Valley of California, this mostly aquatic snake inhabits marshes, sloughs, ponds, small lakes, streams, and other waterways. It can also be found in agricultural wetlands, such as irrigation and drainage canals. It prefers tall vegetation to facilitate hunting and requires nearby upland habitat for basking or overwintering (Halstead et al. 2015).	None. There is one historic occurrence of this species within 2 miles of the project site. The project site and adjacent habitat are not suitable for this species.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	This species inhabits ephemeral vernal pools and is only found in California's Central Valley. These pools can vary widely in turbidity and usually have a hardpan, claypan, or basalt layer beneath the soil surface to facilitate water retention. The species is typically found in the grasslands on the valley floor, and commonly inhabits vernal pool complexes rather than individual pools (Solano County Water Agency 2012d).	Low. The project site does not contain suitable habitat for this species. There are recorded observations of these species within 2 miles. Suitable habitat is located within a swale adjacent to the project site, but no branchiopods were observed in ponded water features within a dirt access road west of the project site during the site visit.

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tricolored blackbird	<i>Agelaius tricolor</i>	ST	This species prefers to nest in wetlands, such as emergent marshes, and forages in grassland and chaparral habitats. This species commonly uses agricultural areas, such as rice fields (Wilsey et al. 2019).	None. There are historic occurrences of this species within 2 miles of the project site. The project site and adjacent habitat are not suitable for this species.
burrowing owl	<i>Athene cunicularia</i>	SSC	This species lives in underground burrows in grasslands, prairies, deserts, and other open habitats, such as agricultural fields. The species has adapted to anthropogenic forces, often being found in urban areas such as vacant lots and airports that it can use (Coulombe 1971).	Low. No suitable burrows (greater than 4 inches) were observed within 500 feet of the project site during the site visit.
Swainson's hawk	<i>Buteo swainsoni</i>	ST	This species inhabits open areas, such as chaparral, grasslands, steppes, and agricultural areas. The species requires only a small stand or single tree for nesting and can often be found using agricultural areas (Battistone et al. 2019).	Low. No suitable nest trees were observed in the project site or within a 0.5-mile buffer of the project site.
Western mastiff bat	<i>Eumops perotis californicus</i>	SSC	This species is found in a variety of habitats, from desert washes to chaparral grasslands, oak woodlands, open pine forests, montane meadows, and agricultural areas. It requires roosting locations provided by crevices in rock outcroppings or cliffs or buildings (Cockrum 1960).	None. There is one historic occurrence of this species within 2 miles of the project site. The project site and adjacent habitat are not suitable for this species.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, ST	This species is found in the scrublands and grasslands of California's San Joaquin Valley. It prefers areas with minimal shrubs and grasses and is highly sensitive to urbanization (Cypher, Phillips, and Kelly 2013)	None. Though the work site is located within the historic range of the San Joaquin kit fox, this species has likely disappeared from the majority of habitats in the northern portion of the range, including eastern Merced County. Based on the habitat present on the work site and the lack of suitable kit fox burrows, as well as the location of the work site within eastern Merced County and the distance from species occurrence records

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				dated more than 20 years ago, San Joaquin kit fox is not expected to occur on the work site.
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Notes:

ST = State Threatened

SE = State Endangered

SSC = CDFW Species of Special Concern

FT = Federally Threatened

FPT = Federally Proposed for Listing as Threatened

FC = Federally Candidate for Listing

Source: CDFW, n.d.; USFWS, n.d.

Sensitive Natural Communities and Aquatic Habitats

No aquatic resources were documented in the project site, according to the USFWS NWI, or were observed during reconnaissance surveys. Three aquatic features are within 1,000 feet of the project area. A grassy vegetated swale is immediately west of the project site, on MID property. This swale showed some evidence of inundation during the previous growing season, with desiccated algal mats visible along the bottom of the feature. The swale was dry during the site visit, but prolonged precipitation events could inundate the feature and potentially provide habitat for vernal pool branchiopods. Swale hydrology is not likely suitable to support breeding habitat for California tiger salamander. Black Rascal Canal runs north-south, approximately 50 feet west of the project site. It is hydrologically connected to the larger irrigation district system that includes impoundments of Bear Creek, a natural creek flowing 1.75 miles southwest of the project site. A seasonally ponded feature appears in satellite imagery approximately 600 feet northwest of the project site. The seasonally ponded feature was inaccessible during the site visit.

Discussion

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

Seven special-status species have a low potential to be affected by the project: California tiger salamander, monarch butterfly, vernal pool branchiopods (i.e., vernal pool fairy shrimp, conservancy fairy shrimp, vernal pool tadpole shrimp), Swainson’s hawk, and burrowing owl. Impacts on non-listed species would be considered significant under CEQA only if those impacts were to result in an adverse effect (i.e., jeopardize the long-term viability) of a local or regional population.

California Tiger Salamander

No suitable California tiger salamander breeding habitat occurs on the project site. The vegetated swale west of the project site does not support sufficient inundation to provide suitable breeding habitat for California tiger salamander. No California tiger salamander

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occurrences have been recorded within 5 miles of the project site. Because of the absence of suitable breeding habitat on the project site or adjacent areas, the project activities would have no impact on California tiger salamander.

Monarch Butterfly

Because of the lack of host plants observed in the project site, the presence of monarch butterfly on the project site would be restricted to transient individuals who would be able to travel around work areas. Therefore, impacts on monarch butterfly would be less than significant.

Vernal Pool Branchiopods

The project site does not contain suitable habitat for vernal pool fairy shrimp, conservancy fairy shrimp, or vernal pool tadpole shrimp. Because the project would not involve construction in any areas containing suitable habitat for vernal pool fairy shrimp, conservancy fairy shrimp, or vernal pool tadpole shrimp, the direct impact on these species would be less than significant. Project activities would not occur on the grassy swale and ponded water features in the access road west of the site, which are MID property. Therefore, no direct impacts associated with parking or driving would occur in this area.

Because the project would disturb ground near the grassy swale area, erosion and sedimentation could create an indirect impact on aquatic features if not properly controlled. To avoid this potential impact, Mitigation Measure (MM) BIO-1 would be implemented, requiring implementation of appropriate BMPs to control sedimentation and runoff. MM BIO-1 would prevent indirect erosion and sedimentation impacts on aquatic features during project construction.

With implementation of MM BIO-1, the impact would be reduced to a less-than-significant level.

Swainson's Hawk

No suitable nesting trees for Swainson's hawk occur in the project site or within a 0.5-mile buffer. The project would avoid impacts on Swainson's hawk nesting due to the absence of Swainson's hawk nesting habitat in proximity to the project site. The impact on potential foraging habitat for Swainson's hawk would be less than significant due to the limited ruderal and grassland habitat on the project site.

Burrowing Owl

No suitable burrowing owl burrows greater than 4 inches or sign of burrowing owl (e.g., whitewash, pellets, prey remains, feathers) were observed within 500 feet of the project site during the site survey. If fossorial mammal use of the project site increases over time and creates burrows suitable for burrowing owls, a potential would exist for owls to move into the project area in the future. If owls were to occupy small mammal burrows in the project site because of newly created burrow habitat, ground-disturbing construction activities and vehicle/equipment travel in the project site during project construction could result in destruction of burrows and injury and/or mortality of owls. Human activity and noise could result in indirect impacts on owls occupying burrows near the project site. Implementation of

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MM BIO-2 would require surveys and avoidance of burrowing owl and its burrows, and other measures to reduce any potential impact on any burrowing owl to a less-than-significant level.

Nesting Birds

The project site consists of a ruderal, previously disturbed lot that does not support trees or other woody vegetation. However, killdeer (*Charadrius vociferus*) and other ground-nesting birds may use the project site for nesting. The orchard to the south and cattails and other emergent wetland vegetation in the canal west of the project site would also provide potential nesting habitat. Migratory birds and their nests are protected by the California Fish and Game Code Section 3503 and 3503.5, and the federal Migratory Bird Treaty Act.

Construction equipment and vehicle traffic in the project site during the migratory bird nesting season (February 1–August 31) would have the potential to adversely affect nesting birds through injury or mortality. Noise and human activity associated with construction activities would have the potential to indirectly affect birds nesting in adjacent habitats, by causing nest abandonment and subsequent loss of young, which would constitute a significant impact. To reduce the impact on nesting birds, a number of mitigation measures would be implemented.

Mitigation would require adequate worker training regarding biological resources and mitigation measures (MM BIO-3). Mitigation would also require construction to be completed outside the nesting bird season if feasible; if conducting construction during the nesting season is necessary, a preconstruction nesting bird survey would be required, including establishing buffers around active nest sites if present (MM BIO-4). With implementation of these mitigation measures, the potential for direct or indirect impacts on nesting birds would be reduced to a less-than-significant level.

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

No riparian habitat or other sensitive natural communities occur in the project site. The project would avoid direct impacts on riparian habitat and sensitive natural communities because of the absence of riparian and habitat and sensitive natural communities within the project disturbance area.

Project activities would avoid these features; however, indirect erosion and sedimentation impacts could occur because of earth-moving and grading activities in the project site. These impacts could reduce water quality and increase turbidity in these features, which could constitute a significant impact. Implementation of MM BIO-1, including implementation of stormwater BMPs to reduce indirect erosion and sedimentation impacts during project construction, would reduce the impact to a less-than-significant level.

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- c) **Would the project 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?**

As discussed above, project activities would avoid wetlands because no wetlands occur in the project area. Potential indirect impacts on offsite wetland features from sedimentation would be avoided through implementation of MMs BIO-1 and BIO-3, as described under Impacts a and b above. The impact would be less than significant with mitigation incorporated.

- d) **Would the project 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?**

The project site is a disturbed, ruderal lot, bordered to the south by an orchard, an industrial development to the north and east, and a canal to the west with residential housing beyond. It does not function as a corridor for wildlife movement in the region. Common wildlife species such as Botta's pocket gopher are present on the project site.

Project construction would be temporary and short-term in duration. The area of disturbance would be small, creating little disruption for local wildlife movement. After construction is completed, project activities would not result in substantial or permanent changes that would impair wildlife movement as compared to the existing conditions. Therefore, impacts to wildlife movement and the use of native wildlife nursery sites would be less than significant.

- e) **Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The proposed work would not conflict with any local policies or ordinances protecting biological resources. No trees are to be removed, and the site has been disturbed previously. No impact would occur.

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

The project site is not within the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2019). No impact would occur.

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Mitigation Measures

Mitigation Measure BIO-1: Erosion and Sedimentation Best Management Practices

The project will incorporate BMPs to control sedimentation and runoff and address water quality on site. Protective measures will include the following:

- BMPs will be installed between the project site and the vegetated swale to the west, to prevent erosion and sedimentation impacts on this feature and the irrigation canal.
- No discharge of pollutants from vehicle and equipment cleaning will enter storm drains or watercourses. Vehicles and equipment will be washed at approved locations.
- Vehicle and equipment fueling and maintenance operations will be located away from watercourses, except at established commercial gas stations or established vehicle maintenance facility or staging areas with BMPs or secondary containment installed and maintained.
- Spill containment kits will always be maintained on site during construction operations. Vehicles operating adjacent to wetlands and waterways will be inspected and maintained daily to prevent leaks.

Mitigation Measure BIO-2: Burrowing Owl

Before the start of construction, a qualified biologist will conduct a focused survey for burrowing owls within 500 feet of the project site where access is available. If no occupied burrowing owl burrows are observed, no additional actions will be required. If occupied burrowing owl burrows are observed, no-disturbance buffers will be established around burrowing owl burrows according to the CDFW guidelines (160 feet during the non-breeding season and 250 feet during the breeding season). The size of the buffer may be adjusted based on site conditions and visibility in coordination with CDFW. If occupied burrowing owl burrows are within the construction footprint of the project site, CDFW will be consulted to determine whether passive relocation of owls may be conducted.

Mitigation Measure BIO-3: Worker Environmental Awareness Training

Prior to the start of work, a worker training will be provided to the construction crew. All contractors must complete the training prior to beginning any project-related work. The training will include the following components:

- **Biological Resources:** A qualified biologist will train all project staff regarding habitat sensitivity, identification of special-status species with potential to occur, and mitigation measures that are being implemented for the project.
- **Cultural Resources:** For all activities with the potential for ground disturbance all contractors and workers will receive training prepared by and/or conducted by a Professional Archaeologist (who meets the U.S. Secretary of Interior's professional standards as set forth in Title 48 Parts

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44738-44739 of the Code of Federal Regulations (CFR) and Appendix A under Title 36, Section 61 of the CFR prior to beginning work. The training will address the potential for exposing subsurface resources, recognizing basic signs of a potential resource, understanding required procedures if a potential resource is exposed, including protecting the resource and reporting the resource to a Professional Archaeologist, and understanding all procedures required under Section 7050.5 of the Health and Safety Code and Sections 5097.94, 5097.98, and 5097.99 of the California Public Resources Code (PRC) for the discovery of human remains.

- **Paleontological Resources:** Training will include information on the possibility of encountering fossils during program activities, the types of fossils that may be seen and how to recognize them, and proper procedures in the event fossils are encountered.

Mitigation Measure BIO-4: Nesting Birds

If feasible, work will be scheduled outside of the nesting bird season in the fall and winter. If not possible and work is scheduled during nesting bird season (February 1 through August 31), a preconstruction nesting bird survey will be conducted by a qualified biologist within 10 days of the start of construction. The survey area will cover a radius of 300 feet for raptors and 50 feet for passerines around all work areas where access is available.

If an active nest is observed in the survey area, a biologist will determine an appropriate exclusion buffer zone, based on the type of species nesting, the distance from the work area, and the level of disturbance/noise levels in that area. The perimeter of the nest setback zone will be fenced or adequately demarcated with stakes and flagging, to ensure that construction personnel and activities are restricted from the area. If needed, a qualified biologist will monitor construction activities occurring near the active nest site, to ensure that no inadvertent adverse impacts affect the nest.

3.2.5 Cultural Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Environmental Setting

Bargas Environmental Consulting LLC (Bargas) conducted a cultural resources study of the project area, to determine whether the project would have the potential to impact historical, unique archaeological, or tribal cultural resources within and adjacent to the project site (Bargas 2024). The Cultural Resources Survey Report (public version) is provided in Appendix C and is summarized in this IS/MND. The report included a records search and literature review from the California Historical Resources Information System with a half-mile buffer around the Project area, a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC), coordination and outreach with local California Native American tribes, and a pedestrian survey. For the purposes of evaluating potential impacts on cultural resources, the study area was defined as the approximately 0.72-acre project footprint. Project activities encompass any ground disturbance as well as alteration or destruction of any buildings, structures, or districts that overlap the project footprint. The study found there are no historical, archaeological, or tribal cultural resources in the Project area.

The records search results identified two previously recorded resources within a 0.5-mile radius of the project site, a railroad (P-24-001881) and the Merced Irrigation District (P-24-001909) (i.e., 50 years old or older). Both have been determined ineligible for the National Register of Historic Places by consensus. Because they are not historically significant on the state or local level, they are also not considered historical resources for the purposes of CEQA.

Native American Outreach

A request was made of the NAHC on January 10, 2024, to search its Sacred Lands File (SLF) for information regarding sacred sites, and to provide a list of Native American tribal representatives who may have information about known tribal cultural resources in or near the project site. The NAHC responded on February 5, 2024, stating that no Sacred Lands had been identified in or near the project site. They also provided a list of twelve Native American contacts who may have information about the project site.

On February 8, 2024, letters with project details and maps were sent by email to all twelve individuals who were identified by the NAHC including members of the Amah Mutsun Tribal Band, Dumna Wo-Wah Tribal Government, Northern Valley Yokut/Ohlone Tribe, Southern Sierra Miwuk Nation, Table Mountain Rancheria, Tule River Indian Tribe, and Wuksachi Indian Tribe/Eshom Valley Band. Follow-up phone calls were made to all twelve individuals on March 12, 2024. None of the tribal contacts identified tribal cultural resources in or near the Project area. Copies of all correspondence with the NAHC and Native American tribes and representatives are provided in Appendix C.

Pedestrian Survey

A pedestrian survey of the project site was completed on January 18, 2024. The entire 0.72-acre project site was surveyed using 15-meter transects and was inspected for any signs of past human activity, including midden, features, artifacts, artifacts, and ecofacts including shell and bone fragments. Ground surface visibility was generally poor because of thick vegetation. In

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areas with less ground visibility, boot scrapes were employed to scrape away the vegetation to see the dirt. No archaeological features, artifacts, or ecofacts were found in the project site during the pedestrian survey.

Discussion

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

As described above, no historical resources or unique archaeological resources were identified during the background research, the tribal outreach, or the pedestrian survey. As a result, the project would have no impact on known historical or archaeological resources.

Project ground-disturbing activities would extend up to a depth of 5 feet below ground surface; therefore, a low potential remains to encounter undocumented archaeological resources, buried beneath the current ground surface. Implementation of MM CUL-1 requires cessation of work and proper recordation of any resources that may be encountered during construction. MM BIO-3 would also be implemented, requiring workers to receive training regarding cultural resources and procedures. Implementation of MMs CUL-1 and BIO-3 would reduce the impact to a less-than-significant level. The impact would be less than significant with mitigation incorporated.

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

No human remains or records of burials were identified in the project site as a result of the records search and literature review, pedestrian survey, and outreach with the NAHC and local Native American Tribes. While no human remains were identified onsite and there was no evidence found while preparing the cultural resources assessment that the area has been used as a cemetery or burial ground in the past, it is possible that human remains may be present at subsurface levels. State law prescribes protective measures that must be taken if human remains are discovered. Specifically, Section 7050.5 of the California Health and Safety Code requires that the County Coroner shall be immediately notified of the discovery and no further excavation or disturbance of the site, or any nearby area may continue until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she is required to notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains. Compliance with state law would ensure that no impacts occur to any human remains that may be discovered on site. The impact would be less than significant.

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Mitigation Measures

Mitigation Measure CUL-1: Discovery Protocol

If archaeological resources are discovered during project construction, all ground-disturbing activities in the vicinity of the find shall cease, and an archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards (National Park Service 1983) shall be retained to evaluate the find. Work may continue on other parts of the project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5 [f]). If the archaeological resource is Native American in origin, the Tule River Indian Tribe will also be notified and shall be provided information and invited to perform a site visit when the archaeologist makes his/her assessment, to provide tribal input on the evaluation. If the discovery is determined by the State Water Board, based on recommendations of the qualified archaeologist and Tule River Indian Tribe, to constitute a “historical resource”, “unique archaeological resource”, or a “tribal cultural resource”, time allotment and funding sufficient to allow for implementation of avoidance measures or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2 for unique archaeological resources, and section 21084.3 for tribal cultural resources. Preservation in place is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis.

If human remains are found, State of California Health and Safety Code Section 7050.5 shall be followed.

Mitigation Measure BIO-3: Worker Environmental Awareness Training

Refer to Section 3.2.4, Biological Resources.

3.2.6 Energy

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
6. ENERGY. Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Merced Irrigation District provides electricity in the project area, serving approximately 11,000 customers in central Merced County (including the Franklin/Beachwood area) (CalOES 2022). Pacific Gas and Electric Company provides all natural gas services in Merced County. The

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CalAm Meadowbrook well site currently uses an average of 1,360 kilowatt-hours (kWh) per month (16,320 kWh per year).

Various state policies encourage greenhouse gas (GHG) emissions reductions, which are interrelated with renewable energy and energy efficiency. GHGs emissions are discussed in greater detail in Section 3.2.8. Assembly Bill (AB) 32 and Senate Bill (SB) 32 set statewide targets for GHG emissions reductions, and the *2008 CARB Scoping Plan* and *2017 and 2022 Scoping Plan Updates* contain strategies for achieving GHG emission reductions, such as reducing energy demand from mobile sources and land use development (CARB 2017; 2022).

The *SJVAPCD Climate Change Action Plan* (SJVAPCD 2009) identifies performance standards for non-emergency stationary source projects and commercial and residential development projects. The *SJVAPCD Climate Change Action Plan* also suggests possible measures to improve energy efficiency via land use planning.

The *Merced County General Plan* (Merced County 2013) contains goals and policies promoting practice such as energy efficiency for new development, efficient transportation programs, and residential energy conservation programs. Most goals and policies in the *Merced County General Plan* are not related to water distribution system projects. The following policies would be relevant to the project:

Policy NR-2.1: Renewable Energy Use: Promote the development and use of renewable energy resources to reduce dependency on petroleum-based energy sources.

Policy NR-2.9: Energy Conservation: Encourage and maximize energy conservation and identification of alternative energy sources (e.g., wind or solar).

Discussion

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

Construction

The equipment and vehicles that would be used during project construction would consume energy via combustion of petroleum products, including gas, diesel, and motor oil. As discussed in Section 3.2.3, Air Quality, project construction would require approximately 19,500 gallons of diesel fuel. Consumption of energy during construction would be temporary, lasting an estimated 12 months, and would cease after construction is completed. Indirect energy use would be required to make the materials and components used in construction. Indirect energy use would include energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing. Fuel use would be consistent with typical construction and manufacturing practices and would not require excessive or wasteful use of energy. Construction activities would not reduce or interrupt existing fuel or electricity delivery systems because of insufficient supply. In addition, the construction fleet that would be contracted for the project would be required to comply with the CARB's *In-Use Off-Road Diesel-*

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Fueled Fleets Regulations (CARB 2023), which would limit vehicle idling time to 5 minutes, restrict adding vehicles to construction fleets with older-tier engines, and establish a schedule for retiring older, less fuel-efficient engines from the construction fleet. Thus, the project would not result in wasteful, inefficient, or unnecessary consumption of energy during construction. The impact would be less than significant.

Operation

As described in Chapter 2, Project Description, the project would install a new booster pump station and other facilities that would consume electricity. The electricity demand associated with the project is estimated at 500,000 kW annually; the project would include installation of a new Merced Irrigation District electrical service to serve the proposed facilities. The project's energy use would be comparable to similar water distribution facilities of this size and nature, and would not be considered excessive, wasteful, or inefficient. Cal Am uses SCADA throughout the Meadowbrook system to optimize operational efficiency. These operational practices would be typical as compared to similar water distribution systems of this size and nature.

A diesel backup generator (approximately 350 kW) would be installed as part of the project. The generator would be operated on a limited basis for testing purposes, in accordance with the SJVAPCD permit, and on an emergency basis if required. Thus, operation of the backup generator would not be considered wasteful, inefficient, or unnecessary consumption of energy resources.

Overall, project operation would not result in wasteful, inefficient, or unnecessary consumption of energy. The impact would be less than significant.

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

Applicable plans for renewable energy and energy efficiency include the *CARB 2022 Scoping Plan Update*, *San Joaquin Valley Air Pollution Control District Climate Change Action Plan*, and *Merced County General Plan*.

The *CARB 2022 Scoping Plan Update* (CARB 2022) focuses on transportation, electricity generation, manufacturing, and natural and working lands. Energy use associated with individual projects of a small-scale, such as the project, is not a focus of statewide renewable energy planning. Similarly, the *SJVAPCD Climate Change Action Plan* (SJVAPCD 2009) focuses on energy efficiency and conservation for land use and development projects. The project would not involve a considerable increase in new vehicle trips, nor propose any land use change that would result in an increase in vehicle trips, such as urban sprawl, and would not conflict with the *CARB 2022 Scoping Plan Update*.

As described above, project construction and operation would not require wasteful or excessive energy use. The project would be designed to meet applicable energy-efficiency standards. The project would be required to comply with Title 24 energy efficiency standards of the California

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Building Code. Project operation would be powered by electricity from Merced Irrigation District, which is required to meet State targets for renewable power sources that generate its electricity. Therefore, the project would not conflict with Policy NR-2.1 or Policy NR-2.9 of the *Merced County General Plan* (Merced County 2013).

The project would not interfere with existing State or local programs that are intended to reduce energy use or energy efficiency, and it would not emit GHGs in excess of applicable thresholds (discussed further in Section 3.2.8, Greenhouse Gas Emissions). Thus, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The impact would be less than significant.

3.2.7 Geology and Soils

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
7. GEOLOGY AND SOILS. Would the project:				
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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disposal systems where sewers are not available for the disposal of wastewater?				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Geology and Soils

The geologic formations found in Merced County are composed of the Basement Complex, Ione Formation, Valley Springs Formation, Mehrten Formation, Tulare Formation, and recent alluvium (Merced County 2012a). According to the Preliminary *Geologic Map of the Merced 30' x 60' Quadrangle, California*, the project is on soils overlying the upper member of the Riverbank formation, a Late Pleistocene age deposit (Wills et al. 2022). It represents glacial outwash from the core of Sierra Nevada and lesser local (not Sierran) sediment sources. According to the University of California Museum of Paleontology, there is one mammalian vertebrate fossil in their collection from Merced County from the Pleistocene age (University of California Museum of Paleontology, n.d.).

The project is in Merced County, within California’s Central Valley, and has predominantly sandy, alluvial type soils. The project is within Delhi-Atwater soil, which consist of soils of alluvial fans and flood plains (Merced County 2012b).

A geotechnical report was prepared for the proposed project in 2023 (Ninyo & Moore 2023).

Seismicity

The only active fault in Merced County that is identified by the Alquist-Priolo Earthquake Fault Zoning Act is the Ortigalita Fault, which is along the western portion of the county in the Pacific Coast Range. The project is approximately 40 miles from the Ortigalita Fault zone (California Department of Conservation (CDOC), n.d.). According to the California Geologic Survey (CGS) Probabilistic Seismic Hazard Assessment, the project is within an area identified to have moderate severity of seismic damage (Merced County 2012b).

Liquefaction

Liquefaction can occur during earthquake events when soil material is transformed from a solid state to a liquid state that is generated by an increase in pressure between pore space and soil particles (Merced County 2012a). Based on the geotechnical report prepared for the project, liquefaction would not be anticipated to occur at the project site (Ninyo & Moore 2023). The project is not within a defined liquefaction hazard area.

Landslide

No landslide inventory maps exist for Merced County because the majority of the county is within the low-lying areas of the Central Valley where the risk of landslides is considered low (Merced County 2012b). The project is within a flat area with low risk of landslides.

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Subsidence

Subsidence occurs when a large land area settles because of over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated, which are areas high in silt or clay content. Subsidence rates are variable and highest during drought periods. Subsidence is a significant issue south of the city of Merced, in and around the community of El Nido. Annual subsidence in the Merced Groundwater Subbasin averaged up to 0.45 foot per year from December 2011 to December 2017. The project area is within an area with an average range of - 0.15 to 0 foot per year between December 2011 and December 2017, and not within an area of significant concern regarding subsidence (MIUGSA 2022).

Expansive Soil

Expansive soils have the ability to significantly change their volume, shrink, and swell, because of their soil moisture content. Expansive soils can crack rigid structures and potentially create pipeline rupture. Based on soil testing, the project site has very low expansion characteristics (Ninyo & Moore 2023).

Discussion

- a) **Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**
 - ii. **Strong seismic ground shaking?**
 - iii. **Seismic-related ground failure, including liquefaction?**
 - iv. **Landslides?**

The project is located in a seismically active region and within an area of Merced County that could be subject to moderate severity of seismic damage (Merced County 2012b). The project is located approximately 40 miles from the active Ortigalita Fault, and therefore has low potential for ground surface rupture because it is not within the active fault zone.

Although Merced County does not have mapped areas of potential liquefaction or landslide, the project area is not near the San Joaquin River or in a wetland area, or within an area with landslide potential because of the flat surface area around the project site. The project would build a 1-MG water tank on an existing Cal Am well site and would not involve construction of any habitable structures or change the existing land use type (e.g., to a residential or commercial land use) that could result in potential safety hazards. Furthermore, potential impacts related to liquefaction and other seismically induced ground failures would be avoided through conformance with standard engineering practices and design criteria (e.g., California Building Code), and recommendations provided in the project geotechnical report (e.g., methods of foundation and subgrade preparations, use of a ring wall foundation for the tank) (Ninyo & Moore 2023). Therefore, project implementation would not directly or indirectly cause potential

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substantial adverse effects, including the risk of loss, injury, or death involving surface rupture, strong seismic ground-shaking, seismic-related ground failure, or landslides. The impact would be less than significant.

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

As described in Section 2, Project Description, excavation would be required for construction of the tank, booster station, emergency generator, electrical building, and chemical building foundations. Trenching would be required for installation of the pipeline that would provide a connection between the proposed tank and the existing pipeline within the right-of-way. In total, proposed grading activities would disturb approximately 31,000 square feet and would require approximately 500 cubic yards of soil export. The project could result in soil erosion during construction activities because of ground disturbance associated with excavation, grading, and construction of infrastructure associated with the proposed facilities, which would be considered a significant impact.

To reduce the potential for soil erosion or loss of topsoil, implementation of MM BIO-1 would be required to control erosion of exposed soils during project construction. MM BIO-1 would require use of BMPs, such as straw wattles to be installed between the project site and the vegetated swale to the west, to prevent erosion and sedimentation impacts on this feature and the irrigation canal. With implementation of MM BIO-1, any minor potential for soil erosion impacts or topsoil loss during construction activities would be effectively avoided. Following construction, project operation would not result in any soil erosion or loss of topsoil and the impact would be reduced to a less-than-significant level. The impact would be less than significant with mitigation incorporated.

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

The project site is on flat land, and no steep slopes are immediately adjacent to the project site. As described above, the project site is not in an area of landslide or liquefaction risk, or in an area of subsidence. Lateral spreading could occur on flat or gently sloping ground, but it is usually induced from liquefaction. Because the project area is at low risk of liquefaction, lateral spreading would be unlikely to occur. Furthermore, any potential impacts related to geological instability, including lateral spreading, subsidence, liquefaction, or collapse, would be addressed by the project design (based on recommendations from the project geotechnical report); the facilities would be designed to meet California Building Code seismic design criteria. Therefore, no impacts related to soil instability resulting in landslide, lateral spreading, subsidence, liquefaction, or collapse would occur from project implementation. The impact would be less than significant.

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

The project geotechnical report determined that soil on the site have very low expansion characteristics. Additionally, as described in Section 2, Project Description, the excavation depths for the project facilities would range from 48 to 60 inches. Consequently, any potentially expansive soil would be excavated during project construction and replaced with engineered fill that would provide stability for the proposed facilities. In addition, the project would be designed in accordance with applicable State and international building codes and standards, which would ensure structural resiliency and minimize the potential effects of expansive soils. The impact would be less than significant.

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

The project would not generate wastewater or install septic tanks or alternative wastewater systems. No impact would occur.

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

According to the *Merced County General Plan Environmental Impact Report*, records of paleontological finds maintained by the University of California Berkeley Museum of Paleontology state fossil remains have been found in 12 locations in Merced County. Paleontological resources have been recorded in Moreno, Panoche, and Kreyenhagen formations, which are exposed primarily in the western part of the county in the Pacific Coast Range. The project area is not within these formations and is instead located in the Late Pleistocene upper member of the Riverbank Formation. Pleistocene fossils have been found in abundance about 25 miles to the south down Highway 99 at the Fairmead Landfill. The landfill is located in the older middle member of the Riverbank Formation according to the same map. Pleistocene geologic units can yield fossils. The project site is considered to have a low potential for encountering paleontological resources.

The project site was previously disturbed for construction of the existing well and other facilities. In addition, the depth of excavation (maximum of 5 feet deep) and grading would be relatively shallow. However, it is possible that paleontological resources could be discovered during excavation activities. Directly or indirectly destroying an important paleontological resource would constitute a significant impact.

To reduce potential impacts to paleontological resources, MM BIO-3 and MM GEO-1 would be implemented. MM BIO-3 requires that construction crews receive environmental awareness training, which would include training on the mitigation measures being implemented for the project. MM GEO-1 requires that in the event of a discovery, work must halt, and the find must

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be evaluated by a qualified paleontologist, who will determine appropriate treatment for the find. With implementation of MM GEO-1, the potential to destroy a unique paleontological resource or geologic feature would be reduced to a less-than-significant level.

Mitigation Measures

Mitigation Measure BIO-1: Erosion and Sedimentation Best Management Practices

Refer to Section 3.2.4, Biological Resources.

Mitigation Measure BIO-3: Worker Environmental Awareness Training

Refer to Section 3.2.4, Biological Resources.

Mitigation Measure GEO-1: Unanticipated Discovery of Paleontological Resources

If paleontological resources are discovered during construction, all work will be halted within a 100-foot radius of the discovery, and a qualified paleontologist will be retained to evaluate the find. The paleontologist will notify the Cal Am and the State Water Board if the find is significant. The paleontologist will evaluate the significance of the find and will have the authority to modify the no-work radius as appropriate, using professional judgment. The paleontologist will evaluate the significance of the find and recommend appropriate measures for the disposition of the find (e.g., fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

3.2.8 Greenhouse Gas Emissions

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants. Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs is the driving force for global climate change, which can result in increased temperatures; changes in snow and rainfall patterns; and an increase in droughts, tropical storms, and heavy rain events. The primary GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, and water vapor.

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Although GHGs occur naturally in the atmosphere, CO₂, CH₄, and N₂O are also emitted from human activities, accelerating the rate at which these compounds occur in Earth's atmosphere. Emissions of CO₂ are mainly by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices, coal mines, and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and they are generated in certain industrial processes.

CO₂ is the reference gas for climate change effects because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO₂. CH₄ and N₂O are substantially more potent GHGs than CO₂, with GWPs of 28 and 265 times that of CO₂, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO₂ equivalents (CO₂e). CO₂e is calculated as the product of the mass emitted of a given GHG and its specific GWP. Although CH₄ and N₂O have much higher GWPs than CO₂, CO₂ is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO₂e (CARB 2022; IPCC 2015).

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

AB 32 (California Health and Safety Code Section 38500 et seq.) establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction is in the process of being accomplished by enforcing a statewide cap on GHG emissions that was phased in starting in 2012. Towards this progress, in 2018, California emitted approximately 425 million metric tons of CO₂e, 6 million metric tons of CO₂e below the 2020 GHG limit of 431 million metric tons of CO₂e and 2 million metric tons of CO₂e below the 1990 GHG limit of 427 million metric tons of CO₂e. To effectively implement the cap, the CARB developed and has implemented regulations to reduce statewide GHG emissions from stationary sources. The State has taken these measures because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG emissions.

AB 32 required the CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; instituted a schedule to meet the emissions cap; and developed tracking, reporting, and enforcement mechanisms to ensure that the State would reduce GHG emissions sufficient to meet the cap. AB 32 also included guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers were not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 represented an approximate 25 to 30 percent reduction in emissions levels. However, the CARB had discretionary authority to seek greater reductions in more significant and growing GHG sectors,

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such as transportation, as compared to other sectors that were not anticipated to significantly increase emissions.

Climate Change Scoping Plan

AB 32 required the CARB to develop a scoping plan describing the approach for California to take to reduce GHG emissions, to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the CARB in 2008, with an update every five years. The initial AB 32 Scoping Plan contained the main strategies for California to use to reduce the GHG emissions that cause climate change. The initial Scoping Plan had a range of GHG emissions reduction actions, including direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 program implementation fee regulation to fund the program. In August 2011, the initial Scoping Plan was approved by the CARB.

The *2013 Scoping Plan Update* (2013 Update) built on the initial Scoping Plan with new strategies and recommendations. The 2013 Update identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defined the CARB climate change priorities for the next five years and set the groundwork to reach California’s long-term climate goals as set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlighted California’s progress toward meeting the near-term 2020 GHG emissions reduction goals that were defined in the initial Scoping Plan. In the 2013 Update, nine key focus areas were identified—energy, transportation, agriculture, water, waste management, and natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program. On May 22, 2014, the *First Update to the Climate Change Scoping Plan* was approved by the CARB, along with the finalized environmental documents. On November 30, 2017, the *Second Update to the Climate Change Scoping Plan* was approved by the CARB (CARB 2017).

The CARB’s 2022 Scoping Plan was adopted in December 2022 (CARB 2022). The three previous scoping plans focused on specific GHG emissions reduction targets for the state’s industrial, energy, and transportation sectors—first to meet 1990 levels by 2020, then to meet the more aggressive target of 40 percent below 1990 levels by 2030. The 2022 Scoping Plan addresses recent legislation and direction from Governor Newsom, extending and expanding on earlier scoping plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045.

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

In August 2008, the SJVAPCD Governing Board adopted the *Climate Change Action Plan* (SJVAPCD 2009). The *Climate Change Action Plan* directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change. In 2009, the SJVAPCD adopted the *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009b). The guidance and policy rely on the use of performance-based standards to assess the significance

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of project-specific GHG emissions on global climate change during the CEQA review process. The SJVAPCD has not adopted the recommended mass-emissions (e.g., bright-line) or service-population based GHG significance thresholds applicable to development projects.

Merced County Association of Governments 2018 RTP/SCS

The project is located in an unincorporated portion of Merced County. In 2018, the Merced County Association of Governments (MCAG) adopted the *2018 Regional Transportation Plan/Sustainable Communities Strategy* (2018 RTP/SCS). The 2018 RTP/SCS (MCAG 2018) is a forecast to help California reach its GHG emissions reduction goals by providing a framework for transportation infrastructure needs and planned growth patterns that reduce transportation-related GHG emissions consistent with the Sustainable Communities and Climate Protection Act (SB 375). The 2018 RTP/SCS includes 18 goals with corresponding implementation strategies for enhancing transportation services and goods movement, a regional active transportation system, reducing congestion on the National Highway System, and reducing nonrenewable energy in the region to support an integrated land use and transportation system.

Merced County General Plan

The *2030 Merced County General Plan* (Merced County 2013) is a long-term comprehensive blueprint for future land use and development, and it covers many topics, including air quality. The General Plan sets out a vision to achieve GHG emissions reduction with six goals and corresponding implementation strategies. These strategies are intended to reduce GHG emissions by changing land use patterns and reducing automobile travel. Although Merced County is rural and not compact, the primary role of the strategies is to direct development toward urban centers to minimize parceling of agricultural and open space lands. Representative General Plan policies that would directly or indirectly result in GHG emissions reduction by reducing energy demand include the following:

- Policy AQ-1.1:* Encourage new residential, commercial, and industrial development to reduce air quality impacts from energy consumption.
- Policy AQ-1.5:* Prepare a Climate Action Plan that includes an inventory of 1990 and 2010 greenhouse gas emissions, determines project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPC, and identify strategies to achieve State emission reduction targets.

Although the County has initiated the process of preparing a Climate Action Plan (as encouraged by Policy AQ-1.5), a climate action plan is not anticipated to be adopted before the project is considered for approval, so would not be available as a basis for evaluating the GHG emissions impacts of the project.

Methodology

CalEEMod was used to quantify GHG emissions associated with project construction activities, as well as long-term operational emissions produced by motor vehicles, emergency generator use, and electricity use. Emissions rates associated with electricity consumption were based on

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the Merced Irrigation District's CO₂ intensity rate within CalEEMod of 453 pounds of CO₂ per megawatt of electricity produced.

Significance Threshold

At this time, neither the SJVAPCD nor Merced County has adopted numerical thresholds of significance for GHG emissions that would apply to the project. In light of the lack of established GHG emissions thresholds that would apply to the project, CEQA allows lead agencies to identify thresholds of significance applicable to a project that are supported by substantial evidence. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable assumption predicated on facts, and expert opinion supported by facts" (14 CCR 15384[b]). Substantial evidence can be in the form of technical studies, agency staff reports or opinions, expert opinions supported by facts, and prior CEQA assessments and planning documents.

Therefore, to establish additional context in which to consider the order of magnitude of the project's GHG emissions, this analysis accounts for the following considerations by other government agencies and associations about what levels of GHG emissions constitute a cumulatively considerable incremental contribution to climate change:

- The Sacramento Metropolitan Air Quality Management District established thresholds, including 1,100 metric tons of CO₂e per year for the construction or operational phase of land use development projects, or 10,000 direct metric tons of CO₂e per year from stationary source projects. (Sacramento Metropolitan Air Quality Management District 2018)
- The Placer County Air Pollution Control District (PCAPCD) recommends a tiered approach to determine whether a project's GHG emissions would result in a significant impact. First, project GHG emissions are compared to the de minimis level of 1,100 metric tons of CO₂e per year. If a project does not exceed this threshold, it would not have significant GHG emissions. If a project exceeds the de minimis level and does not exceed the 10,000 metric tons of CO₂e per year bright line threshold, then its GHG emissions can be compared to the efficiency thresholds. The PCAPCD bright-line GHG emissions threshold of 10,000 metric tons of CO₂e per year is also applied to land use project's construction and operational phases. Generally, GHG emissions from a project that exceed 10,000 metric tons of CO₂e per year would be deemed to have a cumulatively considerable contribution to global climate change. (PCACPD 2017)
- The South Coast Air Quality Management District (SCAQMD) formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. The SCAQMD adopted an interim 10,000 metric tons of CO₂e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD Resolution No. 08-35, December 5, 2008). (SCAQMD 2008)

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The substantial evidence for GHG emissions threshold is based on the expert opinion of various California air districts, which have applied thresholds of 1,100 metric tons of CO₂e for land development projects and 10,000 metric tons of CO₂e per year for stationary sources in numerous CEQA documents where those air districts were the lead agency.

CAPCOA's *CEQA and Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (CAPCOA 2008) identifies a recommended threshold of 900 metric tons of CO₂e per year; therefore, this significance threshold is used for this project.

Discussion

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

The project's estimated construction and operational GHG emissions are shown in Table 10. Given that the SJVAPCD does not have a policy regarding GHG emissions from construction, in order to capture construction GHG emissions in the analysis, construction GHG emissions were amortized over 30 years and added to the operational GHG emissions consistent with SCAQMD's *Interim CEQA GHG Significance Threshold for Stational Sources, Rules and Plans* (SCAQMD 2008). The project's 30-year amortized annual construction-related GHG emissions would be approximately 6.50 metric tons of CO₂e. The project's GHG construction plus operational emissions would be 121 metric tons per year (a majority of which would be from electrical use), which would be below the significance threshold of 900 metric tons per year. Therefore, the project construction and operational GHG emissions would be less than significant.

Table 11 Estimated Annual GHG Emissions

Emission Source	CO₂e (metric tons)
Construction (30-year amortized)	6.50
Operations	
Motor Vehicles	4.53
Area Sources	0.08
Energy	103
Water	<0.01
Solid Waste	2.04
Stationary Sources	4.31
Total Project Emissions	121
Significance Threshold	900

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

Plans and policies adopted for reducing GHG emissions in the project area would include AB 32, the CARB’s 2022 Scoping Plan, the SJVAPCD’s Climate Change Action Plan, the MCAG’s 2018 RTP/SCS, and the 2030 Merced County General Plan. Consistency with each of these plans is discussed in Table 11.

Table 12 Project Consistency with GHG Reduction Plans

Plan	Evaluation
AB 32	The CARB implements AB 32 via California’s program to collect fees from sources of GHG emissions. These apply to large sources of GHG emissions, including oil refineries, electricity power plants, cement plants, and other industrial sources. AB 32 serves to reduce GHG emissions statewide and does not carry specific requirements with which Cal Am or the project would be required to comply. The project would not conflict with AB 32.
<i>CARB 2022 Scoping Plan</i>	The 2022 Scoping Plan is implemented at the State level, and compliance at a specific plan or project level is not addressed in the plan. The project would use vehicles that would meet current standards at the time of construction and operation and would not conflict with the statewide programs designed to address GHG emissions reduction goals. The project would not conflict with the 2022 Scoping Plan.
<i>SJVAPCD Climate Change Action Plan</i>	The SJVAPCD Climate Change Action Plan guidance and policy rely on the use of performance-based standards to assess the significance of project-specific GHG emissions on global climate change. However, these guidance plans would not be applicable to the project because Cal Am is not a land use agency. The project would not conflict with the SJVAPCD Climate Change Action Plan.
<i>MCAG 2018 RTP/SCS</i>	The MCAG 2018 RTP/SCS includes goals and strategies to be implemented by government entities in the county. The “Sustainable Communities” objective of the 2018 RTP/SCS aims to reduce per capita GHG emissions by applying compact growth and alternative transportation strategies, protecting and enhancing the natural environment, and supporting vehicle electrification. None of the measures in the plan apply to water facilities such as those of the project. Therefore, the project would not conflict with the 2018 RTP/SCS.
<i>2030 Merced County General Plan</i>	The project would use energy provided by Merced Irrigation District, which is required to comply with the California Renewables Portfolio Standard to ensure that utilities meet State standards for renewable energy use. Thus, the project would not conflict with Policy AQ-1.1. of the Merced County General Plan. Policy AQ-1.5 states that the County will prepare a Climate Action Plan (which is in progress); this policy would not apply to Cal Am or the project. Therefore, the project would not conflict with General Plan policies related to GHG emissions.

The project would also be subject to all relevant provisions of the most recent Building Energy Efficiency Standards (Title 24) and the California Green Building Standards Code (CALGreen), which are implemented to improve efficiency and reduce GHG emissions statewide. As shown in Table 11, the project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, the impact would be less than significant.

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3.2.9 Hazards and Hazardous Materials

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
9. HAZARDS AND HAZARDOUS MATERIALS.				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

As used in this section, the term “hazardous material” is defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. As used in this section, the term “hazardous waste” generally refers to a hazardous material that has been used for its original purpose and is about to be discarded or recycled.

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Federal and State regulations require adherence to specific guidelines regarding the use, transportation, disposal, and accidental release of hazardous materials. EPA is responsible for administering the Federal Toxic Substances Control Act and Resource Conservation and Recovery Act, which regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. The Comprehensive Environmental Response, Compensation, and Liability Act is a federal database that records the known hazardous contaminated sites and facilitates remediation actions. The management of hazardous materials and waste in California is under the jurisdiction of CalEPA, which coordinates the state's Unified Program for permitting, inspecting, and enforcing regulations related to hazards materials.

The State Water Board's GeoTracker database and the California Department of Toxic Substances Control's (DTSC) EnviroStor database were reviewed for information on existing hazardous materials sites in proximity to the project site (DTSC, n.d.; State Water Board, n.d.-c). Based on review of these resources, no known hazardous materials sites are on the project site. Two known leaking underground storage tank (LUST) sites are within 0.25 mile of the project site, but both cases have been completed and closed.

Discussion

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

And

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

Project construction would involve use of materials that are defined as hazardous, such as paints and other types of coatings, fuels, hydraulic fluids, and coolants for construction equipment. All these materials are commonly used in the construction industry and construction process, and their transport, handling, use, and disposal would occur within specifications as outlined by their respective manufactures. The project may also result in a potential risk of upset or accidental release of fuel (e.g., diesel and gasoline) and/or hydraulic fluid during the use of heavy construction equipment on the project site. However, all transport, handling, and disposal of such substances would comply with all federal, State, and local laws regulating the management and use of hazardous materials. Furthermore, many of the manufacturers' recommendations are based on regulations promulgated by federal and State government. Project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or upset and accident conditions. The impact would be less than significant.

During project operation, hazardous materials on site would include diesel for the backup generator and sodium hypochlorite for chlorination in the chemical building. Both the diesel and the sodium hypochlorite would include secondary containment to avoid any accidental conditions or spills. The project would be required to follow all applicable federal, State, and

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local regulations pertaining to hazardous materials, which would minimize the risk of hazardous material release during routine operations or in the event of an accident. Applicable regulations would include requirements imposed by EPA, DTSC, and the RWQCB. Title 8 of the CCR addresses workplace regulations involving the use, storage, and disposal of hazardous materials. Titles 22 and 26 of the CCR set forth environmental health standards for hazardous materials management. Chapter 6.95 of the California Health and Safety Code sets forth enabling legislation for the application of Titles 8, 22, and 26 of the CCR. Safety precautions for prevention of fire hazards associated with the use and storage of hazardous materials are addressed in the Uniform Fire Code. Compliance with applicable federal, State, and local regulations (including CCR Titles 8, 22, and 26, the Uniform Fire Code, and California Health and Safety Code Chapter 6.95) would ensure that the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions. The impact would be less than significant.

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

The project site is not within 0.25 mile of an existing or proposed school. The closest school is Franklin Elementary School, approximately 1.25 miles west of the project site. No impact would occur.

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

Section 65962.5 of the Government Code requires CalEPA to develop an updated Cortese List. DTSC is responsible for a portion of the information contained in the Cortese List. Based on review of the State Water Board's GeoTracker database and the DTSC's EnviroStor database for information on existing hazardous materials sites (DTSC, n.d.; State Water Board, n.d.-c), no known hazardous materials sites are on the project site. Two known LUST sites are within 0.25 mile from the project site, but both cases have been completed and closed. No impact would occur.

- 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?**

The project site is within the airport influence areas of the Merced Regional Airport and the Merced-Castle Airport, as identified in the *Merced County Airport Land Use Compatibility Plan* (Merced County 2012c). The influence area for Castle Airport and Merced Regional Airport stretches approximately 4 miles from the runway ends in recognition of the airports' runway

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lengths, instrument approach procedures, and heavy aircraft that the airports are capable of accommodating.

The project site is in Merced County Airport Land Use Compatibility Plan Zone C: Extended Approach/Departure Area and Primary Traffic Patterns of the Merced County Airport Land Use Compatibility Plan (Merced County 2012c). The project would not have any conflicts with the general policies or the compatibility policies for Zone C, which consist of numerous policies particular to certain land uses and include conditions on habitable structures and structures that are more than 100 feet tall. Project structures would be a maximum of 39 feet tall, and the project would not include habitable structures and would not create an incompatible land use with any of the policies in the Airport Land Use Compatibility Plan. The project would not include structures that could interfere with airport safety measures. The project would not site a new noise-sensitive land use, nor would it expose residents or workers in the area to excessive noise levels. Therefore, the project would not result in a safety hazard or subject excessive noise on people residing or working in the project area to excessive noise levels. The impact would be less than significant.

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

Project construction and operation would not affect an adopted emergency response plan or emergency evacuation plan. All construction activities would occur on the project site and would not require lane or road closures that could interfere with emergency response or evacuations. The project site is not publicly accessible and does not have habitable structures that would need to be evacuated in the event of an emergency. The project would not result in a significant increase in traffic congestion during construction or operation that could impede mobility along Santa Fe Road during an emergency. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The impact would be less than significant.

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

The project site is in an area considered to have a low fire threat (non-fuel and moderate fire threat area) according to the Merced County Environmental Hazard Data Viewer (Merced County, n.d.-b). The project site has very little vegetation, with a ground surface consisting of dirt and short grasses. During project construction, mechanized equipment, fuels, and other potentially flammable substances would be used. The project would grade the entire site and place an 8-inch aggregate base on the entire site and around the proposed facilities. The project would adhere to existing laws and regulations governing the use of hazardous materials, including those that are flammable, which would reduce the potential for the project to cause a wildland fire or expose people or structures to a significant risk of loss, injury, or death from a wildfire. Furthermore, the project would not involve construction of habitable structures. Thus,

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the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The impact would be less than significant.

3.2.10 Hydrology and Water Quality

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
10. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) result in substantial erosion or siltation on- or offsite;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Surface Water

The project area is in the Lower Black Rascal Creek Watershed (180400011403) of the U.S. Geological Survey-delineated Hydrologic Unit Code (USEPA, n.d.), and within the State Water Board's Central Valley Region 5. Region 5 revised the Water Quality Control Plan (Basin

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Plan) in 2019, as required by the California Water Code (Section 13240) and supported by the federal Clean Water Act (California Regional Water Quality Control Board Central Valley Region 2019). The nearest water body, Black Rascal Canal, is approximately 40 feet west of the project site fence line and is managed by the Merced Irrigation District (Merced Irrigation District 2024). The Black Rascal Canal is a tributary to Black Rascal Creek, which is a Section 303d-listed water for toxicity, dissolved oxygen, and indicator bacteria (State Water Board, n.d.-b).

The project site is in a Federal Emergency Management Agency (FEMA) Special Flood Hazard Area that is delineated to have a 1 percent annual chance of flooding (Zone A), also known as the 100-year flood zone (Merced County 2013).

Groundwater

The project area is in the Merced Subbasin, within the larger San Joaquin Valley Basin (Merced County 2013). The subbasin is designated as a critically over-drafted basin, and the Merced Irrigation–Urban Groundwater Sustainability Agency was formed to develop and implement the *Merced Groundwater Subbasin Groundwater Sustainability Plan* (MIUGSA 2022).

Discussion

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

The project would disturb 0.72 acre of soil and would excavate to a maximum of 5 feet. The ground disturbance would be less than 1 acre, and therefore the project would not be required to obtain coverage under the National Pollutant Discharge Elimination System Construction Stormwater General Permit. Because of the limited depth of excavation, construction dewatering is not anticipated to be required. Project construction activities could temporarily impact water quality because of earth-moving activities, including grading and excavation that could transport sediment and debris into receiving water bodies during storm events, which would constitute a significant impact.

To avoid water quality impacts from stormwater drainage during construction, Cal Am or its contractor would be required to implement MM BIO-1, to control runoff from the project site during construction and operation. In accordance with MM BIO-1, BMPs such as silt fences and straw wattles would be used to avoid erosion or sedimentation from flowing off-site during construction. With implementation of this mitigation measure, water quality impacts would be avoided, and the impact would be reduced to a less-than-significant level.

After construction is completed, the project site would be surfaced with an 8-inch aggregate base and would not create new impervious surfaces other than for the proposed water tank and other facilities, which would add approximately 6,300 square feet of impervious surface to the existing 31,300-square-foot site. There are no existing water bodies on the project site, and the nearest receiving water, Black Rascal Canal, is approximately 40 feet west of the project fence line. No waters would be filled as a result of the project. After construction, the general

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drainage pattern of the site would remain the same as existing conditions, draining away from the site in all directions. The project would not substantially change the overall storm drainage conditions at the site. Therefore, the project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality. The impact would be less than significant with mitigation incorporated.

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

Short-term water demand for construction-related activities (e.g., dust suppression) would be approximately 40,000 gallons over the course of construction and would occur over a relatively small area (i.e., 0.72 acre). The project would not include any paving on site and would also not need to dewater during excavation. The slight increase in impervious surface from the water tank and other facilities would not significantly impact groundwater recharge. Because of the limited water use during project construction and operation, the project would not have any impact on local groundwater supplies. The project would not include new housing or development that would induce population growth and generate a greater demand for groundwater. Therefore, the project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that the project would impede groundwater supplies, groundwater recharge, or aquifers. The impact would be less than significant.

- c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
- i. result in substantial erosion or siltation on- or 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**

The project would not alter the existing drainage pattern of the area or alter the course of a stream or river, because the project would only occur within the existing Cal Am site. Project construction activities would involve earth-moving activities, including grading and excavation. These activities would have the potential to result in erosion and siltation from the site, which would constitute a significant impact. To avoid substantial erosion or siltation during construction, Cal Am or its contractor would be required to implement MM BIO-1 to minimize such an impact. With implementation of MM BIO-1, measures such as the use of silt fences and straw wattles would be used to avoid erosion or sedimentation from flowing off-site during construction. With the implementation of this MM, substantial erosion or siltation would be minimized, and the impact would be reduced to a less-than-significant level.

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After construction, the general drainage pattern of the site would remain the same as existing conditions, draining away from the site in all directions. The project would increase the impervious surface area by about 6,300 square feet, with installation of the water tank and other small facilities; and the rest of the site would be surfaced with an 8-inch aggregate base that would remain pervious. No paving would occur as part of the project. The minimal increase of impervious surface on the site would not substantially increase the rate or amount of surface runoff, and the aggregate base would improve stormwater runoff as it would slow surface runoff, and thereby would decrease the sedimentation runoff from the existing site, which is dirt and sporadic vegetated groundcover. The project would not substantially alter the existing drainage pattern of the site or area through the addition of impervious surfaces. The impact would be less than significant with mitigation incorporated.

iv. impede or redirect flood flows?

The project site is in an area with a one percent annual chance of flooding (Zone A), also known as the 100-year flood zone (Merced County 2013). The project would add approximately 6,300 square feet of impervious surface from installation of the water tank and other facilities. This would be an approximate 20 percent increase in the impervious surface of the existing site. The project would not pave any portion of the site. The project facilities would consist of standalone structures that would not impede or redirect flood flows. In addition, the project would not add any habitable structures on site that would put people in harm's way of a flood hazard, nor would flooding at the project site impede or redirect flood flows in a manner that could create damage to other nearby properties. The impact would be less than significant.

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

No topographical features or water bodies capable of producing seiche or tsunami exist in the project vicinity. The project is located in an area with a 1 percent annual chance of flooding (Zone A), also known as the 100-year flood zone (Merced County 2013) (refer to Impact c above for a discussion of flood hazard on the project site and in the surrounding vicinity).

Project construction would involve use of materials (e.g., paints and other types of coatings, fuels, hydraulic fluids, and coolants) that could pose a risk of release of these pollutants if inundated by a flood during construction. The handling and storage of such substances on site during construction would comply with all federal, State, and local laws regulating the management and use of hazardous materials, including within a floodplain.

During project operation, potential pollutants on site that could have a risk of release during a flood inundation would include diesel for the backup generator and sodium hypochlorite for chlorination in the chemical building. Both the diesel and sodium hypochlorite would include secondary containment and would be required to follow all applicable federal, State, and local regulations pertaining to the storage of hazardous material release during operations or in the event of an accident. Applicable regulations are discussed further in Section, 3.2.9 Hazards and Hazardous Materials. Compliance with all required regulations would avoid the potential

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release of pollutants during possible flood inundation. The impact would be less than significant.

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

The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The project would use the Cal Am on-site water system during construction for dust suppression. The project would use approximately 40,000 gallons of water during the 12-month construction period. Although the project would increase impervious surfaces at the project site, the increased impervious area would be negligible and would not cause a source of polluted runoff (as discussed under Impact a and c above) or inhibit groundwater recharge. Therefore, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan. No impact would occur.

Mitigation Measures

Mitigation Measure BIO-1: Erosion and Sedimentation Best Management Practices

Refer to Section 3.2.4, Biological Resources.

3.2.11 Land Use and Planning

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
11. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) Would the project physically divide an established community?

The project is within a single parcel that is owned by Cal Am, where existing water facilities are present. The project site is surrounded by roads, a canal, and agricultural land. The project would not have the potential to divide an established community. No impact would occur.

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b) Would the project 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?

The project site has a land use designation of IND and a zoning designation of M-1 (Merced County 2010a; 2010b). The industrial designation provides for manufacturing, research and development, processing, distribution, storage, or the wholesale trade of various materials and products. The following policies from the *2030 Merced County General Plan* would be relevant to the project:

- Policy LU-5.E.4:* Industrial and Business Park Development: Ensure future industrial and business park development is compatible with surrounding land uses through the use of landscaping, screening, and other buffers.
- Policy HS-7.4:* New Noise or Groundborne Vibration Generating Uses: Require new commercial and industrial uses to minimize encroachment on incompatible noise or groundborne vibration sensitive land uses. Also consider the potential for encroachment by residential and other noise or groundborne vibration sensitive land uses on adjacent lands that could significantly impact the viability of the commercial or industrial areas.
- Policy W-1.1:* Countywide Water Supply: Ensure that continued supplies of surface and groundwater are available to serve existing and future uses by supporting water districts and agencies in groundwater management and water supply planning; requiring that new development have demonstrated long-term water supply; and assisting both urban and agricultural water districts in efforts to use water efficiently.

The project site is home to existing water supply facilities, such as a well, electrical building, hydrotank, and backup generator. The project would alter the specific facilities present at the project site but would not change the land use type or substantially increase the intensity of operational activities. The project facilities would be compatible with the existing land uses at the site, and the most prominent feature, the water tank, would be painted light beige to blend with the surroundings. The project area is not adjacent to non-industrial areas; it is separated from nearby residences by Black Rascal Canal and Bryant Road. Therefore, the project would not conflict with Policy LU-5.E.3 or LU-5.E.4, which are designed to ensure compatibility between industrial land uses and surrounding land uses.

The project's potential noise impacts are addressed in Section 3.2.13, Noise. The project would not exceed the applicable noise thresholds set by the County, and therefore would not conflict with Policy HS-7.4.

The project would improve water storage volume and pumping capacity to enable Cal Am to sustain peak-hour demands and fire-flow standards for the Meadowbrook system. The project

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would aid in water supply planning and operation and would improve service to existing users, thereby supporting Policy W-1.1.

The Merced County zoning code does not identify specific zones where utilities such as water supply facilities are permitted or prohibited. The project facilities would be consistent with the existing uses at the site (i.e., production well and associated water supply facilities). The Light Manufacturing zoning designation allows buildings up to 75 feet tall; no project facilities would exceed this height. The project facilities would also comply with other applicable zoning regulations (i.e., 15-foot front setback and maximum of 80 percent structure coverage at the site).

The project would be consistent with the *2030 Merced County General Plan* and zoning ordinances. The project would not cause a significant environmental impact because of a conflict with any land use plan, policy, or regulation. The impact would be less than significant.

3.2.12 Mineral Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
12. MINERAL RESOURCES. Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Merced County is rich in nonfuel mineral and soil resources, primarily sand and gravel. However, very few traditional hard rock mines are in operation today (Merced County 2013). The Mineral Land Classification for Merced County, prepared by the California Department of Conservation Division of Mines and Geology, shows that the project site is in an area containing known or inferred concrete aggregate resources of undetermined mineral resource significance (sand and gravel) (MRZ-3 sg). No oil or gas wells are on the project site or within the surrounding vicinity (Parrish 2021).

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Discussion

- a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b) **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

The project site is an existing Cal Am well site and is surrounded by residential, industrial, and agricultural uses; the existing facilities at the project site are not compatible with mineral resource extraction activities. The project site is in an area containing known or inferred concrete aggregate resources; however, the project site is not designated for mineral extraction and is not within, adjacent to, or near existing mining operations or known mineral resources (Parrish 2021). The project would not result in the loss of availability of concrete aggregate because the project site is an existing Cal Am well site and is not delineated as a resource recovery site. No impact would occur.

3.2.13 Noise

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
13. NOISE. Would the project result in:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Noise Fundamentals

Noise is defined as unwanted and objectionable sound. Sound levels usually are measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing

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(Caltrans 2013). Commonly used noise terminology and metrics include (Merced County 2013; FTA 2018):

- **A-weighted decibel (dBA).** A-weighting is a method used to account for changes in level sensitivity as a function of frequency. A-weighting de-emphasizes the high (6.3 kilohertz [kHz] and above) and low (below 1 kHz) frequencies and emphasizes the frequencies between 1 kHz and 6.3 kHz, to simulate the relative response of the human ear.
- **Community Noise Equivalent Level (CNEL).** CNEL is a 24-hour time-averaged sound exposure level adjusted for average-day sound source operations. The adjustment includes a 5-dB penalty for noise occurring between 7 p.m. and 10 p.m., and a 10-dB penalty for noise occurring between 10 p.m. and 7 a.m., to adjust for the increased impact of nighttime noise on human activities.
- **L50.** This is the median noise level, or level that is exceeded 50 percent of the time.
- **Day-Night Average Sound Level (Ldn).** Ldn describes a receiver's cumulative noise exposure from all events over 24 hours. Events between 10 p.m. and 7 a.m. are increased by 10 dB to account for people's greater nighttime sensitivity to noise.
- **Equivalent Sound Level (Leq).** The Leq describes a receiver's cumulative noise exposure from all events over a specified period. The Leq is a "dosage" type measure and is the basis for the descriptors used in current standards, such as the 24-hour CNEL, used by the State of California.
- **Maximum Sound Level (Lmax).** The Lmax is the highest sound level measured over a given period.

Sensitive Noise Receptors

Noise-sensitive land uses generally include those areas of habitation where the intrusion of noise can adversely affect occupancy, use, or enjoyment of the environment. Sensitive receptors in Merced County include residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, and theaters (Merced County 2013). The closest sensitive receptors to the project site are residences approximately 130 feet to the west (across Black Rascal Canal and Bryant Road).

Noise Standards

Federal and State Guidance

CEQA does not specify a numerical threshold for "substantial increases" in noise, and no federal regulations that limit overall environmental noise levels have been established; however, federal guidance documents address environmental noise and regulations for specific sources. EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* in 1974, which provides information for State

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and local governments to use in developing their own ambient noise standards. EPA determined that an Ldn of 55 dBA protects the public from indoor and outdoor activity interference (EPA 1974).

EPA, the Federal Highway Administration (FHWA), and the U.S. Department of Transportation have developed guidelines for noise. Under the authority of the Noise Control Act of 1972, EPA established noise emission criteria and testing methods, published under Title 40 Part 204 of the CFR, that apply to some construction and transportation equipment (e.g., portable air compressors; medium and heavy-duty trucks). These regulations would apply to trucks that would transport equipment to the project site.

Merced County General Plan

The 2030 Merced County General Plan establishes noise standards for receiving land uses; standards for residential and industrial uses are shown in Table 12.

Table 13 Merced County General Plan Noise Standards ^a

Receiving Land Use	Daytime Median (L50)/Maximum (Lmax)	Nighttime Median (L50)/Maximum (Lmax)
Residential	55/75	50/70
Industry	60/80	--

Note:

These standards are to be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards in this table, then the noise level standards need to be increased at 5 dB increments to encompass the ambient.

Source: Merced County 2013

The General Plan contains the following policy that would be relevant to project noise:

Policy HS-7.4: New Noise or Groundborne Vibration Generating Uses: Require new commercial and industrial uses to minimize encroachment on incompatible noise or groundborne vibration sensitive land uses. Also consider the potential for encroachment by residential and other noise or groundborne vibration sensitive land uses on adjacent lands that could significantly impact the viability of the commercial or industrial areas.

Merced County Noise Ordinance

Merced County has developed noise standards, including standards for construction noise. Construction noise standards are presented in Section 18.40.050 of the Merced County Code (Merced County 2019). Construction in or adjacent to urban areas is limited to daytime hours between 7 a.m. and 6 p.m. and is not permitted on weekends or holidays. All construction equipment is required to be properly muffled and maintained.

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Operational noise standards that would apply to the project are included in Section 10.60.030 of the Merced County Code (Merced County 2009). Sound sources on private property may not do any of the following:

- Exceed the background sound level by more than 10 dBA during daytime hours (7 a.m. to 10 p.m.) and or by 5 dBA during nighttime hours (10 p.m. to 7 a.m.); or
- Exceed 65 dBA Ldn on residential property or 70 dBA Ldn on nonresidential property; or
- Exceed 75 dBA Lmax on residential property or 80 dBA Lmax on nonresidential property.

Groundborne Vibration and Noise

Vibrating objects in contact with the ground radiate energy through the ground. Vibratory motion is commonly described by identifying the peak particle velocity (PPV). PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage (Caltrans 2020). Table 13 shows the vibratory thresholds for damage to structures, depending on construction of the structure. Existing sources of vibration adjacent to the project site include vehicles on Santa Fe Road and train traffic on the nearby railroad tracks.

Table 14 Construction Vibration Damage Criteria

Building Category	PPV (inches per second)
Reinforced-concrete, steel, or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018

Merced County does not have established quantitative vibration thresholds to regulate construction or operation-related vibration. Caltrans recommends a vibration limit of 0.5 inch per second (in/sec) PPV for buildings that are structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a limit of 0.1 in/sec PPV for fragile buildings (Caltrans 2020).

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Discussion

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

Construction

No numerical noise thresholds are applicable to construction noise in Merced County. Construction noise is subject to the time frames set forth in Section 18.40.050 of the Merced County Code (Merced County 2019). Project construction would occur between 8 a.m. and 5 p.m., Monday through Friday. No noise-generating work would occur on Saturdays, Sundays, or federal holidays. Thus, all construction work would occur within the allowable time frames set forth by the Merced County Code. Construction equipment would be equipped with mufflers and would be properly maintained. Therefore, project construction would comply with the local noise ordinance. The impact would be less than significant.

Operation

During project operation, noise would be generated by the pump station and emergency generator. Existing sources of noise are present at the project site, from a generator and well. The existing well pump is a 175-horsepower (hp) aboveground pump which is located approximately 160 feet from residences to the west. The project site and residences also experience noise from the nearby railroad, approximately 110 feet away. Based on information compiled in support of the Merced County General Plan, the noise level from railroad activity ranges from about 71 to 73 dB at a distance of 100 feet from the railroad tracks (Merced County 2012a). Noise is also generated from traffic on Santa Fe Road; noise levels modeled for the General Plan indicate a 60-dB noise contour along Santa Fe Drive (modeled northwest of the project site, between Beachwood Drive and Franklin Road), extending 191 feet from the road, and a 65-dB noise contour extending 135 feet from the road (Merced County 2012a). The project site also experiences existing noise from agricultural machinery and activities adjacent to the site to the south and southwest.

Four new pumps would be installed at the site—two 30-hp pumps and two 60-hp pumps. Typically, one or two pumps would operate at a time; in an emergency all four pumps could be operated simultaneously. The pump station would be located approximately 170 feet from residences. The new pumps would be substantially smaller than the existing 175-hp well pump at the site, and as a result would produce less noise. The new pumps would also be located slightly farther from homes than the existing well pump. Because the existing noise environment at the project site is dominated by the existing well pump, as well as road, railroad, and agricultural noise, the new, small pumps installed as part of the project would not create a perceptible change in the noise levels at the project site. The new pumps would not generate a substantial noise increase.

A backup generator would also be installed at the site, which typically generates 82 dBA of noise at a distance of 50 feet (FHWA 2006). At the nearest residential receptor, generator noise

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would attenuate to approximately 74 dBA, which would not exceed the residential daytime Lmax threshold of 75 dBA. In addition, the backup generator would only be operated occasionally (approximately two hours per month for regular testing and maintenance, during daytime hours). The backup generator would not be operational during the majority of days and is only intended to ensure continual, uninterrupted water supply during power outages and emergency situations. Therefore, the backup generator would not generate a substantial noise increase.

Traffic to and from the project site would not change from existing conditions, so no additional noise would be generated from vehicle trips.

The project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of applicable standards, and the impact would be less than significant.

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

The project would include use of construction equipment that would have the potential to generate groundborne vibration. The project would not involve construction equipment that could generate high levels of groundborne vibration (such as pile drivers). Groundborne vibrations propagate through the ground and decrease in intensity quickly as they move away from the source. The FTA's *Transit Noise and Vibration Impact Assessment Manual* provides average source levels for typical construction equipment that may generate groundborne vibrations; vibration source levels for construction equipment associated with the project are shown in Table 14. The project site is approximately 130 feet from nearest residential property line, and none of the construction equipment to be used would exceed the most conservative PPV threshold of 0.1 in/sec at this distance. Thus, project construction would not generate excessive groundborne vibration. The impact would be less than significant.

Table 15 Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	PPV at 130 feet (in/sec)	Approximate Vibration Decibels at 25 feet	Approximate Vibration Decibels at 130 feet
Vibratory roller	0.21	0.018	94	73
Large bulldozer	0.089	0.008	87	66
Loaded trucks	0.076	0.006	86	65
Small bulldozer	0.003	<0.001	58	37

Source: FTA 2018 and Panorama.

According to the FTA's *Transit Noise and Vibration Impact Assessment Manual*, 80 vibration decibels (VdB) is the threshold for human annoyance from groundborne vibration noise when events are infrequent (FTA 2018). Typical VdB levels for construction equipment are shown in Table 14. The project would not involve high-impact activities, such as piledriving or blasting

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that typically generate high levels of groundborne vibration. As shown in Table 14, none of the on-site vibration-generating equipment that would be used for project construction would produce levels of vibration noise exceeding the threshold for human annoyance at nearby residential receptors. Loaded trucks traveling to and from the project site along Santa Fe Road would pass by residential receptors and may generate groundborne vibration noise greater than 80 VdB. Truck traffic associated with the project would be limited, averaging less than one truck trip per day over the 12-month construction period. Because project truck traffic would be low volume, infrequent, and temporary, the project would not generate excessive groundborne noise. The impact would be less than significant.

Project operation would not generate groundborne vibration. The impact would be less than significant.

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

The project site is within the airport influence areas of the Merced Regional Airport and the Merced-Castle Airport, as identified in the *Merced County Airport Land Use Compatibility Plan* (Merced County 2012c). The project site is outside the 60 dB CNEL contours for both airports (Merced County 2012c). The project would not site a new noise-sensitive land use, nor would it expose residents or workers in the area to excessive noise levels (as described under Impact a). Therefore, the project would not expose people residing or working in the project area to excessive noise levels. The impact would be less than significant.

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3.2.14 Population and Housing

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
14. POPULATION AND HOUSING. Would the project:				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

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

The project would include construction and operation of a new water storage tank and booster station on an existing Cal Am well site. The project is needed to meet Title 22 requirements and Cal Am’s planning criteria for effective water storage volume and pumping capacity, to sustain peak-hour demands and fire-flow standards. The project would not result in the acquisition of additional water supplies and would not expand service beyond areas presently served by existing infrastructure. Furthermore, the new infrastructure would not result in long-term relocation of workers because of the temporary nature of the proposed construction activities and would not induce population growth because of new employment opportunities. The project would not affect population or housing in the unincorporated community of Franklin/Beachwood or in the greater regional vicinity (e.g., Merced County and the Central Valley). No impact related to substantial unplanned population growth would occur.

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

The project would not displace people or housing because no housing units exist on the project site. No impact would occur.

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3.2.15 Public Services

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
15. PUBLIC SERVICES.				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- 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:**

Project construction and operation would not result in direct or indirect population growth that would require new or physically altered governmental facilities or any public services, including fire protection, police protection, school services, or park facilities. The purpose of the project would be to meet the current demands of projected peak-hour fire demands and fire-flow standards. Project implementation would result in a beneficial effect on fire protection services by providing adequate flows for firefighting. The project would not create demand for any public facilities and would not create a need for new or physically altered government facilities. No impact would occur.

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3.2.16 Recreation

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
16. RECREATION.				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- 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?**

The project would construct a new water storage tank, a booster station, and other associated facilities, and would not create a need for expansion of recreational facilities. In addition, as discussed in Section 3.2.14, Population and Housing, the project would not directly or indirectly induce population growth that could generate increased demand for recreational facilities. Therefore, the project would not increase the need for or use of neighborhood and regional parks or other recreational facilities. No impact would occur.

- 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?**

The project would not include development of any parks or recreational facilities. No impact would occur.

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3.2.17 Transportation

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

Environmental Setting

The project area is along Santa Fe Road and Bryant Road in the unincorporated community of Franklin-Beachwood in Merced County. Santa Fe Road is a two-lane county road that permits two-way travel and provides access to nearby residences. Bryant Road is a restricted private, one-lane dirt road that runs along the Black Rascal Canal between Lobo Avenue and Santa Fe Road. Regional access is provided to the project site via State Highway 59 and State Highway 99.

Discussion

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

Project construction would generate up to approximately 20 vehicle trips per day, including soil export, materials delivery, demolition debris removal, and construction worker commutes. This minor increase in vehicle trips in the project vicinity would be temporary and would not have a significant impact related to long-term regional circulation planning. No roadway, traffic lane, sidewalk, or bike lane closures are proposed during construction, and no transit facilities would be closed or moved. Roadway and all transit access would be maintained for the entire duration of construction. Equipment and vehicle staging would occur on the project site. Therefore, project construction would not conflict with policies, plans, ordinances, or programs addressing the performance of the circulation system.

Operation and maintenance activities would be conducted by Cal Am employees on their existing visits to the project site. There would be no net increase in vehicle trips as compared to existing conditions. Thus, the project would not impact the performance of the transportation system.

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Project construction and operation would not conflict with policies, plans, ordinances, or programs addressing the performance of the circulation system. The impact would be less than significant.

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

During project construction, vehicle miles traveled would temporarily increase because of construction worker vehicles trips, truck trips, and equipment transport. Operation of the tank would require approximately one worker trip per day, which would not change from the existing maintenance visits. According to the Governor’s Office of Planning and Research, small projects that generate or attract fewer than 110 trips per day may be assumed to cause a less than significant impact in regards to vehicle miles traveled per Section 15064.3(b) of the CEQA Guidelines (Governor’s Office of Planning and Research 2018). Project operation would not generate additional vehicle trips, and therefore the project would not generate an increase in vehicle miles traveled that would conflict or be inconsistent with Section 15064.3(b) of the CEQA Guidelines. The impact would be less than significant.

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

The project would not change the design of existing transportation infrastructure or existing traffic patterns. The project would temporarily increase traffic to the site by up to approximately 20 vehicle trips per day; however, project vehicle trips would not introduce any incompatible uses that could introduce a safety hazard to circulation. Therefore, the project would not generate transportation hazards. No impact would occur.

d) Would the project result in inadequate emergency access?

Project construction and staging would be confined to the project site. No lane closures or detours would be required, and emergency access to the project site and the surrounding vicinity would be maintained. Project operation would not affect any emergency access to the area and would not generate impacts on the transportation network that could affect emergency access. No impact would occur.

3.2.18 Tribal Cultural Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
18. TRIBAL CULTURAL RESOURCES				
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,				

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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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

As there were no tribes on the State Water Board’s Assembly Bill (AB) 52 list for Merced County, no project notification letters were sent.

Bargas Environmental Consulting requested a SLF search and Native American Contact List from the Native American Heritage Commission (NAHC). The NAHC responded on February 5, 2024 stating that the SLF search returned negative results and provided a list of 12 tribes and individuals to contact. Notification letters were sent on February 8, 2024 to representatives of seven tribes on the Native American Heritage Commission’s contact list for the Project Area: the Amah Mutsun Tribal Band, the Dumna Wo-Wah Tribal Government, the Northern Valley Youkut/Ohlone Tribe, the Southern Sierra Miwuk Nation, the Table Mountain Rancheria, The Tule River Indian Tribe, and the Wuksachi Indian Tribe/Eshom Valley Band. Follow up phone calls were made on March 12, 2024. No response was received from the Dumna Wo-Wah Tribal Government, the Northern Valley Youkut/Ohlone Tribe, the Table Mountain Rancheria, or the Wuksachi Indian Tribe/Eshom Valley Band. The Amah Mutsun Tribal Band responded on February 10, 2024 stating that they had no information regarding the sensitivity of the area. The Southern Sierra Miwuk Nation responded on March 13, 2024 to request a callback, but did not respond to an additional attempt to contact them. On March 12, 2024, Kerri Vera, Director of the Department of Environmental Protection for the Tule River Indian Tribe stated that she had no concerns with the project, but requested to be notified if any discoveries were made during construction.

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Discussion

- 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.**

A project-level Cultural Resources Survey Report (Appendix C) was prepared to identify potential impacts on cultural resources, including tribal cultural resources, which would result from the project. No precontact-era cultural resources were identified in the project site as a result of the records search, SLF search, and pedestrian survey. No responses to tribal outreach indicated that known tribal cultural resources are present in the project site (summarized in Section 3.2.5, Cultural Resources). However, with construction projects involving excavation there is potential for ground-disturbing activities to expose previously unrecorded tribal cultural resources.

Implementation of MM CUL-1 (described in detail in Section 3.2.5, Cultural Resources) would avoid or lessen potential impacts on a tribal cultural resource. Implementation of MM CUL-1 would require that earth-disturbing work be temporarily suspended if subsurface archaeological materials, including tribal cultural resources, are discovered during construction. Implementation of MM BIO-3 would require worker training regarding potential cultural resources and required practices in the event of a discovery. Compliance with California Health and Safety Code 7050.5 and PRC 5097.98 would require following applicable regulations governing accidental discovery of human remains and notification of an MLD, if applicable. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resources, and the impact would be less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measure CUL-1: Discovery Protocol

Refer to Section 3.2.5, Cultural Resources

Mitigation Measure BIO-3: Worker Environmental Awareness Training

Refer to Section 3.2.4, Biological Resources.

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3.2.19 Utilities and Service Systems

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Existing utilities present at the project site include CalAm water supply facilities (described in Section 2.2) and a Merced Irrigation District electrical service. There are no sanitary sewer, wastewater treatment, stormwater drainage, natural gas, or telecommunications facilities within the project site.

Discussion

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

The project would install a new water tank, a booster station, and appurtenant facilities. The project would not include domestic sewage or septic facilities, and therefore would not require construction of expanded wastewater treatment for this use. The project would not use natural gas; therefore, no construction or replacement of gas lines would be necessary. The project

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would not result in significant impacts because of construction or relocation of new wastewater treatment, electrical power, natural gas, or telecommunication facilities.

The project would serve existing water demands, accommodate planned growth, and improve performance reliability rather than serve new growth. The project would require a new electrical service from Merced Irrigation District, which has been evaluated as part of the project. As described in this document, the project would reduce all significant impacts associated with construction of new water and electric facilities to a less-than-significant level. The impact would be less than significant.

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

The project would add new water storage and distribution facilities. Construction would require minor water use for dust suppression. Once in operation, the project would not have additional water demands as compared to the existing facilities at the site, water demand would remain approximately 5 gallons per day. The project would aid in meeting peak-hour demand and fire-flows for existing customers. Sufficient water supplies would be available to serve the project, and the project would improve water service. The impact would be less than significant.

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

The project would not generate sanitary wastewater. No impact would occur.

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

The project would generate solid waste, including soil from the proposed excavations. Existing materials that would be removed and not used on site would be transported to a disposal facility, such as the Highway 59 Landfill. The Highway 59 Landfill has a maximum daily throughput of 1,500 tons, and a remaining capacity of 28 million cubic yards (CalRecycle, n.d.). Project waste generation would be temporary, occurring only during project construction, and would be well below the throughput and capacity of the Highway 59 Landfill. Therefore, the project would not result in significant impacts on local landfills. Once constructed, operation and maintenance activities would not generate solid waste. Thus, project operation would not exceed permitted capacity at local landfills. The impact would be less than significant.

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

As described under Impact d above, the project would generate a low volume of waste that would not affect available solid waste disposal capacity in the region. The construction

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contractor would be required to dispose of excavated soil and solid wastes in compliance with all federal, State, and local requirements for integrated waste management and solid waste disposal. The impact would be less than significant.

3.2.20 Wildfire

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project is not located in a State Responsibility Area or on lands classified as being in a very high fire hazard severity zone (CAL FIRE, n.d.). CAL FIRE's Fire and Resource Assessment Program also models fire hazard severity rankings for areas outside State Responsibility Areas; rankings range from "No Fuel" to "Extreme" (Merced County 2012b). Within this ranking, the project area is within an area of non-fuel and moderate fire threat (Merced County, n.d.-b).

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Discussion

- a) **Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**
- b) **Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**
- c) **Would the project, require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**
- d) **Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

The project is not within a State Responsibility Area or a very high fire hazard severity zone. The project would not build habitable structures and would improve the reliability of local water supplies for firefighting efforts. The project would not create adverse impacts related to wildfire risk. No impact would occur.

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3.2.21 Mandatory Findings of Significance

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
21. MANDATORY FINDINGS OF SIGNIFICANCE:				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- 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?

As noted in Section 3.2.4, Biological Resources, special-status plant and wildlife species would have the potential to occur in the project area. Although impacts on special-status species could occur (e.g., injury or mortality to individuals if they are present in the project area during construction), implementation of MMs BIO-1 through BIO-4 would reduce impacts on candidate, sensitive, and special-status species to a less-than-significant level. Accordingly, the project would not 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 or restrict the range of a rare or endangered plant or animal.

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The project site does not contain any known historical, unique archaeological or tribal cultural resources as discussed in Section 3.2.5, Cultural Resources. With regards to cultural resources, MM CUL-1 would be implemented during project construction in case of unanticipated discovery of cultural resources. Furthermore, implementation of MM BIO-3 would require worker training for environmental issues, including cultural resources and required procedures. Thus, the project would not eliminate an important example of major periods of California history or prehistory. The impact would be less than significant with mitigation incorporated.

- 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)?**

Under CEQA, the term "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. All resource topics associated with the project have been analyzed in accordance with CEQA and the State CEQA Guidelines and were found to pose no impacts, less than significant impacts, or less than significant impacts with mitigation incorporated. No significant impacts would occur from project implementation.

To evaluate cumulative impacts, projects within a 1-mile radius of the project area were identified. Based on study of projects under review by Merced County, City of Merced, Merced Irrigation District, Caltrans, and a search of CEQAnet, four cumulative projects are within 1 mile of the project area. Table 15 shows an updated list of current or future projects considered in the analysis of cumulative impacts for the project.

Table 16 Cumulative Projects

Project Name	Description	Estimated Construction Period	Location
Highway 59 Phase 1 Widening and Widening Over Black Rascal Creek	Caltrans and the City of Merced propose to widen and improve State Route 59 from a two-lane roadway to four lanes, from the 16th Street intersection to about 600 feet south of Buena Vista Drive.	spring 2026 to spring 2027	1 mile southeast of project site
Merced 99 Pavement Rehabilitation	The project was a resurfacing and restoration roadway rehabilitation project of State Route 99 in Merced County in the City of Merced, from 0.5 mile south of Childs Avenue to 0.8 mile south of the Franklin Road Overcrossing.	completed summer 2023	0.9 mile south of the project site
Transportation Management System Replacements	The purpose of this project is to install new transportation management system (TMS) elements or replace/upgrade existing outdated TMS elements, components, and/or equipment	approximately 2027	Locations to be determined, may be 0.9 mile south of the project site

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	throughout Merced, Stanislaus, and Tuolumne counties, including on State Route 99.		
Drake Court Tie-in	Cal Am proposes to construct a new potable water tie-in from the Meadowbrook site to Drake Court.	completed winter 2023–2024	Adjacent to the project site

Sources Caltrans, n.d.-b; n.d.-c; n.d.-d; City of Merced, n.d.-a; n.d.-b; Merced County, n.d.-a

Project construction is anticipated to begin in 2024 and require approximately 12 months to complete; this time frame would not overlap with construction of the cumulative projects. Therefore, the project’s temporary construction impacts (which would be less than significant), would not combine with the impacts of the cumulative projects to generate a cumulatively considerable impact. After the project is operational, it would not generate ongoing impacts (e.g., traffic, noise, dust, or aesthetic impacts) or land uses changes that would have the potential to combine with the cumulative utility and transportation projects to create a cumulatively considerable impact. The project would not result in a cumulatively considerable adverse environmental effect. Therefore, with the implementation of mitigation measures identified in this IS/MND, project implementation along with current and future projects would not result in cumulatively considerable significant impacts. The cumulative impact would be less than significant with mitigation incorporated.

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

In general, impacts on human beings are associated with air quality, geology and soils, hydrology and water quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in adverse effects related to air quality, geology and soils, hazards and hazardous materials, or noise. Potential water quality impacts associated with stormwater drainage could occur during construction but would be reduced to a less-than-significant level with implementation of MM BIO-1.

Implementation of mitigation measures would reduce impacts on human beings to a less-than-significant level. Accordingly, the project would not cause substantial adverse effects on human beings, either directly or indirectly. The impact would be less than significant with mitigation incorporated.

4 List of Preparers

This section lists those individuals who either prepared or participated in preparation of this IS/MND.

Panorama Environmental, Inc. prepared this IS/MND under contract to S2S Environmental Resource Management for California American Water Agency. The individuals who were involved in data gathering analysis, project management, and quality control are listed below.

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5 REFERENCES

5 References

- Bargas Environmental Consulting, LLC. 2024. "Cultural Resources Report for CalAm's Meadowbrook Tank and Booster Station Project, Merced County, California. Prepared for S2S Environmental Resource Management, San Ramon, California."
- Battistone, Carie, Brett Furnas, Richard Anderson, Julie Dinsdale, Kristi Cripe, James Estep, Calvin Chun, and Steven Torres. 2019. "Population and Distribution of Swainson's Hawks (*Buteo Swainsoni*) in California's Great Valley: A Framework for Long-Term Monitoring." *Journal of Raptor Research* 53 (August): 253.
- CAL FIRE. n.d. "State Responsibility Area (SRA) Viewer." Accessed February 13, 2024. <https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=468717e399fa4238ad86861638765ce1>.
- California Air Pollution Control Officers Association. 2008. "CEQA and Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act."
- — —. 2022. "California Emissions Estimator Model User Guide Version 2022.1." <https://www.caleemod.com/user-guide>.
- California Air Resources Board. 2017. "California's 2017 Climate Change Scoping Plan." https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf.
- — —. 2023. "Regulation for In-Use Off-Road Diesel-Fueled Fleets." <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-road-diesel/froa-1.pdf>.
- California Air Resources Board (CARB). 2022. "2022 Scoping Plan for Achieving Carbon Neutrality." <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>.
- California American Water. n.d. "2022 Annual Water Quality Report: Meadowbrook PWS ID: 2410008." Accessed December 28, 2023. https://authoring-dotcms-prod.awapps.com/dA/b8f3571e56/fileAsset/2022_CCR_CA_Northern_Meadowbrook_Final.pdf.
- California Department of Conservation. 2022. "California Important Farmland Finder." 2022. <https://maps.conservation.ca.gov/DLRP/CIFF/>.
- California Department of Conservation (CDOC). n.d. "Earthquake Zones of Required Investigation." Map viewer. Accessed December 21, 2023. <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.
- California Department of Fish and Wildlife. 2019. "California Regional Conservation Plans." 2019. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline>.
- — —. 2024. "California Natural Diversity Database (CNDDDB)." 2024. <https://wildlife.ca.gov/Data/CNDDDB>.

5 REFERENCES

- — —. n.d. "Status Summaries of Rare, Threatened, and Endangered Species." Accessed February 23, 2024. <https://wildlife.ca.gov/Conservation/CESA/Summary-Reports#566973108-2005-report>.
- California Department of Toxic Substances Control. n.d. "EnviroStor." Accessed February 14, 2024. <https://www.envirostor.dtsc.ca.gov/public/>.
- California Department of Transportation. 2013. "Technical Noise Supplement to the Traffic Noise Analysis Protocol."
- — —. 2019. "California State Scenic Highway System Map." 2019. <https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>.
- — —. 2020. "Transportation and Construction Vibration Guidance Manual." <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>.
- — —. n.d.-a. "Merced 99 Pavement Rehabilitation." District 10 Current Projects. Accessed February 23, 2024. <https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/10-1c170>.
- — —. n.d.-b. "State Route 59 4-Lane Widening." District 10 Current Projects. Accessed February 23, 2024. <https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/10-1m140>.
- — —. n.d.-c. "Transportation System Management Replacement." District 10 Current Projects. Accessed February 23, 2024. <https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/10-1l450>.
- California Governor's Office of Emergency Services. 2022. "California Electric Utility Service Territory (GIS Feature Layer)." <https://hub.arcgis.com/datasets/CalEMA::california-electric-utility-service-territory/explore>.
- California Regional Water Quality Control Board Central Valley Region. 2019. "The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region - Fifth Edition." https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201902.pdf.
- CalRecycle. n.d. "SWIS Facility/Site Activities, Highway 59 Landfill (24-AA-0001)." CalRecycle Solid Waste Information System (SWIS). Accessed January 30, 2024. <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2908?siteID=1863>.
- City of Merced. n.d.-a. "Environmental Review Documents - Environmental Impact Reports." Environmental Review Documents. Accessed February 23, 2024. <https://www.cityofmerced.org/departments/planning-division/environmental-review-documents/-folder-2491>.
- — —. n.d.-b. "Environmental Review Documents - Initial Studies." Environmental Review Documents. Accessed February 23, 2024. <https://www.cityofmerced.org/departments/planning-division/environmental-review-documents/-folder-2508>.
- Cockrum, E.L. 1960. "Distribution, Habitat and Habits of the Mastiff Bat, *Eumops Perotis*, in North America." *Journal of the Arizona Academy of Science* 1 (3): 79–84.

5 REFERENCES

- Collinge, Sharon, Marcel Holyoak, Cheryl Barr, and Jaymee Marty. 2001. "Riparian Habitat Fragmentation and Population Persistence of the Threatened Valley Elderberry Longhorn Beetle in Central California." *Biological Conservation* 100 (July): 103–13.
- Coulombe, Harry N. 1971. "Behavior and Population Ecology of the Burrowing Owl, *Speotyto cunicularia*, in the Imperial Valley of California." *The Condor* 73 (2): 162–76.
- Cypher, B., Scott E. Phillips, and P. Kelly. 2013. "Quantity and Distribution of Suitable Habitat for Endangered San Joaquin Kit Foxes: Conservation Implications." *Canid Biology and Conservation* 16 (7): 25–31.
- Federal Highway Administration. 2006. "FHWA Roadway Construction Noise Model User's Guide." U.S. Department of Transportation.
- Federal Transit Administration. 2018. "Transit Noise and Vibration Impact Assessment Manual."
- Flockhart, D. T. Tyler, Jean-Baptiste Pichancourt, D. Ryan Norris, and Tara G. Martin. 2015. "Unravelling the Annual Cycle in a Migratory Animal: Breeding-Season Habitat Loss Drives Population Declines of Monarch Butterflies." *Journal of Animal Ecology* 84 (1): 155–65.
- Governor's Office of Planning and Research. 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.
- Halstead, Brian, Shannon Skalos, Glenn Wylie, and Michael Casazza. 2015. "Terrestrial Ecology of Semi-Aquatic Giant Gartersnakes (*Thamnophis gigas*)." *Herpetological Conservation and Biology* 10 (August): 633–44.
- Intergovernmental Panel on Climate Change. 2015. "Climate Change 2014 Synthesis Report." https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.
- Loredo, Ivette, Dirk Van Vuren, and Michael L. Morrison. 1996. "Habitat Use and Migration Behavior of the California Tiger Salamander." *Journal of Herpetology* 30 (2): 282–85.
- Merced County. 2009. "Merced County Code. Title 10. Public Peace, Morals, and Welfare. Chapter 10.60 Noise Control." <https://ecode360.com/print/ME4967?guid=43018626>.
- — —. 2010a. "General Plan - Community of Franklin-Beachwood." <https://web2.co.merced.ca.us/pdfs/planning/sudpmaps/Franklin-Beachwood.pdf>.
- — —. 2010b. "Zoning - Community of Franklin-Beachwood." <https://web2.co.merced.ca.us/pdfs/planning/sudpmaps/Franklin-Beachwood.pdf>.
- — —. 2012a. "2030 Merced County General Plan Draft Background Report." https://web2.co.merced.ca.us/pdfs/planning/generalplan/DraftGP/BackgroundRpt_2030/MCGPU_BR_Cover_2012-11-30.pdf.
- — —. 2012b. "2030 Merced County General Plan Update Draft Program Environmental Impact Report." https://web2.co.merced.ca.us/pdfs/planning/generalplan/DraftGP/DEIR/merced_county_deir_2012_11_30.pdf.
- — —. 2012c. "Merced County Airport Land Use Compatibility Plan." https://web2.co.merced.ca.us/pdfs/planning/aluc/alucp_july2012/2012_mer_alucp_entire_document.pdf.

5 REFERENCES

- — —. 2013. “2030 Merced County General Plan.”
<https://www.countyofmerced.com/DocumentCenter/View/6766/2030-Merced-County-General-Plan?bidId=>.
- — —. 2019. “Merced County Code. Title 18. Zoning Code. Section 18.40.050, Noise.”
<https://ecode360.com/print/ME4967?guid=43024186>.
- — —. 2022. “Merced County GIS Information Portal.” October 12, 2022. <https://geostack-mercedcounty.opendata.arcgis.com/>.
- — —. n.d.-a. “Environmental Documents.” Environmental Review Documents. Accessed February 23, 2024. <https://www.countyofmerced.com/414/Environmental-Documents>.
- — —. n.d.-b. “Merced County Environmental Hazard Data Viewer.” Accessed February 13, 2024.
<https://mercedcounty.maps.arcgis.com/apps/webappviewer/index.html?id=3bf01b1ed7904f2dbba7e8582ec3f175>.
- Merced County Association of Governments. 2018. “2018 Regional Transportation Plan Sustainable Communities Strategy for Merced County.”
<https://www.mcagov.org/307/2018-RTP>.
- Merced Irrigation District. 2024. “Merced Irrigation District Water - MID Water - California Water.” Merced Irrigation District Water & Power. 2024. <https://mercedid.org/merced-irrigation-district-water/>.
- Merced Irrigation-Urban Groundwater Sustainability Agency. 2022. “Merced Groundwater Subbasin Groundwater Sustainability Plan.” https://mercedsgma.org/assets/pdf/gsp-sections/revise/Merced-Subbasin-GSP_July-2022-Update_without-appendices.pdf.
- Ninyo & Moore. 2023. “Geotechnical Evaluation Cal Am Meadowbrook Tank and Booster Station Santa Fe Road and Bryant Road Merced, California.”
- Office of Environmental Health Hazard Assessment. 2015. “Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.”
http://oehha.ca.gov/air/hot_spots/hotspots2015.html.
- — —. n.d. “Diesel Exhaust Particulate.” Accessed February 26, 2024.
<https://oehha.ca.gov/chemicals/diesel-exhaust-particulate>.
- Parrish, Benjamin. 2021. “Mineral Resource Zone Map for Concrete Aggregate in Merced County.” California Department of Conservation, California Geological Survey.
<https://maps.conservation.ca.gov/mineralresources/#webmaps>.
- Placer County Air Pollution Control District. 2017. “2017 CEQA Handbook – Chapter 2, Thresholds of Significance.” <https://placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF?bidId=>.
- Sacramento Metropolitan Air Quality Management District. 2018. “SMAQMD Operational Screening Levels, CEQA Guide December 2009, Revised August 2013, June 2015, August 2016, December 2016, April 2018.” <https://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>.
- San Joaquin Valley Air Pollution Control District. 2004. “Regulation VIII (Fugitive PM10 Prohibitions).”
- — —. 2007. “2007 PM10 Maintenance Plan and Request for Redesignation.”

5 REFERENCES

- — —. 2009a. “Final Staff Report Addressing GHG Emissions Impacts under the California Environmental Quality Act.” <https://ww2.valleyair.org/permitting/climate-change-action-plan/>.
- — —. 2009b. “Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA.” [https://www.valleyair.org/Programs/CCAP/12-17-09/3CCAP - FINAL LU Guidance - Dec 17 2009.pdf](https://www.valleyair.org/Programs/CCAP/12-17-09/3CCAP-FINAL-LU-Guidance-Dec-17-2009.pdf).
- — —. 2013. “Ambient Air Quality Analysis Project Daily Emissions Assessment.” [https://www.valleyair.org/transportation/CEQA Rules/GAMAQI_AAQA_05-24-2013.pdf](https://www.valleyair.org/transportation/CEQA-Rules/GAMAQI-AAQA_05-24-2013.pdf).
- — —. 2015a. “Air Quality Thresholds of Significance – Criteria Pollutants.” <https://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf>.
- — —. 2015b. “Air Quality Thresholds of Significance-Toxic Air Contaminants.” <https://ww2.valleyair.org/media/2lpbkso0/2-cms-format-air-quality-thresholds-of-significance-toxic-air-contaminants.pdf>.
- — —. 2015c. “Guidance for Assessing and Mitigating Air Quality Impacts.” <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>.
- — —. 2018. “2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards.” <https://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf>.
- — —. 2020. “2020 RACT Demonstration for the 2015 8-Hour Ozone Standard.”
- — —. 2021. “Rule 4702 Internal Combustion Engines.”
- — —. 2022. “2022 Plan for the 2015 8-Hour Ozone Standard.”
- Solano County Water Agency. 2012a. “Natural Community and Species Accounts: Colusa Grass.” <https://www.scwa2.com/documents/hcp/appendix/H-6.Colusa%20Grass.pdf>.
- — —. 2012b. “Natural Community and Species Accounts: Conservancy Fairy Shrimp.” <https://www.scwa2.com/documents/hcp/appendix/H-6.Conservancy%20Fairy%20Shrimp.pdf>.
- — —. 2012c. “Natural Community and Species Accounts: Vernal Pool Fairy Shrimp.” <https://www.scwa2.com/documents/hcp/appendix/H-6.Vernal%20Pool%20Fairy%20Shrimp.pdf>.
- — —. 2012d. “Natural Community and Species Accounts: Vernal Pool Tadpole Shrimp.” <https://www.scwa2.com/documents/hcp/appendix/H-6.Vernal%20Pool%20Tadpole%20Shrimp.pdf>.
- South Coast Air Quality Management District. 2008. “Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold.” [https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgattachmente.pdf](https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf).
- State Water Resources Control Board. n.d.-a. “CA Drinking Water Watch, Water System Details.” Accessed December 28, 2023. https://sdwis.waterboards.ca.gov/PDWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=3050&tinwsys_st_code=CA&wsnumber=CA2410008.

5 REFERENCES

- — —. n.d.-b. "California 2018 Integrated Report Map." Accessed February 21, 2024. <https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=e2def63ccef54eedbee4ad726ab1552c>.
- — —. n.d.-c. "GeoTracker." GeoTracker. Accessed February 14, 2024. <https://geotracker.waterboards.ca.gov/>.
- Surf to Snow Environmental Resource Management. 2024. "Biological Constraints Review - Meadowbrook 1 MG Tank and Booster Project."
- University of California Museum of Paleontology. n.d. "Merced County Locality Search." Accessed February 22, 2024. https://ucmpdb.berkeley.edu/cgi/ucmp_query2?admin=&query_src=ucmp_admin_queryloc&table=ucmp_loc2&loc_ID_num=-2049&one=T.
- U.S. Environmental Protection Agency. 1974. "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004)." <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000L3LN.txt>.
- — —. 2018. "Emission Factors for Greenhouse Gas Inventories." https://www.epa.gov/sites/default/files/2018-03/documents/emission-factors_mar_2018_0.pdf.
- — —. n.d. "NEPAssist." Accessed February 6, 2024. <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>.
- U.S. Fish and Wildlife Service. 2024a. "IPaC: Information for Planning and Consultation." 2024. <https://ipac.ecosphere.fws.gov/>.
- — —. 2024b. "National Wetlands Inventory." 2024. <https://www.fws.gov/program/national-wetlands-inventory>.
- — —. 2024c. "USFWS Threatened & Endangered Species Active Critical Habitat Report." 2024. <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>.
- — —. n.d. "FWS-Listed U.S. Species by Taxonomic Group - All Animals." Accessed February 23, 2024. <https://ecos.fws.gov/ecp/report/species-listings-by-tax-group?statusCategory=Listed&groupName=All%20Animals&total=726>.
- Wills, C. J., M.D. O'Neal, P.J. Holland, and E.L. Key. 2022. "Preliminary Geologic Map of the Merced 30' x 60' Quadrangle, California: California Geological Survey Preliminary Geologic Map 22-10, Scale 1:100,000." California Geological Survey. https://www.conservation.ca.gov/cgs/Documents/Publications/Regional-Geologic-Maps/Preliminary-RGM/PGM_22-10-Merced-100k-v1-Map-a11y.pdf.
- Wilsey, Chad, Nicole Michel, Katie Krieger, Lotem Taylor, Liling Lee, Samantha Arthur, and Neil Clipperton. 2019. "Defining Spring Foraging Habitat and Prioritization of Conservation Sites for Tricolored Blackbirds in California, USA." *The Condor* 121 (December).
- Zaragoza, George, Jonathan Rose, Kathryn Purcell, and Brian Todd. 2015. "Terrestrial Habitat Use by Western Pond Turtles (*Actinemys Marmorata*) in the Sierra Foothills." *Journal of Herpetology* 49 (September): 437–41.