DRAFT

Initial Study and Mitigated Negative Declaration

City of Manteca Central Trunk Sewer Project

City of Manteca, California

Lead Agency:

City of Manteca
1001 West Center Street
Manteca, CA 95337

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, CA 95677

April 2026

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DRAFT MITIGATED NEGATIVE DECLARATION

Lead Agency: City of Manteca (City)

Project Location: The City of Manteca Central Trunk Sewer Project (Project) Area consists of an area approximately 0.8 mile in length and 40 feet wide for the proposed new segment of sewer line within the City. The Project Site is located within Section 31, Township 1 South, Range 7 East, Mount Diablo Base and Meridian, as depicted on the 1994 minor revised edition of the 1980 photorevised edition of the 1952 U.S. Geological Survey Manteca, California 7.5-minute quadrangle.

Project Description: The Central Trunk Sewer Replacement Project (Project) consists of the replacement of an existing 36-inch diameter sanitary sewer trunk line that is deteriorated and aged connecting to the Union Road Lift Station (URLS) located within the Parks Department Corporation Yard. The new 36-inch trunk sewer line will be approximately 4,300 LF of 36-inch PVC SDR 26 pipe. The existing lifting station will be decommissioned in the future by others. The new sewer line will begin downstream near the newly constructed subdivision off the Airport Road and extend eastward through the Kaiser Development, crossing the canal, through the Manteca Park Golf Course, continuing under the Parks Department Corp Yard and tie-in to the URLS at an existing sewer manhole.

Public Review Period: **April 24, 2026 to May 25, 2026**

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

BIO-1: **Special-Status Plant Habitat Avoidance.** The following measures shall be implemented to avoid impacts to Special-Status Plant Habitat within the pipeline alignment:

- A special-status plant survey shall be conducted according to California Department of Fish and Wildlife (CDFW), California Native Plant Society, and U.S. Fish and Wildlife Service (USFWS) protocols prior to Project ground-disturbing or vegetation-disturbing activities within undeveloped areas. The survey shall be conducted by a qualified biologist (as defined per agency protocols) throughout all potential habitat for special-status plants within the Project Site and a 15-foot buffer. The survey shall be timed according to the identifiable period for special-status plant species with potential to occur (typically the blooming period). To the extent feasible, known reference populations shall be visited prior to the survey to confirm target species are evident and identifiable at the time of the survey. If no special-status plants are

found and the survey is still considered recent as per CDFW and USFWS protocols at the time of Project implementation, no further measures pertaining to special-status plants are necessary. If a special-status plant is identified within or adjacent to the Project Site, the following shall apply.

- An impact assessment shall be made by a qualified biologist to determine whether Project-related activities would be significant such that they would have the potential to eliminate, substantially reduce the number of, or restrict the range of the special-status plant species, and/or conflict with any local policies or ordinances protecting special-status plant species. If impacts are determined to be less than significant, no further measures are needed.
- If potential impacts are determined to be significant, then a no-disturbance buffer shall be established around special-status plant populations to be avoided within or adjacent to the Project Site. The no-disturbance buffer shall include the extent of the avoided special-status plants (as determined by a qualified biologist during an appropriate time to identify the plants immediately preceding construction) plus a minimum 15-foot buffer. The avoidance area shall be clearly demarcated in the field and demarcation shall be maintained for the duration of Project construction. No vegetation-disturbing or ground-disturbing activities shall occur within the avoidance area.

BIO-2: **Northwestern Pond Turtle.** A qualified biologist shall conduct a preconstruction clearance survey within the Project Site within 48 hours prior to the initiation of Project construction activities. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If northwestern pond turtles are found within or near the Project Site during the survey or during Project implementation, they shall be allowed to move out of the Project Site on their own volition or relocated by a qualified biologist in coordination with CDFW and silt fencing shall be installed.

BIO-3: **Nesting Birds.** If construction is scheduled during the nesting season (typically February 1–August 31, and as early as January 1 for raptors), a qualified biologist shall conduct a preconstruction nesting bird survey within 14 days prior to the commencement of Project-related activities to identify active nests that could be impacted by construction. The survey shall be conducted within the Project Site and a 500-foot buffer for raptors and a 100-foot buffer for other birds, where accessible. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If active nests are found, a no-disturbance buffer shall be established around the nest. A qualified biologist shall establish a buffer distance. The buffer shall be maintained until the nestlings have fledged (e.g., are capable of flight and become independent of the nest), to be determined by a qualified biologist. The avoidance buffer can be removed, and no further measures are necessary once the young have fledged or the nest is no longer occupied, as determined by a qualified biologist.

BIO-4: **Burrowing Owl.** A qualified biologist shall conduct a *take avoidance* preconstruction survey according to the Staff Report on Burrowing Owl Mitigation. If active/occupied burrows are detected, a no-disturbance buffer shall be established around the burrow. The buffer distance shall be established in coordination with CDFW.

BIO-5: **Swainson's Hawk.** If construction is scheduled during the Swainson's hawk nesting season (March 1 to August 31), then, a qualified biologist shall conduct a survey for Swainson's hawk nesting activity within a 0.5-mile distance surrounding the Project Site. The qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to the initiation of surveys. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If Swainson's hawk nesting activity is observed during the survey, an avoidance buffer shall be established by a qualified biologist in consultation with CDFW. The avoidance buffer shall be maintained while the nest is active.

BIO-6: **Western Red Bat.** Tree trimming/removal shall occur outside of the bat maternity season (April 15 through August 31), as feasible.

BIO-7: **Aquatic Resources.** Construction in this area will take place in one phase and will be completed before the irrigation ditch is used to convey any water.

Additionally, the applicant shall prepare and implement an Erosion and Sediment Control Plan to avoid and minimize sediment and erosion to aquatic resources within or adjacent to the Project Site boundary.

BIO-8: **Tree and Vegetation Removal.** The Project proponent shall consult with the City of Manteca Parks and Recreation Department prior to impacting vegetation in any public space and shall secure their approval for impacting such vegetation prior to construction, if needed.

Cultural Resources

CUL-1: **Unanticipated Discoveries.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

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

- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under the California Environmental Quality Act (CEQA), as defined by CEQA or a Historic Property under Section 106 of the National Historic Preservation Act, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code (PRC), and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Geology and Soils

PALEO-1: **Discovery of Unknown Resources.** If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area, and the area shall be isolated using orange or yellow fencing until the City is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. If the City resumes work in a location where paleontological remains have been discovered and cleared, the City will have a paleontologist onsite to confirm that no additional paleontological resources are in the area.

Transportation

TRANS-1: **Construction Traffic Management Plan**. Prior to commencing construction of the Proposed Project, a construction traffic management plan shall be prepared by the Contractor, in coordination with the City. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and construction-related traffic. The construction traffic management plan will include, at a minimum, the following measures:

A. Adequate off-street worker parking shall be provided along the pipeline route.

B. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe.

C. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours.

D. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses.

E. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route.

F. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes.

G. All paved surfaces disturbed during construction shall be repaved when work is complete.

H. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction.

I. To minimize delays in emergency response during Project construction, emergency providers shall be notified in advance. Police, fire protection, and ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the Project's construction process.

Tribal Cultural Resources

TCR-1: **Unanticipated Discovery of Tribal Cultural Resources.** If potentially significant TCRs are discovered during ground disturbing activities, all work shall cease within 50 feet of the find. A Native American Representative from traditionally and culturally affiliated Native American Tribes that requested consultation on the Project shall be immediately contacted and invited to assess the significance of the find and make recommendations for further evaluation and treatment, as necessary. If deemed necessary by the City, a qualified cultural resources specialist, who meets the Secretary of Interior's Standards and Qualifications for Archaeology, may also assess the significance of the find in joint consultation with Native American representatives to ensure that tribal values are considered. Work at the discovery

location cannot resume until the City, in consultation as appropriate and in good faith, determines that the discovery is either not a TCR, or has been subjected to culturally appropriate treatment, if avoidance and preservation cannot be accommodated.

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Appendix B – Biological Resources Assessment for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025.

Appendix C – Energy Consumption Analysis for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025.

Appendix D – Noise Analysis for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
°F	degrees Fahrenheit
AB	Assembly Bill
ANSI	American National Standards Institute
BAU	Business-as-Usual

Term	Definition
BCC	Bird of Conservation Concern
BMP	Best Management Practice
BPS	Best Performance Standard
BSA	Biological Study Area
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCaIC	Central California Information Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH4	methane
CI	*Coccidioides immitis*
City	City of Manteca
CMU	Commercial Mixed-Use
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
dB	decibels
dBA	A-weighted decibels
DOC	California Department of Conservation
DPM	Diesel Particulate Matter
DTSC	California Department of Toxic Substances Control

Term	Definition
DWR	California Department of Water Resources
ECORP	ECORP Consulting, Inc.
EIR	Environmental Impact Report
EMFAC	Emission Factor
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESJGS-GSP	Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
I	Interstate
IS/MND	Initial Study/Mitigated Negative Declaration
kWh	kilowatt-hours
Ldn	Day-Night Average Noise Level
Leq	Equivalent Noise Level
LUST	Leaking Underground Storage Tank
MLD	Most Likely Descendant
MPD	Manteca Police Department
MRZ	Mineral Resource Zone
MSL	Mean Sea Level
N2O	nitrous oxide
NAHC	Native American Heritage Commission
NIOSH	National Institute for Occupational Safety and Health
NOx	nitric oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O3	ozone
PG&E	Pacific Gas and Electric Company
PM10	Particulate Matter Less than 10 Microns in Diameter

Term	Definition
PM2.5	Particulate Matter Less than 2.5 Microns in Diameter
PPV	Peak Particle Velocity
PRC	Public Resources Code
Project	City of Manteca Central Trunk Sewer Project
PVC	Polyvinyl Chloride
RACT	Reasonably Available Control Technology
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SIP	State Implementation Plan
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SO2	sulfur dioxide
SP	Special Publication
SR	State Route
SSC	Species of Special Concern
SSJID	South San Joaquin Irrigation District
STC	Sound Transmission Class
SWD	City of Manteca Solid Waste Division
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
UCMP	University of California Museum of Paleontology
URLS	Union Road Lift Station
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WQCF	Wastewater Quality Control Facility
WWMP	Wastewater Master Plan

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1.0 BACKGROUND

1.1 Summary

Project Title:	City of Manteca (City) Central Trunk Sewer Project (Project)
Lead Agency Name and Address:	City of Manteca 1001 W Center Street Manteca, CA 95337
Contact Person and Phone Number:	Alfredo Mijango, Associate Engineer PE 209-456-8422
Project Location:	The Project Site consists of an area approximately 0.8 mile in length and 40 feet in width for the proposed new segment of sewer line within the City.
General Plan Designation:	Commercial Mixed-Use (CMU) and Park (P)
Zoning:	CMU and P

1.2 Introduction

The City is the Lead Agency for this California Environmental Quality Act (CEQA) Initial Study. This Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Project to satisfy CEQA (Public Resources Code [PRC], Section 21000 et seq.) and state CEQA Guidelines (Title 14, California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences before approving those projects. The City will use this CEQA Initial Study to determine which CEQA document is appropriate for the Project: Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report (EIR).

In accordance with CEQA, this Initial Study/Mitigated Negative Declaration (IS/MND) will be circulated for a 30-day public review and comment period. Written comments on the Draft IS/MND should be submitted to:

Alfredo Mijango, Associate Engineer PE
City of Manteca
1001 W. Center Street
Manteca, CA 95337
amijango@manteca.gov

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2.0 PROJECT DESCRIPTION

2.1 Project Background

The City's 2024 Wastewater Master Plan (WWMP) included hydraulic modeling to evaluate the capacity of the existing sewer collection system. The hydraulic model simulated conditions under a 10-year, 24-hour rainfall design storm for all pipes with diameters greater than 8-inches and was calibrated using the wet weather flow model and applying a 10-year, 24-hour rainfall event. In addition to analyzing the performance of the existing sewer system, the hydraulic model also included an evaluation of the existing sewer collection system to handle buildout and/or future development scenarios. The outcome of the model presented in the 2024 WWMP identified the Central Trunk Sewer system as deficient and recommended improvement to the system in order to convey the flows described in the future growth analysis scenarios. The City also noted that the Union Road Lift Station (URLS) is beyond its useful life, requires significant operations and maintenance, and consistently surcharges the upstream collection system.

In response to the deficiencies identified as a part of the WWMP, the City proposes to replace a portion of the existing 36-inch trunk sewer section between a new subdivision east of Airport Road and north of Kaiser Development and up to the URLS at a lower depth to eliminate the URLS. The Project will allow flows from the Central Shed to flow by gravity to the City's Wastewater Quality Control Facility (WQCF). The URLS will remain in operation and protected-in-place for the purposes of this Project.

2.2 Existing Conditions

The majority of the Central Trunk Sewer was constructed in the 1970s and several sections of the Central Trunk Sewer have limited to no residual capacity under peak wet weather flow conditions. The City recently replaced a section of the 36-inch North Trunk Sewer with a 54-inch trunk sewer with the intention of decommissioning the existing URLS. Additionally, the City replaced a 36-inch trunk sewer section with a newer 36-inch truck sewer section on Airport Way between the Manteca Park Golf Course and Louise Avenue. Construction of this Project will allow the City to decommission the URLS and convey wastewater, using a gravity system, from the Central Trunk Sewer shed.

Recently, plans were completed to construct a new subdivision within a section of the Central Trunk Sewer system. The existing subdivision is planned to have a future east-west street (Center Street), that will contain a new 36-inch sanitary sewer with a stub connection at the existing sewer utility hole located at the southeastern border of the development. The existing stub will be the downstream connection point for the new 36-inch trunk gravity sewer pipeline.

The upstream connection point is planned to tie into the URLS upstream at the existing and adjacent sewer utility hole

2.3 Project Characteristics

The Project proposes to construct a new 36-inch trunk sewer pipeline. The new sewer line will begin downstream near the newly constructed subdivision off the Airport Road and extend eastward through

the Kaiser Development, crossing the canal, through the Manteca Park Golf Course, continuing under the Parks Department Corp Yard and tie-in to the URLS at an existing sewer manhole. The total length of the Project alignment is 4,318 linear feet (see Figure 2-1: Site Plan).

The new Central Trunk Sewer line will primarily utilize open-cut construction method using PVC standard dimension ratio–26 pipe.

Post project construction, restoration of the sewer pipeline trench will be completed in accordance with the standards of the jurisdiction through which the pipeline traverses (i.e., SSJID and/or the City). The Project alignment is primarily routed through vacant lots and vegetated areas with a small portion crossing the SSJID canal. Trenching in unpaved area will require minimum surface restoration. In these areas, the project proposes adding a Class 2 Aggregate base fill within the existing public utility easement (PUD) on Kaiser property and golf course areas. The section of the alignment located in the golf course area will require use of turf soil that is adequate for the golf course lawn to grow in a short time.

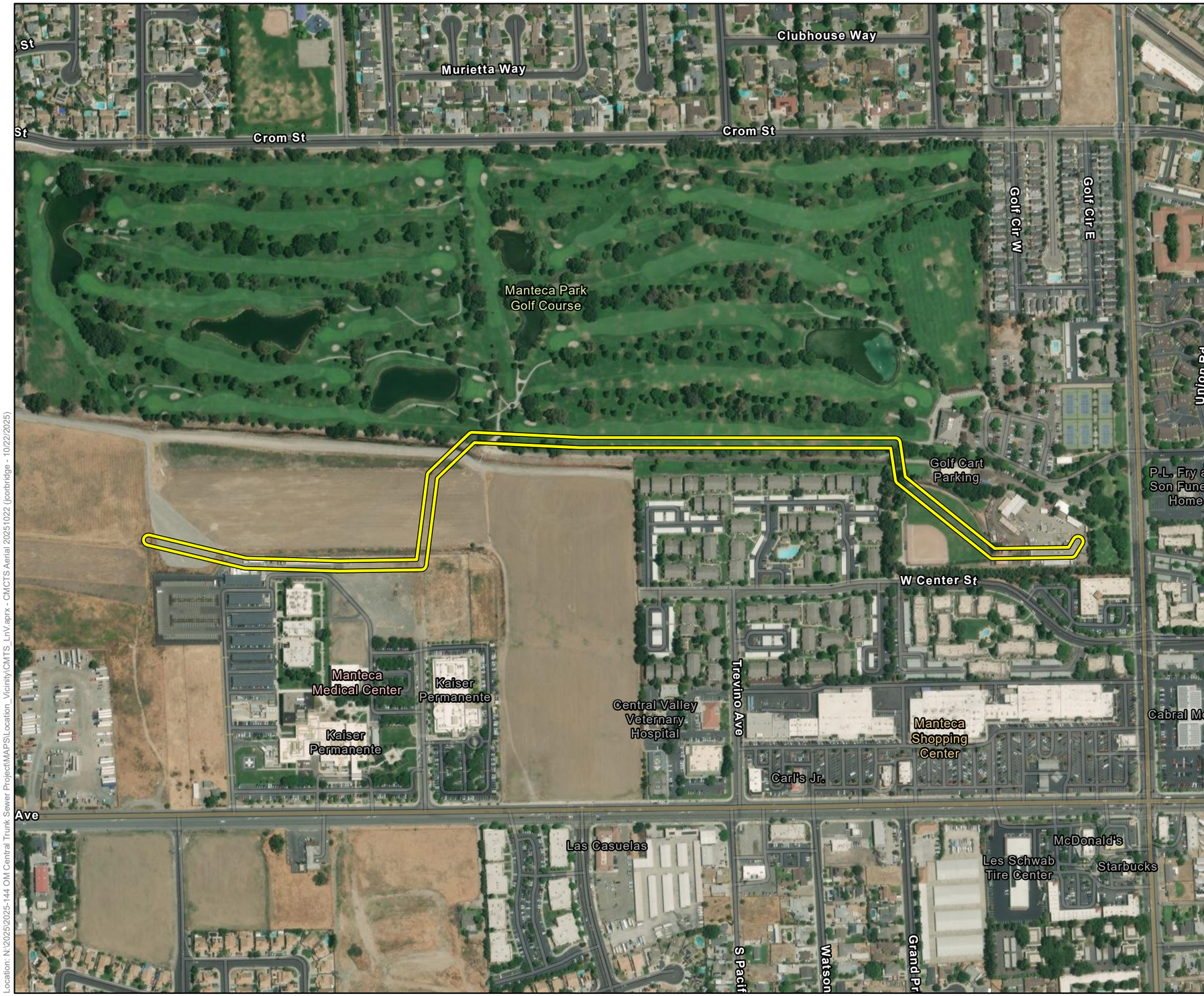
The Proposed Project will construct sewer utility holes at approximate standard spacing per City design standards.

The existing 36-inch pipe will be abandoned in-place, and a concrete plug will be installed at both ends of the pipe.

Temporary construction staging would occur along the alignment, within areas that are already paved or highly disturbed.

2.4 Project Timing

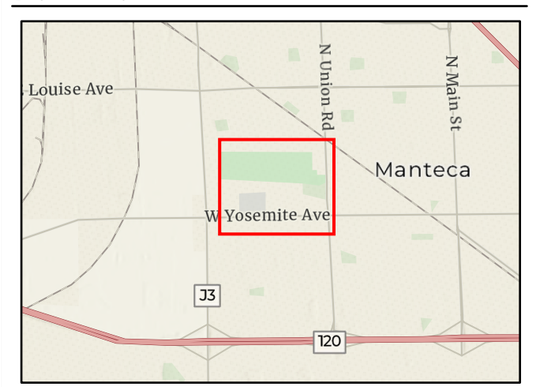
This schedule may be extended pending approval of the construction contract and issuance of a notice of award, and for potential extended supply times for materials. Also, current supply chain issues have increased lead times for some materials (pipe and fittings) and may delay the start date for groundbreaking. See Table 2-1 for a detailed breakdown of anticipated construction activities and approximate timeframe to completion.



Map Contents

Project Area - 3.96 acres

Sources: Esri, Maxar, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap



Location: N:\2025\2025-144 OM Central Trunk Sewer Project\MAPS\Location_Vicinity\CMTS_LnV.aprx - CMCTS Aerial 20251022 (jcorbridge - 10/22/2025)

Map Date: 10/22/2025

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ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 400

Figure 2-1. Project Site Plan

2025-144 City of Manteca Central Trunk Sewer

Table 2-1 Construction Operations	
Description of Activity	**Duration**
Excavation Operations*	
• Rubber tired backhoe loader(s) (sized up to Cat 450) • Trench excavator(s) (mini X [Cat 303]) • Wheel loader(s) (likely no larger than Cat 938) • Trenching machines (not expected) • Rock removal by hydraulic hammer on excavator (not expected to be required or very limited based on geotechnical investigation) • Compaction via in-trench hand compaction (wacker, vibraplate) • Sweeper • Air Compressor(s)	Approximately 4-5 months
Hauling Operations*	
• Rubber tired dump truck(s) • l transfer truck and trailers • Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 3 months
Final Paving Operations	
• Roller compactor(s) • Pavers • Asphalt grinders • Asphalt cutters • Concrete saw • Sweeper	Approximately 1 months
Other Equipment*	
• Sprayers • Air compressor • Portable generator	Approximately 3 months
Total Duration	**Approximately 5-6 months**

Notes: *Some of these activities will be performed concurrently

2.5 Regulatory Requirements, Permits, and Approvals

The Proposed Project would require the following approvals and regulatory permits:

- California Regional Water Quality Control Board (RWQCB) – The City must obtain a National Pollutant Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit. The permit requires that the project applicant prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to any construction activities.

- Acquire easements for some right-of-way through private property, only if needed to complete construction.

2.6 Consultation With California Native American Tribe(s)

On March 19, 2026 The City has notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the Proposed Project: Confederated Villages of Lisjan Nation, Confederated Villages of Lisjan Nation, Confederated Villages of Lisjan Nation, Wuksachi Indian Tribe/Eshom Valley Band, Wilton Rancheria, Wilton Rancheria, Tule River Indian Tribe, North Valley Yokuts Tribe, North Valley Yokuts Tribe, Muwekma Ohlone Indian Tribe of the SF Bay Area, Muwekma Ohlone Indian Tribe of the SF Bay Area, Ione Band of Miwok Indians, and Buena Vista Rancheria of Me-Wuk Indians.

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3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

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

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

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find 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.	☒
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	☐

April 23, 2026

David Ruby, AICP
Senior Planner

Date

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4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

4.1.1.1 Regional Setting

State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. The California Department of Transportation (Caltrans) can designate a highway as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view.

Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System: the segment of Interstate (I) 580 from I-5 to State Route (SR) 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City is not visible from this roadway segment (Caltrans 2018).

General Plan

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include the following:

- *Focal points* – prominent natural or man-made features which immediately catch the eye.
- *Transition areas* – locations where the visual environment changes dramatically.
- *Gateways* – locations which mark the entrance to a community or geographic area.

The City of Manteca General Plan does not designate any scenic corridors or viewsheds (City 2024a).

4.1.1.2 Visual Character of the Project Site

The Project Site is a narrow linear corridor that includes urban development, fallow agricultural fields, stormwater and surface flow infrastructure, and recreational development. The Proposed Project would traverse through the City corporation yard, Morenzone Ballfield, and the first hole of the Manteca Park Golf Course before crossing through a City owned canal. This alignment continues through undeveloped areas and the north side of Kaiser Development. The total length of the Project Alignment is 4,318 linear feet through the City.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Less than Significant Impact.

A scenic vista is a viewpoint that provides a distant view of highly valued natural or manufactured landscape features for the benefit of the general public. Typical scenic vistas are locations where views of rivers, ocean, hillsides, and open space areas can be obtained as well as locations where valued urban landscape features can be viewed in the distance. As previously discussed, per the City of Manteca General Plan, the City does not designate any scenic corridors or viewsheds.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful lifeand lifting station with a new 36-inch sewer pipe and trunk line. Any impacts to a scenic vista would be temporary during construction activities. Once the Proposed Project is completed there will be no change in the visual character or quality of public views of the site. Therefore, the Proposed Project would have a less than significant impact to visual scenic vistas.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐

Less than Significant Impact.

According to Caltrans's list of designated Scenic Highways and the City of Manteca General Plan, the Proposed Project is not located near or within a state scenic highway and therefore would not damage designated scenic resources, including but not limited to trees, outcroppings, and historic buildings within a state scenic highway. Any impacts would be less than significant.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is primarily within urbanized development. Project construction activities would introduce equipment, including light trucks, backhoes, winch, bursting head, generator, and other similar machinery into the viewshed of all viewer groups, creating temporary effects on views of and from the Project Site during construction. Once the Proposed Project is completed there will be no change in the visual character or quality of public views of the site and surroundings and the Project would not conflict with zoning and other regulations governing scenic quality. Any impacts would be less than significant.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful lifeand lifting station with a new 36-inch sewer pipe and trunk line. No new lighting is proposed as part of the Project and the Project would not create a new source of substantial light or glare. There would be no impact and no mitigation is required.

4.1.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

The California Department of Conservation (DOC), as part of its Farmland Mapping and Monitoring Program, prepares Important Farmland Maps indicating the potential value of land for agricultural

production. The San Joaquin County Important Farmland Map identifies five agriculture related categories and three non-agricultural categories:

- *Prime Farmland* – Prime farmland is land with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- *Farmland of Statewide Importance* – Farmland of statewide importance is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- *Unique Farmland* – Unique farmland is farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- *Farmland of Local Importance* – Farmland of local importance is considered land important to the local agricultural economy but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland" that has since become idle.

According to DOC, the Proposed Project does pass through land that is designated as Farmland of Local Importance (DOC 2022). However, the Project Site is not zoned for agriculture or forestry use or is under Williamson Act contract (DOC 2025).

4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The proposed alignment of the replacement sewer line roughly follows the existing line. It extends westward from the eastern tie-in location and continues under a maintenance yard, the Morenzone Ballpark, and a portion of the Manteca Park Golf Course. The alignment turns south briefly to cross the Southern San Joaquin Reclamation District Drain 5 ditch and under an open field before continuing westward under a portion of the Kaiser Permanente Manteca Medical Center property to the western tie-in location.

The alignment does pass through land that has been designated by DOC as Farmland of Local Importance, but this land has already been built upon and modified by the new Kaiser Permanente Manteca Medical Center Project. The land is no longer being used for agriculture. Therefore, implementation of the Proposed Project would not convert prime farmland beyond what is currently existing, and any impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project Site and surrounding parcels are not under Williamson Act contracts (DOC 2025). The Proposed Project would not conflict with existing zoning for agricultural uses or a Williamson Act contract.

Implementation of the Proposed Project would not change the existing use of the Project Site and would not result in any land use designation or zoning change. Therefore, any impact would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

No Impact.

The Proposed Project does not involve properties zoned for forest land, timberland or Timberland Production, and therefore would not conflict with existing zoning codes. No impact would occur and no mitigation measures are required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

The Proposed Project does not involve properties zoned for forest land, timberland or Timberland Production, and therefore would not conflict with existing zoning codes. No impact would occur and no mitigation measures are required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

See discussion under item a), the Proposed Project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest. No impact would occur and no mitigation measures are required.

4.2.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

This assessment was prepared using methods and assumptions recommended in the rules and regulations of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local existing conditions are presented, along with pertinent pollutant emissions standards and regulations. The purpose of this assessment is to estimate criteria air pollutants attributable to the Project and determine the level of impact the Project would have on the environment.

4.3.1 Environmental Setting

The Project Site is located within the City. The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. The Proposed Project is located in the San Joaquin Valley Air Basin (SJVAB). SJVAB occupies the southern two-thirds of the Central Valley. SJVAB is mostly flat, less than 1,000 feet in elevation, and is surrounded on three sides by the Sierra Nevada, Tehachapi, and Coast Range mountains. This bowl-shaped feature forms a natural barrier to the

dispersion (spreading over an area) of air pollutants. As a result, SJVAB is highly susceptible to pollutant accumulation over time.

The climate within SJVAB is strongly influenced by the presence of mountain ranges. The mountains create a partial rain shadow over the valley and block the free circulation of air, trapping stable air in the valley for extended periods. The climate is semi-arid and is characterized by long, hot, dry summers and cool, wet, and foggy winters. Based on historical data, ambient temperatures range from an average minimum of 39 degrees Fahrenheit (°F) in January to an average maximum of 98°F in July. The average monthly precipitation is approximately 6.24 inches per year, with January and February averaging 1.35 inches. The average daily wind speed is 5.9 miles per hour. The air flow patterns are characterized by one of four directions depending on the season. For example, during the summer, winds are predominantly northwestern (upvalley), while winters typically feature a prevailing stagnant condition that leads to high incidence of valley fog.

Both the U.S. Environmental Protection Agency (EPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards establish safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called criteria pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3), carbon monoxide (CO), particulate matter, nitrogen oxides (NO_x), sulfur dioxide, and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas.

The air quality regulating authority within the City is SJVAPCD, with the primary responsibility is ensuring that the National Ambient Air Quality Standards and California Ambient Air Quality Standards are attained and maintained within SJVAB, which encompasses the City and the Project Site. The City, located in San Joaquin County, is designated as a nonattainment for the national standards O_3 and Particulate Matter Less than 2.5 Microns in Diameter ($PM_{2.5}$, also known as *fine particulate matter*) and designated as a nonattainment area for the state standards of O_3, Particulate Matter Less than 10 Microns in Diameter (PM_{10}, also known as *coarse particulate matter*) and $PM_{2.5}$ (CARB 2023). SJVAPCD is responsible for adopting or creating a comprehensive plan to reduce the emissions of these criteria pollutants. They also enforce rules and regulations, inspect and issue permits for stationary sources of air pollutants, respond to citizen complaints, monitor ambient air quality and meteorological conditions, award grants to reduce motor vehicle emissions, and conduct public education campaigns. SJVAPCD coordinates work from government agencies, businesses, and private citizens to achieve and maintain healthy air quality.

The following is a list of noteworthy SJVAPCD rules that are required of construction activities associated with the Proposed Project:

- *Regulation IV (Visible Emissions), Rule 4101, Nuisance*. The purpose of this rule is to protect the health and safety of the public from source operations that emit or may emit air contaminants or other materials. It prohibits emissions of air contaminants or other materials "which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public."

- *Regulation IV (Visible Emissions), Rule 4601, Architectural Coatings.* The rule limits Volatile Organic Compound (VOC) emissions from architectural coatings and specifies practices for proper storage, cleanup, and labeling requirements. Rule 4601 applies to "any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District." Materials covered by the rule include adhesives, architectural coatings, paints, varnishes, sealers, stains, concrete curing compounds, concrete/masonry sealers, and waterproofing sealers.
- *Regulation IV (Visible Emissions), Rule 4641, Cutback, Slow Curve and Emulsified Asphalt, Paving and Maintenance Operations.* The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt and maintenance operations and applies to the use of these materials. Specifically, certain types of asphalt cannot be used for penetrating prime coat, dust palliative, or other paving: rapid cure and medium cure cutback asphalt, slow cure asphalt that contains more than 0.5 percent of organic compound which evaporates at 500˚F or lower, and emulsified asphalt containing VOC in excess of 3 percent which evaporates at 500˚F or lower.
- *Regulation VIII (Fugitive PM_{10} Prohibitions), Rules 8021–8071, Fugitive PM_{10} Prohibitions.* The purpose of these rules is to limit airborne particulate emissions associated with construction, demolition, excavation, extraction, and other earthmoving activities, as well as with open disturbed land and emissions associated with paved and unpaved roads. Accordingly, these rules include specific measures to be employed to prevent and reduce fugitive dust emissions from anthropogenic sources.
- *Regulation IX (Mobile and Indirect Sources), Rule 9510, Indirect Source Review.* This rule will reduce emissions of NO_x and PM_{10} from new development projects that attract or generate motor vehicle trips. In general, new development contributes to the air pollution problem within SJVAB by increasing the number of vehicles and Vehicle Miles Traveled (VMT). Although newer, cleaner technology is reducing per-vehicle pollution, the emissions increase from new development partially offsets emission reductions gained from technology advances. Indirect Source Review applies to larger development projects that have not yet gained discretionary approval.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

No Impact.

As part of its enforcement responsibilities, EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify

specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. The Project region is classified as nonattainment for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for state O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2023). EPA, under the provisions of the Clean Air Act, requires each state with regions that have not attained the federal air quality standards to prepare a SIP detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as SJVAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

SJVAPCD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which SJVAB is in nonattainment. In order to reduce such emissions, SJVAPCD prepared the following air quality plans:

- 2004 Extreme Ozone Attainment Demonstration Plan
- 2006 PM_{10} Plan
- 2007 Plan for the 1997 8-Hour Ozone Standard
- 2007 PM_{10} Maintenance Plan
- 2008 $PM_{2.5}$ Plan
- 2009 Reasonably Available Control Technology (RACT)
- 2012 $PM_{2.5}$ Plan
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2014 RACT SIP
- 2015 Plan for the 1997 $PM_{2.5}$ Standard
- 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2018 Moderate Area Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standard
- 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard
- 2022 Plan for the 2015 8-Hour Ozone Standard
- 2023 Maintenance Plan and Resignation Request for the Revoked 1-Hour Ozone Standard
- 2024 Plan for the 2012 Annual $PM_{2.5}$ Standard

These plans collectively address the air basin's nonattainment status with the national and state O_3 standards as well as particulate matter by establishing a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions.

According to SJVAPCD, the established thresholds of significance for criteria pollutant emissions are based on SJVAPCD New Source Review offset requirements for stationary sources (SJVAPCD 2015). Stationary sources within SJVAB are subject to some of the most stringent regulatory requirements in the nation. Emission reductions achieved through implementation of SJVAPCD offset requirements are a major component of SJVAPCD's air quality planning efforts. Thus, projects with emissions below the thresholds of significance for criteria pollutants are determined to "Not conflict or obstruct implementation of the SJVAPCD's air quality plan" (SJVAPCD 2015). As shown in Table 4.3-1 below, Project construction would not generate emissions that would exceed SJVAPCD significance thresholds and therefore would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations. Additionally, once construction is complete, the Project would not generate quantifiable criteria emissions from Project operations. The Project would not conflict with any applicable air quality plans. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

4.3.2.1 Construction-Generated Air Pollutant Emissions

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during excavation. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive particulate matter emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Project construction activities would be subject to SJVAPCD Regulation VIII, which specifies the following measures to control fugitive dust:

- Apply water to unpaved surfaces and areas.

- Use nontoxic chemical or organic dust suppressants on unpaved roads and traffic areas.
- Limit or reduce vehicle speed on unpaved roads and traffic areas to a maximum 15 miles per hour.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers.
- During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently wet when handling.
- Store and handle materials in a three-sided structure.
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Don't overload haul trucks. Overloaded trucks are likely to spill bulk materials.
- Cover haul trucks with a tarp or other suitable cover, or wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent trackout by installing a trackout control device.
- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

Construction-generated emissions associated with the Proposed Project were calculated using the California Emissions Estimator Model (CalEEMod) Version 2022. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for San Joaquin County. The Project Site was measured using information provided in the Project Description, and the average distance to sensitive residential receptors was calculated to be 300 meters. See Appendix A for the assumptions used in this analysis. It is noted that the Project has three layout options. For a conservative analysis, the option disturbing the most area during construction was used in the emission modeling. It is noted that the construction equipment for each layout option is the same.

Predicted daily and maximum emissions attributable to Project construction are summarized in Table 4.3-1. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds SJVAPCD's thresholds of significance.

Table 4.3-1. Construction-Related Emissions						
Activity	**ROG**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Pollutant (tons per year)						
Construction Calendar Year One	0.07	0.61	0.80	0.00	0.03	0.02
SJVAPCD Significance Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Exceed SJVAPCD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM_{10} = Particulate Matter Less than 10 Microns in Diameter; $PM_{2.5}$ = Particulate Matter Less than 2.5 Microns in Diameter; ROG = Reactive Organic Gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_2 = sulfur dioxide

Source: California Emissions Estimator Model, Version 2022. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.3-1, construction related emissions would not exceed thresholds established by SJVAPCD or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard for. The impact is less than significant.

In addition to the SJVAPCD criteria air pollutant thresholds, SJVAPCD Rule 9510, Indirect Source Review, aims to fulfill SJVAPCD's emission reduction commitments in the PM_{10} and Ozone Attainment Plans. This rule applies to the following construction projects within the jurisdiction of SJVAPCD:

- 50 residential units;
- 2,000 square feet of commercial space;
- 25,000 square feet of light industrial space;
- 100,000 square feet of heavy industrial space;
- 20,000 square feet of medical office space;
- 39,000 square feet of general office space;
- 9,000 square feet of educational space;
- 10,000 square feet of government space;
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above.

This rule also applies to any transportation or transit project where construction exhaust emissions equal or exceed two tons of NO_x or two tons of PM_{10}.

Since the Project does not include the construction of a permanent building and is not a transportation project, the Proposed Project would not be required to comply with this rule. Further, the Project would not exceed two tons of NO_x or two tons of PM_{10} as the Project proposes the replacement of sewage

treatment pipes on an existing pipeline. Once upgrades are complete, the Project would not be a greater source of operational emissions beyond current conditions.

4.3.2.2 Operational Air Pollutant Emissions

Operational emissions impacts are long-term criteria air pollutant emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary and offsite mobile sources that substantially increase emissions. The Project proposes the replacement of sewage treatment pipes on an existing pipeline. Once upgrades are complete, the Project would not be a greater source of operational emissions beyond current conditions. This impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to all potential alignments of the Project Site are single-family residences facing the undeveloped parcel west of W Center Street, as well as residences located both north and south of W Center Street, which parallels the Project Site in the modeled alignment.

4.3.2.3 Construction-Generated Air Contaminants

Construction of the Project would result in temporary, short-term Proposed Project-generated emissions of Diesel Particulate Matter (DPM), Reactive Organic Gases, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for Project construction; soil hauling truck traffic; paving; and other miscellaneous activities. The portion of SJVAB that encompasses the Project Site is designated as nonattainment for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for state O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2023). Thus, existing O_3 $PM_{2.5}$, and PM_{10} levels within SJVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-1, the Project would not exceed the SJVAPCD significance thresholds for construction emissions and therefore no regional health effects from Project criteria pollutants would occur.

Per SJVAPCD guidance, this analysis employs the SJVAPCD Prioritization Calculator health risk screening tool to assess the potential health risk-related effects of Project construction. The SJVAPCD Prioritization Calculator identifies a Prioritization score based on the Project emission potency at the vicinity sensitive

residential receptors. A prioritization score of 10 or greater, as determined by this screening protocol, is potentially significant and indicates that mitigation should be imposed, or a detailed Health Risk Assessment should be performed.

In addition to cancer risk, the significance thresholds for toxic air contaminant exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. A chronic hazard index of 1.0 is considered individually significant. It should be noted that there is no acute health hazard for DPM, which is the only significant air toxic associated with construction for this Project. Thus, the maximum acute index for construction of the Project is zero.

The calculated carcinogenic risk and highest maximum chronic hazard indexes at the nearby sensitive residential receptors due to Project construction are provided in Table 4.3-2.

Table 4.3-2. Health Risk Summary

Exposure Scenario	Maximum Cancer Risk at Residence	Maximum Chronic Hazard Index at Residence	Maximum Acute Hazard Index at Residence
Project Construction	4.38	0.0044	0.00
SJVAPCD Screening Threshold	*10.0*	*1.0*	*1.0*
Exceed SJVAPCD Screening Threshold?	**No**	**No**	**No**

Notes: SJVAPCD = San Joaquin Valley Air Pollution Control District

Source: SJVAPCD Prioritization Calculator. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.3-2, impacts related to both cancer risk and non-cancer risk (chronic and acute hazard indexes) because of Project construction would not surpass the screening thresholds from the average distance of the permanent, offsite sensitive residential receptors. Therefore, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores occur in the top few inches of soil, and the existence of CI in most soil areas is temporary. The cocci fungus (an organism that grows and feeds on dead or decaying organic matter) lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more

likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Valley fever is found in California, including Fresno County. In about 50 to 75 percent of people, valley fever causes either no symptoms or mild symptoms and those infected never seek medical care; when symptoms are more pronounced, they usually present as lung problems (cough, shortness of breath, sputum production, fever, and chest pains). The disease can progress to chronic or progressive lung disease and may even become disseminated to the skin, lining tissue of the brain (meninges), skeleton, and other body areas.

When soil containing this fungus is disturbed by ground-disturbing activities such as digging or grading, by vehicles raising dust, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get valley fever. Fungal spores are small particles that can grow and reproduce in the body. The highest infection period for valley fever occurs during the driest months in California, between June and November. Infection from valley fever during ground-disturbing activities can be partially mitigated through the control of Project-generated dust. As noted, Project-generated dust would be controlled by adhering to SJVAPCD dust-reducing measures (Regulation VIII), which includes the preparation of a SJVAPCD-approved dust control plan describing all fugitive dust control measures that are to be implemented before, during, and after any dust-generating activity.

With minimal site grading (mass grading is not required for the installation of a solar array) and conformance with SJVAPCD Regulation VIII, dust from the construction of the Project would not add significantly to the existing exposure level of people to this fungus, including construction workers. In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

4.3.2.4 Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxins. There would be no stationary sources associated with Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at any sensitive receptors. Therefore, the Project would not be a substantial source of toxic air contaminants. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation. This impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor, and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors. The replacement sanitary sewer pipes would not result in the introduction of any new processes that are considered to have a high odor-generation

potential and would not result in substantial changes to the overall flow rates or treatment processes that are of primary concern with regard to odor generation (i.e., sludge handling or drying practices). Therefore, the Proposed Project would have a less than significant impact when it comes to odors.

4.3.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.4 Biological Resources

This section is based on the analysis and recommendations presented in the Biological Resources Assessment prepared for the Proposed Project (ECORP Consulting, Inc. [ECORP] 2025b; Appendix B). The Biological Study Area (BSA) includes all areas where Project-related activities may result in impacts to sensitive biological resources.

4.4.1 Environmental Setting

The 3.96-acre BSA corresponds to a portion of Section 31, Township 1 South, and Range 7 East, Mount Diablo Base and Meridian, as depicted on the 1994 minor revised edition of the 1980 photorevised edition of the 1952 U.S. Geological Survey Manteca, California 7.5-minute quadrangle (Appendix B, Figure 1). The approximate center of the BSA is located at 37.870075055° North and -121.24208436° West within the San Joaquin Delta watershed.

The BSA is a narrow linear corridor that includes fallow agricultural fields, stormwater and surface flow infrastructure, recreational development, and urban development. Undeveloped portions of the BSA primarily include annual grasslands and disturbed areas.

4.4.1.1 Vegetation Communities and Land Cover Types

The following sections describe the vegetation community and land cover types within the BSA as observed during the site reconnaissance. A list of plants incidentally observed within the BSA during the site reconnaissance can be found in Appendix B.

<u>Annual Grassland</u>

Small strips of annual grassland are found within detention basins within the central portion of BSA. The annual grassland within the BSA is dominated by nonnative annual grasses including ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), and Johnson grass (*Sorgum halepense*). Russian thistle (*Salsola tragus*) is the dominant forb.

The annual grasslands can be characterized as the *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance. Semi-natural alliances are strongly dominated by nonnative plants that have become naturalized in the State, do not have state rarity rankings, and are not considered sensitive natural communities.

Ruderal/Disturbed

The ruderal/disturbed land cover type is found along the trails of the nearby golf course, the SSJID maintenance roads, the farm road margins, and the recently disced, bare-ground agricultural fields within the BSA. Scattered populations or individuals of Bermuda grass, turkey mullein (*Croton setiger*), and Jimson weed (*Datura stramonium*) are predominant species in this land cover type.

Urban/Developed

The urban/developed land cover type within the BSA consists of species commonly used in landscaping, including trees such as coast redwood (*Sequoia sempervirens*), eucalyptus trees (*Eucalyptus* sp.), pines (*Pinus* sp.), and Callery pear (*Pyrus calleryana*). The Manteca Park Golf Course and Union Road Park in the northern and eastern portions of the BSA respectively, contained the greatest concentration of mature trees. The understory consists of a variety of turf grasses and other ornamental landscaping species which were not identified during the assessment. This land cover type generally does not provide habitat for most wildlife species, except for trees or structures tall enough to support nesting or roosting animals.

4.4.1.2 Aquatic Resources

USFWS has established the National Wetlands Inventory (NWI) to conduct a nationwide inventory of U.S. wetlands to provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts. USFWS's objective of mapping wetlands and deep-water habitats is to produce reconnaissance-level information on the location, type, and size of these resources. The maps are prepared from the analysis of high-altitude imagery. Wetlands are identified based on vegetation, visible hydrology, and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the U.S. Army Corps of Engineers (USACE). However, the NWI provides a baseline of potential aquatic resources for ECORP biologists to ground-truth during assessments.

Review of the NWI showed one aquatic feature mapped within the BSA (Appendix B, Figure 4). The NWI mapping designation indicates the presence of Freshwater Emergent Wetland within or adjacent to the BSA, which roughly corresponds to the detention basin and ditch observed on site.

ECORP mapped a total of 0.010 acre of aquatic resources within the BSA, which includes the ditch along the northern boundary (Appendix B, Figure 5) This ditch is regularly maintained by SSJID and was primarily unvegetated during the site reconnaissance. Scattered ruderal species were present such as turkey mullein or Bermuda grass.

4.4.1.3 Wildlife

The BSA provides a very limited amount of habitat for a variety of wildlife species commonly found in urban environments. A full list of wildlife species observed within or near the BSA is provided in Appendix B.

4.4.1.4 Special-Status Species

Appendix G of the Biological Resources Assessment (Appendix B; ECORP 2025a) provides a list of all the special-status plant and wildlife species identified as potentially occurring within the BSA. This list was created based on a review of literature and database searches including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), California Native Plant Society Rare Plant Inventory, USFWS Information for Planning and Consultation, and National Marine Fisheries Service Resources data, as further described in Appendix B. This provides the listing status for each species, a brief habitat description, and a determination on the potential to occur within the BSA. The following sections briefly describe and discuss the special-status species that are either listed or are candidates for listing under the California or federal Endangered Species Acts (ESAs) and could potentially occur within the BSA.

Plants

Heartscale

Heartscale (*Atriplex cordulata* var. *cordulata*) is not listed pursuant to either the federal or California ESAs but is designated as a California Rare Plant Rank (CRPR) 1B.2 species and a San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Covered Species. This species is an herbaceous annual found within alkaline or saline sandy valley and foothill grasslands, meadows and seeps, and chenopod scrub communities. Heartscale flowers from April through October and is known to occur at elevations ranging from 0 to 1,835 feet above Mean Sea Level (MSL). Heartscale is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo counties; it is considered extirpated from San Joaquin, Stanislaus, and Yolo counties.

There are no CNDDB records of heartscale occurring within 5 miles of the BSA, however the slightly saline soils in the annual grassland within the BSA may provide marginally suitable habitat for this species. Heartscale has low potential to occur within the BSA.

Big Tarplant

Big tarplant (*Blepharizonia plumosa*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in valley and foothill grassland, usually in clay soil. Big tarplant blooms from July through October and is known to occur from 100 to 1,655 feet above MSL. Big tarplant is endemic to California; the current range of the species includes Alameda, Contra Costa, San Joaquin, Solano, and Stanislaus counties; it is considered extirpated from Solano County.

There are no CNDDB records of big tarplant occurring within 5 miles of the BSA, however the annual grassland within the BSA provides marginally suitable habitat for this species due to disturbance from surrounding urban development. Big tarplant has low potential to occur within the BSA.

Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in vernal pools and valley and foothill grassland with alkaline and vernally mesic soils, seeps, and sometimes roadsides. Parry's rough tarplant blooms from May through October and is known to occur at elevations ranging from 0 to 330 feet above MSL. Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Modoc, Sacramento, San Joaquin, Solano, Stanislaus, and Yolo counties.

There are no CNDDB records of Parry's rough tarplant occurring within 5 miles of the BSA, however the annual grassland and ruderal/disturbed portions of the agricultural or SSJID easement within the BSA provides suitable habitat for this species. Parry's rough tarplant has moderate to high potential to occur within the BSA.

Showy Golden Madia

Showy golden madia (*Madia radiata*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species and an SJMSCP-Covered Species. This species is an herbaceous annual that occurs in cismontane woodland and valley and foothill grassland. Showy golden madia blooms from March through May and is known to occur at elevations ranging from 80 to 3,985 feet above MSL. Showy golden madia is endemic to California; its current range includes Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, San Luis Obispo, and Stanislaus counties. It is considered to be extirpated in Contra Costa, Kings, Monterey, Santa Barbara, and San Joaquin counties.

There are no CNDDB records of showy golden madia occurring within 5 miles of the BSA, however the annual grassland within the BSA provides marginally suitable habitat for this species. Showy golden madia has low potential to occur within the BSA.

Invertebrates

ECORP identified no potential habitat for special-status invertebrate species during the site reconnaissance.

Amphibians

ECORP identified no potential habitat for special-status amphibian species during the site reconnaissance.

Reptiles

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is proposed for listing as Threatened pursuant to the federal ESA, is considered a Species of Special Concern (SSC) by CDFW, and is an SJMSCP-Covered Species. The range of the northwestern pond turtle in California extends from the Coast Ranges on the Oregon border southward to Marin County, throughout the lower elevations and foothills of the southern

Cascades and Sierra Nevada Mountains, and within the Sacramento and San Joaquin Valleys. The elevation range for the species extends from near sea level to 4,690 feet (1,430 meters).

They can occur in a variety of waters including ponds, lakes, streams, reservoirs, rivers, settling ponds of wastewater treatment plants, and other permanent and ephemeral wetlands. However, in streams and other lotic features they generally require slack- or slow-water aquatic microhabitats. Northwestern pond turtles also require basking areas such as logs, rocks, banks, and brush piles for thermoregulation. Nesting sites for pond turtles are typically located in annual grasslands adjacent to a watercourse with little slope and hard, dry soil. Nesting habitat soils typically display high clay or silt fraction, with few nests located in sandy soils. Nests are usually within 400m of a watercourse, with the majority being within 50m of the water's edge.

There is one CNDDB record of northwestern pond turtle occurring within 5 miles of the BSA. Aquatic habitat is present just northwest of the BSA and the friable soil of the ditch provides marginal nesting habitat. Northwestern pond turtle has a low potential to occur within the BSA.

Birds

Cooper's Hawk

The Cooper's hawk (*Astur cooperii*) is not listed pursuant to either the California or federal ESAs. However, it is a CDFW Watch List and an SJMSCP-Covered Species. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawks nest throughout California from Siskiyou County to San Diego County and includes the Central Valley. Breeding occurs from March through July, with a peak from May through July.

There are no CNDDB records of Cooper's hawk occurring within 5 miles of the BSA, however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Cooper's hawk has moderate to high potential to occur within the BSA.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is not listed pursuant to the federal ESA but is currently a candidate for listing under the California ESA; in addition, it is designated as a Bird of Conservation Concern (BCC) by USFWS, an SSC by CDFW, and an SJMSCP-Covered Species. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds. This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Otospermophilus beecheyi*) but may also use manmade structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement. The breeding season typically occurs between February 1 and August 31.

There are three CNDDB records of burrowing owl occurring within 5 miles of the BSA, and the banks of the ditch observed within the BSA provide marginally suitable habitat for this species. Burrowing owls have low potential to occur within the BSA.

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) is not listed and protected under either California or federal ESAs but are considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley. They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands. Nesting occurs during March through July.

There are no CNDDB records of oak titmouse occurring within 5 miles of the BSA, however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Oak titmouse has moderate to high potential to occur within the BSA.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and are protected pursuant to the California ESA, and an SJMSCP-Covered Species. This migratory species nests throughout western North America (Canada, western U.S., and Mexico) and typically winters from South America, north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta. In California, the nesting season for Swainson's hawk ranges from mid-March to mid-August.

Swainson's hawks build stick nests in trees in a variety of natural and human altered habitats including edges of riparian systems, oak woodland, agricultural landscapes, and urban areas. Natural foraging habitats include open grassland, and shrub steppe. As more lands were converted to agriculture, Swainson's hawks have become associated with low-stature agricultural fields (e.g., alfalfa), irrigated pasture and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Otospermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating. The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are 29 CNDDB records of Swainson's hawk occurring within 5 miles of the BSA, and the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. Swainson's hawk has moderate to high potential to occur within the BSA.

Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed and protected under either the California or federal ESAs but is considered a USFWS BCC. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands but also can be found in riparian woodlands. Breeding occurs from April through July.

There are no CNDDB records of Nuttall's woodpecker occurring within 5 miles of the BSA, however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Nuttall's woodpecker has moderate to high potential to occur within the BSA.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal ESAs; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code and an SJMSCP-Covered Species. This species is a common resident in the Central Valley and the entire length of the California coast, as well as all areas up to the Sierra Nevada foothills and southeastern deserts. In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within oak woodland, savannah, agricultural communities, and riparian areas adjacent to open areas.

There are no CNDDB records of white-tailed kite occurring within 5 miles of the BSA, but the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. White-tailed kite has moderate to high potential to occur within the BSA.

Bullocks Oriole

The Bullock's oriole (*Icterus bullockii*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to USFWS. In California, Bullock's orioles are found throughout the State except the higher elevations of mountain ranges and the eastern deserts. They are found in riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees. Nesting occurs from March through July.

There are no CNDDB records of Bullock's oriole occurring within 5 miles of the BSA, but the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. Bullock's oriole has moderate to high potential to occur within the BSA.

Loggerhead Shrike

The loggerhead shrike (L*anius ludovicianus*) is not listed pursuant to either the California or federal ESAs; but is considered an SSC by CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts. Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. The nesting season extends from March through July.

There is one CNDDB records of loggerhead shrike occurring within 5 miles of the BSA, but the limited size and level of disturbance within the BSA provides marginally suitable nesting habitat for this species. Loggerhead shrike has low potential to occur within the BSA.

Yellow-Billed Magpie

The loggerhead shrike (L*anius ludovicianus*) is not listed pursuant to either the California or federal ESAs; but is considered an SSC by CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts. Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. The nesting season extends from March through July.

There is one CNDDB records of loggerhead shrike occurring within 5 miles of the BSA, but the limited size and level of disturbance within the BSA provides marginally suitable nesting habitat for this species. Loggerhead shrike has low potential to occur within the BSA.

Mammals

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is not listed pursuant to either the California or federal ESAs; however, this species is considered an SSC by CDFW and an SJMSCP-Covered Species. This species is broadly distributed, its range extending from southern British Columbia in Canada through Argentina and Chile in South America and including much of the western U.S. This solitary species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They are associated with intact riparian habitat, especially with cottonwoods, sycamores, oaks and willows. They feed on a variety of insects and generally begin to forage 1 to 2 hours after sunset. This species is considered highly migratory; however, the timing of migration and the summer ranges of males and females may be different. Winter behavior of this species is poorly understood.

There are no CNDDB records of western red bat occurring within 5 miles of the BSA, but the trees within the BSA provides marginally suitable day roosting habitat for this species. Western red bats have low potential to occur within the BSA.

Long-Legged Myotis

The long-legged myotis (*Myotis volans*) is not listed pursuant to either the California or federal ESAs; however, this species is an SJMSCP-Covered Species. In addition, the Western Bat Working Group has classified the long-legged myotis in California as "imperiled or are at high risk of imperilment." It is common in the mountainous regions of California, occurring in the coastal ranges from Oregon to Mexico, the Sierra Nevada/Cascade ranges to Southern California, most of the Great Basin region, and in several Mojave Desert mountain ranges. This species is most common in woodland and forest communities above 4,000 feet and is absent from the Central Valley and Colorado and Mojave low deserts. The long-legged myotis feeds primarily on moths, foraging at low heights (10 to 15 feet) over water, close to trees and cliffs, and in forest clearings. This bat roosts in rock crevices, buildings, trees, mines, and caves, with trees potentially being the most important. This species forms maternity colonies of hundreds of individuals, usually in trees or snags.

There are no CNDDB records of long-legged myotis occurring within 5 miles of the BSA (CDFW 2025), but the within the BSA provides marginally suitable day roosting habitat for this species. Long-legged myotis have low potential to occur within the BSA.

4.4.1.5 Wildlife Movement Corridors

The BSA does not serve as a wildlife movement corridor nor are there any nursery sites within the BSA.

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

There are no known occurrences of special-status species for the BSA, but no protocol level surveys have been performed, to date. However, the BSA supports potentially suitable habitat for a few special-status species. The following discussion provides recommended measures to avoid and/or minimize potential impacts to these special-status species.

4.4.2.1 Special-Status Plants

The areas that support natural vegetation within the BSA provide a limited amount of marginally suitable potential habitat for special-status plants, as identified in Section 4.6. In the low chance that a special-status plant occurs within or near the Project Site during construction, the Project could result in damage or loss of individual plants. Impacts to plants with CRPR 4 would not likely be significant under CEQA. Impacts to special-status plants with CRPRs of 1 or 2 may be significant under CEQA. Implementation of Mitigation Measure BIO-1, which identifies avoidance areas, will reduce impacts to special-status plants to less than significant.

4.4.2.2 Special-Status Wildlife

The ditch within the BSA supports marginally suitable nesting habitat for the northwestern pond turtle. In the low change that the species occurs within or near the Project Site during construction, the Project may result in injury or fatalities to northwestern pond turtle through vehicular traffic and other construction activity. Therefore, the Proposed Project will incorporate Mitigation Measure BIO-2, which will minimize potential impacts to the Northwestern Pond Turtle to a less than significant impact.

4.4.2.3 Nesting Birds (Including Raptors)

The BSA and its vicinity contains suitable nesting and/or wintering and foraging habitat for several special-status birds and other birds protected under the California Fish and Game Code and the Migratory Bird Treaty Act. Impacts to wintering and foraging habitat would not be considered significant under CEQA. If Project-related activities occur during the nesting season, the removal of active nests or disruption of nesting activities could lead to “take” of a protected bird, or an active nest with eggs or young, which would be considered a significant impact under CEQA. Therefore, with implementation of

Mitigation Measure BIO-3, which will require preconstruction surveys and the steps to implement if a next is found, impacts to special-status birds and nesting birds would be less than significant.

4.4.2.4 Burrowing Owl

The BSA provides marginally suitable habitat for burrowing owls. While the BSA is regularly maintained, the ditch borders and annual grassland support ground squirrels and burrows that could be used by burrowing owls. Therefore, the Proposed Project will incorporate Mitigation Measure BIO-4, which will minimize potential impacts to the burrowing owl to a less than significant impact.

4.4.2.5 Swainson's Hawk

The BSA provides marginally suitable habitat for Swainson's hawk; as such, this species has a potential to nest and forage within and near the BSA. Therefore, the Proposed Project will incorporate Mitigation Measure BIO-5, which will minimize potential impacts to the burrowing owl to a less than significant impact.

4.4.2.6 Western Red Bat

The trees within the BSA represent marginally suitable potential roosting habitat for western red bat. If occupied bat roosts are present, removal of the habitat feature could result in direct mortality or injury to roosting bats. It is unlikely that the BSA would provide maternity roosting habitat for western red bat. However, in the low chance that a maternity roosting site is present within the BSA, removal during the maternity roosting season could result in the loss of the site and injury or mortality of pups that are not yet able to fly. Potential impacts to bat maternity roost sites would be considered significant under CEQA. Therefore, the Proposed Project will incorporate Mitigation Measure BIO-6, which will minimize potential impacts to the western red bat to a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

No Impact.

As discussed above, no sensitive natural communities, oak woodlands, or riparian habitat is found within the BSA and therefore will not be adversely impacted during Project implementation. The Project will have no impact on sensitive natural communities, and no mitigation measures is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

ECORP conducted an aquatic resources assessment and mapped an irrigation ditch within the BSA. The ditch appears to be ephemeral in nature (not a "relatively permanent" feature), and water releases are managed seasonally. The ditch does not appear to meet the definition of Waters of the U.S. and not subject to USACE jurisdiction due ephemeral flow and therefore lack of a continuous surface connection to a relatively permanent, standing or continuously flowing body of water. In addition, the ditch does not appear to meet the definition of Waters of the State per Section II.2 and II.3.c of the Procedures, as the ditch is an artificial wetland resulting from human activity, excavated in uplands, subject to ongoing operation and maintenance, and is not a modification of a surface water of the State.

Resource verification by USACE and RWQCB would be required to formally determine jurisdictional status of the drainage ditch under Sections 404 and 401 of the Clean Water Act.

Direct impacts to the ditch would be defined as any grading, trenching, excavation, or placement of temporary or permanent fill within the aquatic resource. Indirect impacts may include inadvertent encroachments, changes in hydrology, and runoff and erosion from the Project Site.

The Project will utilize an open cut trenching method for construction across the canal. As previously stated the ditch does not meet the definition of Waters of the U.S. SSJID controls the follow of water into this ditch and will construct the project during the non-irrigation season when there is no water present. Additionally, the Proposed Project will incorporate Mitigation Measure BIO-7, which will minimize potential impacts to aquatic resources to a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The BSA is not located within any movement corridors and is not expected to support nursery sites. Therefore, the Project would have no effect on wildlife movement or nursery sites.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

The Proposed Project may potentially impact planted vegetation within public spaces owned by the City. Therefore, the Proposed Project will incorporate Mitigation Measure BIO-8, which will minimize potential impacts to a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

The Project would not conflict with any such plans. The Proposed Project is located within the Plan Area for the SJMSCP. If the Project proponent opts to participate in the SJMSCP, all required conditions of the SJMSCP would be implemented. Implementation of the Proposed Project would not conflict with the SJMSCP, and any impacts would be less than significant.

4.4.3 Mitigation Measures

BIO-1: **Special-Status Plant Habitat Avoidance.** The following measures shall be implemented to avoid impacts to Special-Status Plant Habitat within the pipeline alignment:

- A special-status plant survey shall be conducted according to CDFW, California Native Plant Society, and USFWS protocols prior to Project ground-disturbing or vegetation-disturbing activities within undeveloped areas. The survey shall be conducted by a qualified biologist (as defined per agency protocols) throughout all potential habitat for special-status plants within the Project Site and a 15-foot buffer. The survey shall be timed according to the identifiable period for special-status plant species with potential to occur (typically the blooming period). To the extent feasible, known reference populations shall be visited prior to the survey to confirm target species are evident and identifiable at the time of the survey. If no

special-status plants are found and the survey is still considered recent as per CDFW and USFWS protocols at the time of Project implementation, no further measures pertaining to special-status plants are necessary. If a special-status plant is identified within or adjacent to the Project Site, the following shall apply.

- An impact assessment shall be made by a qualified biologist to determine whether Project-related activities would be significant such that they would have the potential to eliminate, substantially reduce the number of, or restrict the range of the special-status plant species, and/or conflict with any local policies or ordinances protecting special-status plant species. If impacts are determined to be less than significant, no further measures are needed.
- If potential impacts are determined to be significant, then a no-disturbance buffer shall be established around special-status plant populations to be avoided within or adjacent to the Project Site. The no-disturbance buffer shall include the extent of the avoided special-status plants (as determined by a qualified biologist during an appropriate time to identify the plants immediately preceding construction) plus a minimum 15-foot buffer. The avoidance area shall be clearly demarcated in the field and demarcation shall be maintained for the duration of Project construction. No vegetation-disturbing or ground-disturbing activities shall occur within the avoidance area.

BIO-2: **Northwestern Pond Turtle.** A qualified biologist shall conduct a preconstruction clearance survey within the Project Site within 48 hours prior to the initiation of Project construction activities. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If northwestern pond turtles are found within or near the Project Site during the survey or during Project implementation, they shall be allowed to move out of the Project Site on their own volition or relocated by a qualified biologist in coordination with CDFW and silt fencing shall be installed.

BIO-3: **Nesting Birds.** If construction is scheduled during the nesting season (typically February 1–August 31, and as early as January 1 for raptors), a qualified biologist shall conduct a preconstruction nesting bird survey within 14 days prior to the commencement of Project-related activities to identify active nests that could be impacted by construction. The survey shall be conducted within the Project Site and a 500-foot buffer for raptors and a 100-foot buffer for other birds, where accessible. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If active nests are found, a no-disturbance buffer shall be established around the nest. A qualified biologist shall establish a buffer distance. The buffer shall be maintained until the nestlings have fledged (e.g., are capable of flight and become independent of the nest), to be determined by a qualified biologist. The avoidance buffer can be removed and no further measures are necessary once the young have fledged or the nest is no longer occupied, as determined by a qualified biologist.

BIO-4: **Burrowing Owl.** A qualified biologist shall conduct a *take avoidance* preconstruction survey according to the Staff Report on Burrowing Owl Mitigation. If active/occupied burrows are detected, a no-disturbance buffer shall be established around the burrow. The buffer distance shall be established in coordination with CDFW.

BIO-5: **Swainson's Hawk.** If construction is scheduled during the Swainson's hawk nesting season (March 1 to August 31), then, a qualified biologist shall conduct a survey for Swainson's hawk nesting activity within a 0.5-mile distance surrounding the Project Site. The qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to the initiation of surveys. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If Swainson's hawk nesting activity is observed during the survey, an avoidance buffer shall be established by a qualified biologist in consultation with CDFW. The avoidance buffer shall be maintained while the nest is active.

BIO-6: **Western Red Bat.** Tree trimming/removal shall occur outside of the bat maternity season (April 15 through August 31), as feasible.

BIO-7: **Aquatic Resources.** Construction in this area will take place in one phase and will be completed before the irrigation ditch is used to convey any water.

Additionally, the applicant shall prepare and implement an Erosion and Sediment Control Plan to avoid and minimize sediment and erosion to aquatic resources within or adjacent to the Project Site boundary.

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BIO-8: **Tree and Vegetation Removal.** The Project proponent shall consult with the City of Manteca Parks and Recreation Department prior to impacting vegetation in any public space and shall secure their approval for impacting such vegetation prior to construction, if needed.

4.5 Cultural Resources

ECORP prepared a Cultural Resources Inventory (ECORP 2025c) for the Proposed Project to determine if cultural resources were present in or adjacent to the Project Site and assess the sensitivity of the Project Site for undiscovered or buried cultural resources. Cultural resources include prehistoric archaeological sites, historic archaeological sites, and historic structures, and generally consist of artifacts, food waste, structures, and facilities made by people in the past. Prehistoric archaeological sites are places that contain the material remains of activities carried out by the native population of the area (i.e., Native Americans) prior to the arrival of Europeans in Southern California. Places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans are considered historic archaeological sites. Historic structures include houses,

garages, barns, commercial structures, industrial facilities, community buildings, and other structures and facilities that are more than 50 years old. Historic structures may also have associated archaeological deposits, such as abandoned wells, cellars, privies, refuse deposits, and foundations of former outbuildings.

The information provided below is an abridged version of the Cultural Resources Inventory and Architectural History Evaluation Report and is included here to provide a brief context of the potential cultural resources in the Project Site. Due to the sensitive nature of cultural resources and their records and documentation, which are restricted from public distribution by state and federal law, the IS/MND appendices do not include the cultural resources report; however, all pertinent information necessary for impact determinations is included in this section.

4.5.1 Environmental Setting

The Project Site is situated within the San Joaquin Valley within the City limits. The San Joaquin River flows northward through the center of the San Joaquin Valley to the Sacramento Delta. Numerous rivers drain from the Sierra Nevada to the east and flow westward across the valley to join the San Joaquin River. In pre-contact times the valley was characterized by plains and grasslands and marshes and wetlands along the rivers. The closest perennial waterways are the San Joaquin River, approximately 3 miles west of the Project Site and Walthall Slough approximately 3 miles southwest of the Project Site.

The Project Site is surrounded by residential neighborhoods, agricultural areas, a golf course to the north, and the Kaiser Medical Center to the southwest. The elevations within the Project Site range from 20 to 30 feet above MSL.

4.5.1.1 Regional History

The first Viceroy of New Spain, Antonio de Mendoza, commissioned maritime explorer Hernando de Alarcón to chart the Gulf of California and Colorado River in 1540. Alarcón and his crew became the first Europeans to reach Alta (Upper) California when they set foot on the banks of the Colorado River in what is now Imperial County. In 1542, the Spanish maritime explorer Juan Rodriguez Cabrillo and his crew became the first Europeans to explore the Alta California coastline, anchoring at San Diego Bay, Santa Catalina Island, and San Pedro Bay. In 1579, the English privateer Francis Drake, midway through his circumnavigation of the world, visited Miwok villages in what is now Marin County. The Spanish explorer Sebastian Vizcaíno, sailing north from Mexico, charted Monterey Bay in 1602.

Spanish colonization of Alta California began in 1769 with the Portolá land expedition led by Captain Gaspar de Portolá and Father Junipero Serra. The overland expedition proceeded from San Diego Bay north to the Santa Clara Valley, where an advance party of scouts led by José Ortega became the first Europeans to observe San Francisco Bay. Spain subsequently established a string of 21 Franciscan missions, 4 *presidios* (forts), and 4 *pueblos* (towns) in Alta California's coastal regions. In 1808, the explorer Gabriel Moraga led an expedition from San Jose pueblo into the Central Valley. Moraga named the valley's major rivers, including the Sacramento and San Joaquin, but made no attempt to establish permanent settlements in Alta California's interior.

The Republic of Mexico achieved independence from Spain in 1821. A year later, Alta California became a territory of Mexico with its capital at Monterey. In 1827, the American fur trapper Jedediah Smith led a party of Rocky Mountain Fur Company trappers across the Mojave Desert to Mission San Gabriel, north up the Central Valley, and east into Nevada, demonstrating the possibility of overland travel across the Sierra Nevada.

During the 1830s, the Mexican government confiscated mission lands and expelled Franciscan friars from Alta California. In coastal regions and in interior valleys, government officials granted vast amounts of acreage to retired soldiers and other Mexican citizens. Three of Alta California's Spanish pueblos—Los Angeles, San Jose, and Sonoma—survived as permanent towns. Other civilian settlements developed around presidios at San Francisco, Monterey, Santa Barbara, and San Diego. Many Alta California landowners, called *californios*, maintained residences in town while hired vaqueros and unpaid Native American laborers worked on rural *ranchos* (cattle ranches) to produce cow hides and tallow, commodities prized by foreign merchants.

In 1821, the liberalized Mexican government began welcoming non-Spanish immigrants to Alta California. Hundreds of Americans, British, and other foreigners arrived to establish trading relationships. Others became naturalized Mexican citizens and applied for land grants. John Sutter, a German-speaking immigrant from Switzerland, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor for a land grant; he received nearly 49,000 acres along the Sacramento River in 1841.

Following the Mexican-American War of 1846-1848, Mexico ceded Alta California to the United States. Under the Treaty of Guadalupe Hidalgo, Congress agreed to recognize the private property of former Mexican citizens living within the new boundaries of the United States. This meant confirming California's Mexican land grants. In 1851, Congress passed the California Land Act creating the Board of Land Commissioners to determine the validity of the individual grants, placing the burden of proof on patentees. The Board, with assistance from U.S. courts, confirmed most of California's Mexican land grants in subsequent decades.

In January 1848, one of John Sutter's hired laborers, James Marshall, discovered gold in the flume of a lumber mill on the South Fork of the American River. News of Marshall's discovery spread around the world, leading to the California Gold Rush of 1849. Tens of thousands of prospectors hurriedly arrived in the Sierra Nevada foothills, prompting the creation of hundreds of small mining camps along streambeds. The cities of Marysville, Sacramento, and Stockton sprang up along the Feather, Sacramento, and San Joaquin rivers as supply centers for the mines; San Francisco became California's largest city and the focal point for Gold Rush economic activity. In 1850, following a year of rapid growth, Congress admitted California as the 31st U.S. state. In the following decades, federal surveyors arrived in California to stake out 36-square-mile townships and 1-square-mile sections on California's public lands. At general land offices, buyers paid cash for up to 320 acres. After 1862, many filed homestead applications to obtain 40-, 80-, and 160-acre tracts at low upfront costs on the condition they establish farms.

4.5.1.2 San Joaquin County

Captain Charles Weber, leader of one of the first overland parties to travel in the San Joaquin Valley, was favorably impressed by the Stockton area's abundance of fertile lands and oaks on the banks of the San Joaquin River. Although he ended up settling further west in San Jose, he formed a partnership with William Gulnac, a blacksmith who became a naturalized Mexican citizen. Eventually, the two men founded a colony at Campo de los Franceses, also known as French Camp, and in 1844 they were successful in receiving a land grant from the Mexican Governor of Alta California under that name at the future site of Stockton.

The entire Stockton area was part of the Campo de los Franceses land grant, the second largest of the many land grants made by the Mexican government. It was later sold and, with the assistance of Weber, the town of Tuleberg was founded on the south side of the Stockton Channel. The town was renamed in 1849 for Commodore Robert F. Stockton, U.S. Navy, becoming the first town name in California not of Spanish or Native American origin. The City of Stockton was officially incorporated on July 23, 1850, and the first City of Stockton election was held only one day later.

During the Gold Rush, numerous claims were worked along the American River and on the upper reaches of the Cosumnes River. Many miners traveled into the Sierra Nevada via the San Joaquin Valley, and a number returned to the area around Stockton to start farms and ranches to supply the gold camps with meat and other comestibles. The city became a major commercial hub, with flour mills, grain and flour exporting facilities, and factories for agricultural equipment such as harvesters and track-type tractors. In addition, boat building, which began in the 1850s, provided many of the paddle wheel steamers that plied the Delta and the San Joaquin and Sacramento rivers from 1849 to 1938.

Prior to 1851, San Joaquin County was considered only good for grazing and hunting. There were immense herds of cattle and some horses ranging within the valley. After 1851 the land was increasingly used for cultivation, as disillusioned gold miners turned to the natural riches of the San Joaquin Valley. The more arid soils west of the river were cultivated mainly for wheat; the land east of the river produced wheat, barley, potatoes, corn, fruit, and vegetables.

The Central Pacific Railroad completed its line from Oakland to Sacramento via Lathrop in 1869. The Central Pacific Railroad was part of the first transcontinental railroad and made a connection with the Union Pacific Railroad in Utah in 1869. A railroad line south to Modesto was completed in 1870; it was extended to Fresno in 1872 and reached Los Angeles by 1876. In 1871, various railroad machine shops and a roundhouse were constructed at Lathrop. A switchyard was built at the Lathrop wye, which was the division point for the switching and assembly of trains going north and south from Lathrop. The Central Pacific Railroad was merged into the Southern Pacific Railroad in 1885 and after 1889 the Central Pacific Railroad name was no longer used. Another railroad, the Western Pacific Railroad, was completed through Lathrop in 1909 and reached Salt Lake City in 1910. It ran from Oakland via Sacramento and Oroville to Salt Lake City using the Feather River Canyon to cross the Sierra Nevada.

Stanford and his railroad companies endeavored to develop a town as a rival to Stockton. However, the only economic activity in Lathrop through the 1920s was working for the railroad. Later, from 1942 to

1944, during World War II, Permanente Metals Corporation, located in Lathrop and managed by Henry J. Kaiser of Kaiser Industries, began supplying the military with aircraft and bomb parts. Also, in the 1940s, Lathrop expanded into five square miles east of Louise Avenue and what is now I-5. This region was still primarily agricultural, and in the late 1940s, there was considerable shipment of milk to condensing plants and cheese factories. A fertilizer plant and automobile glass plant were built in this area and were later closed.

Stockton experienced rapid growth through the turn of the twentieth century. It was not heavily damaged by the 1906 San Francisco earthquake, and the community sent supplies by boat to San Francisco. A large number of people who had been displaced by the earthquake came to Stockton, including a number of people from China. This influx of residents made Stockton's Chinatown the largest in California. Despite the floods in the early twentieth century, there was a Stockton building boom, particularly downtown. At this time, residential development increased in subdivisions around Stockton.

During World Wars I and II, Stockton increased its manufacturing and support for the war efforts though increased ship and tank building. During World War II, civilian shipping to and from the Port of Stockton was suspended, which resulted in greater use of rail and roads for shipping.

In 1933, the Port of Stockton opened, becoming the first and largest inland seaport in California. During the Great Depression in the 1930s, the Deep-Water Channel to the Port was expanded, which provided many jobs. The Depression did not hit the region as hard as surrounding areas and an economic boom during this time saw construction of significant private and publicly funded buildings, including a movie palace, railroad depot, museum, post office, and county hospital.

Today, agriculture is the major industry in the San Joaquin Valley, with related support industries such as trucking and shipping. However, steady industrial growth with factories making items such as concrete pipe, baked goods, wood products, fabricated steel, and ship building, and residential development to supply homes for the growing population of workers is changing the face of the valley.

4.5.2 Research Methods

ECORP requested a records search for the Project Site at the Central California Information Center (CCaIC) of the California Historical Resources Information System at California State University, Stanislaus on July 14, 2025 (CCaIC File No. 13419L). The purpose of the records search is to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the Proposed Project Site, in addition to whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. CCaIC staff completed and returned the records search to ECORP on July 15, 2025.

In addition to the official records and maps for archaeological sites and surveys in San Joaquin County, ECORP also reviewed the following references: Built Environment Resource Directory for San Joaquin County; the National Register Information System; Office of Historic Preservation, California Historical Landmarks; California Points of Historical Interest; Caltrans Local Bridge Survey; Caltrans State Bridge Survey; and *Historic Spots in California*.

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on July 14, 2025 to request a search of the Sacred Lands File (SLF) for the Project Site. This search determines whether the California Native American tribes with ancestral ties to the land within the Project Site have recorded Sacred Lands in the SLF, which is populated by members of the Native American community with knowledge about the locations of tribal cultural resources.

ECORP sent letters to the San Joaquin County Historical Society and Museum and the Manteca Historical Society and Museum on July 14, 2025 to solicit comments or obtain historical information that the repositories might have regarding events, people, or resources of historical significance in the area.

ECORP subjected the Project Site to an intensive pedestrian survey on September 10, 2025, under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties*, using 15-meter transects. At the time, ECORP archaeologists examined the ground surface for indications of surface or subsurface cultural resources and inspected the general morphological characteristics of the ground surface for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the archaeologists examined the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits. ECORP did not conduct any subsurface investigations or artifact collections during the pedestrian survey.

4.5.3 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

ECORP's records search and field survey identified a historic-era golf course (Manteca Park Golf Course) and a historic-era drainage ditch (Drain 5) within the Project Site that meet the age threshold of 50 years under CEQA and, therefore, could be considered Historical Resources. Construction of pipeline will require open cut trenching through the ditch. However, based on initial information, neither Drain 5 nor the Manteca Park Golf Course appear to be eligible for the CRHR or the NRHP.

The Manteca Park Golf Course has been modified since initial construction and has included various ground-disturbing maintenance activities and the construction of a new clubhouse. These maintenance activities and modifications detract from the eligibility of it being potentially a historical resource.

No previously identified Historical Resources were documented within the Project Site. Ground disturbing activities may impact unknown archaeological resources, which may be Historical Resources, but the likelihood is low given the lack of structures historically occurring within the Project Site. The Project would implement Mitigation Measure CUL-1 pertaining to the accidental discovery of unknown

archaeological resources and/or human remains during Project construction. Implementation of this measure would ensure that any archaeological resources, including potential Historical Resources, discovered during Project construction would be handled in a proper manner in accordance with PRC Section 21083. Implementation of this measure would prevent damage to any potential unknown Historical Resources that may be present within the Project Site. With implementation of CUL-1, impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

There are no previously documented cultural resources documented within the Project Site. Although the Project Site has low potential for buried archaeological resources, there is potential for ground disturbing activities during construction to affect unknown archaeological resources on the Project Site. The Project would implement Mitigation Measure CUL-1 pertaining to the accidental discovery of unknown archaeological resources and/or human remains during construction. With implementation of this mitigation measure, the Project would not cause a substantial change in the significance of an archaeological resource because any accidentally discovered archaeological resources would be handled in a proper manner in accordance with PRC Section 21083. Mitigation Measure CUL-1 would prevent damage to any potential unknown cultural resources that may be present within the Project Site. With implementation of CUL-1, impact would be less than significant..

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

There are no known burial or dedicated cemetery sites within the Project Site; however, as stated above in b) there always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources or human remains; therefore, with implementation of CUL-1, impacts to human remains will remain less than significant.

4.5.4 Mitigation Measures

CUL-1: **Unanticipated Discoveries.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined by CEQA or a Historic Property under Section 106 of the National Historic Preservation Act, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

This IS/MND analyzes energy consumption due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal) and emissions of pollutants during the construction and operational phases. The impact analysis focuses on the four sources of energy that are relevant to the Proposed Project: electricity, natural gas, the equipment-fuel necessary for Project construction, and the automotive fuel necessary for Project operations.

4.6.1 Environmental Setting

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. Pacific Gas and Electric Company (PG&E) provides electricity and natural gas to San Joaquin County. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada and Arizona State Line. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2019, PG&E announced that 100 percent of the company's delivered electricity comes from greenhouse gas (GHG) emission-free sources, including renewables, nuclear, and hydropower (PG&E 2019).

Potential energy-related impacts associated with this Project include the depletion of nonrenewable resources (e.g., oil, natural gas, coal) and emissions of pollutants during the construction. Since the Proposed Project is the replacement of an existing and active sewage trunk system, there will be no increase in operational energy uses beyond existing conditions and thus it will not be discussed in this analysis. Discussion of the impact will focus on the single source of energy that is relevant to the Proposed Project: the equipment-fuel necessary for Project construction.

4.6.1.1 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh). Natural gas is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. Total automotive fuel consumption in San Joaquin County from 2020 to 2024 is shown in Table 4.6-1. As shown, automotive fuel consumption increased since 2020.

Table 4.6-1. Total Fuel Consumption in San Joaquin County (2020–2024)

Year	Total Fuel Consumption (gallons)	Total Diesel Consumption (gallons)
2024	226,846,428	145,732,975
2023	233,623,065	131,553,755
2022	240,514,012	130,359,109
2021	243,300,629	141,296,928

Table 4.6-1. Total Fuel Consumption in San Joaquin County (2020–2024)		
Year	**Total Fuel Consumption (gallons)**	**Total Diesel Consumption (gallons)**
2024	226,846,428	145,732,975
2020	215,813,612	130,305,631

Source: California Air Resources Board 2021, 2025

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐

Less than Significant Impact.

Operations of the Proposed Project would not result in the consumption of electricity or natural gas and, thus, would not contribute to countywide usage. The one quantifiable source of energy associated with the Project includes the equipment fuel necessary for construction. For the purpose of this analysis, Project increases in construction fuel consumption are compared with the countywide fuel consumption in 2024, the latest full year of available data, found in CARB's Emission Factor (EMFAC) 2025 (CARB 2025). EMFAC 2025 is a mathematical model that was developed to calculate emission rates and rates of gasoline and diesel consumption from motor vehicles that operate on highways, freeways, and local roads in California. EMFAC also provides annual VMT, which was used to calculate the average countywide fuel economy of both gasoline and diesel vehicles used in construction.

The fuel consumption of Project construction off-road equipment was also modeled, using a combination of CalEEMod Version 2022 (see Appendix A) and CARB's OFFROAD2021 Version 1.0.7 (CARB 2021). CalEEMod is a statewide land use computer model designed to quantify resources associated with both construction and operations from a variety of land use projects. This model contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. OFFROAD2021 is a mathematical model that was developed to calculate emission rates and rates of gasoline and diesel consumption from off-road vehicles that operate in California. Fuel consumption was calculated by deriving the fuel consumption factors of each piece of equipment using EPA's *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* (EPA 2021), which identifies brake specific fuel capacities of 0.408 pounds of diesel per horsepower-hour for engines below 100 horsepower, and 0.367 pounds of diesel per horsepower-hour for engines above 100 horsepower. The fuel consumption factor was then converted from pounds of diesel per horsepower-hour to gallons of diesel per horsepower-hour using the standard conversion of diesel from pounds to gallons (7.07 pounds per gallon). The fuel consumption factor for vehicles below 100 horsepower was calculated to be 0.0577 gallons of diesel per horsepower-

hour and the fuel consumption factor for vehicles above 100 horsepower was calculated to be 0.0519 gallons of diesel per horsepower-hour. The horsepower and load factor of each piece of equipment was then multiplied by its respective fuel consumption factor in order to determine the fuel consumption rate of the equipment. After identifying the fuel consumption rate, the total quantity of each set of equipment and its daily usage were multiplied to find the total hours of usage per day and then multiplied by the length of their respective construction phases in order to calculate total hours of usage per piece of equipment per construction phase. These total hours were then multiplied by the fuel consumption rate in order to find each piece of equipment's total fuel consumption (see Appendix D; ECORP 2025d).

Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use. For the purposes of this analysis, the amount of total fuel necessary for Project construction is calculated and compared to that consumed in in San Joaquin County. Table 4.6-2 describes energy and fuel consumption for the Proposed Project.

Table 4.6-2. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumed	San Joaquin Countywide Percentage Increase
Construction Fuel Consumption		
Construction (Diesel)[*,†]	60,149 gallons	0.0413 percent
Construction (Gasoline)[‡]	365 gallons	0.0002 percent

Notes: CalEEMod = California Emissions Estimator Model; CARB = California Air Resources Board; EMFAC = Emission Factor
The Project increases in both gasoline and diesel fuel consumption are compared with the anticipated countywide fuel consumption in 2024, the most recent full year of data. Construction on-road and off-road trips are obtained from estimates generated by CalEEMod.

Source: [*]CalEEMod Version 2022 (California Air Pollution Control Officers Association 2022); [†]OFFROAD2021 (CARB 2021); [‡]EMFAC2025 (CARB 2025; See Appendix C).

As shown in Table 4.6-2, the Project's gasoline fuel consumption during the one-time construction period is estimated to be 365 gallons, which would increase the annual countywide gasoline fuel use by 0.0002 percent. Additionally, the Project is estimated to consume 60,149 gallons of diesel fuel, which would be 0.0413 percent of San Joaquin County's annual diesel fuel consumption. As such, Project construction would have a nominal effect on local and regional energy supplies, especially over the long-term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. For these reasons, this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

No Impact.

The Project proposes the replacement of sewage treatment pipes on an existing pipeline. As an improvement to existing wastewater treatment infrastructure within the City, the Proposed Project would be compliant with all City and state regulations and measures to enhance local energy efficiency. The Proposed Project would no conflict or obstruct any state or local plans for energy. There would be no impact.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The Proposed Project Site lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the central portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the San Joaquin Valley and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rock.

4.7.1.2 Regional Seismicity and Fault Zones

DOC, Division of Mines and Geology, defines an *active fault* as one that has been subjected to surface displacement within the last 11,000 years. A fault is considered *inactive* if it has not shown geologic evidence of surface displacement in the last 11,000 years.

The U.S. Geological Survey identifies potential seismic sources within 5 miles of the City. The closest known faults classified as active by the U.S. Geological Survey include an unnamed fault east of the City of Tracy, located approximately 5 miles to the west of the City, and the San Joaquin fault, located

approximately 15 miles to the southwest of the City. The Midway fault is located approximately 20 miles to the west. Other faults that could potentially affect the City include the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault (City 2024a).

4.7.1.3 Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (approximately 11,000 years ago). Based on this criterion, the California Geological Survey (CGS) identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication (SP) 42, which is updated as new fault data become available. SP 42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP 42 (Earthquake Fault Zone Maps).

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. CGS evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a Project Site. The Proposed Project Site is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 25 miles southwest of the City (DOC 2024).

4.7.1.4 Soils

ECORP staff obtained soil survey mapping for the Project Site from the NRCS *Web Soil Survey* (Appendix B, Figure 2; NRCS 2025). Table 4.7-1 provides an overview of the soil map units within the Project Site, including the presence of hydric soils, parent materials, or other key features that may influence the potential for sensitive biological resources to occur onsite:

Table 4.7-1. Soil Map Units within the Project Site

Map Unit Symbol	Map Unit Name	Parent Material or Key Features	Hydric Soils Present
143	Delhi-Urban land complex, 0 to 2 percents	Wind-modified alluvium derived from granitic rock sources; Non-saline to very slightly saline	Not Applicable
254	Timor loam sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources; Non-saline to very slightly saline	Bisgani (alluvial fans)
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources; Non-saline to very slightly saline	Not Applicable
266	Veritas fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed rock sources; Non-saline to slightly saline	Bisgani (alluvial fans)

Source: Natural Resources Conservation Service 2025

4.7.1.5 Liquefaction

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events, and the ground will take on liquid properties. Thus, specific soil characteristics and seismic shaking must exist for liquefaction to be possible.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet.

According to the City of Manteca General Plan, the Project Site is a low potential area for shrink-swell or liquefaction (City 2024a).

4.7.1.6 Landslide

Ground failure, including landslides, is dependent on slope and geology as well as the amount of rainfall, excavation, or seismic activities. A landslide is a mass of rock, soil, and debris displaced down a slope by sliding, flowing, or falling. Steep slope sand downslope creep of surface materials characterize landslide-susceptible areas. Debris flows consist of a loose mass of rocks and other granular material that, if present on a steep slope and saturated, can move down slope. The rate of rock and soil movements can vary from a slow creep over many years to sudden mass movements.

Landslides occur throughout the State of California, but the density of incidents increases in zones of active faulting. The Project Site is relatively flat and has not been identified as a known area for landslide potential (CGS 2025).

4.7.1.7 Paleontological Resources

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both fossilized remains of ancient plants and animals and the traces thereof) e.g., trackways, imprints, burrows, etc.). Paleontological resources occur within bedrock geologic deposits that may or may not underly the soil layer and are almost exclusively preserved in sedimentary rocks; however, in rare cases, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions. The Society of Vertebrate Paleontology has defined fossils as being remains or traces of plants and animals that are greater than 5,000 years old (i.e., older than middle Holocene in age.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Date, 1006 fossils or microfossils have been found and recorded within San Joaquin County. Over half of them are dated to the tertiary period, with quaternary being the second most frequent period (UCMP 2025).

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause 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?	☐	☐	☒	☐

Less than Significant Impact.

i) The closest known faults classified as active by the U.S. Geological Survey include an unnamed fault east of the City of Tracy, located approximately 5 miles to the west of the City, and the San Joaquin fault, located approximately 15 miles to the southwest of the City. The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful lifeand lifting station with a new 36-inch sewer pipe and trunk line Implementation of the Proposed Project would not directly or indirectly cause substantial adverse effects to rupture a known earthquake fault. Any impacts would be less than significant and no mitigation is required.

ii) The City is located in a seismically active region of California and is subject to potential ground shaking associated with seismic activities. All construction associated with the Proposed Project would be consistent with City and San Joaquin County policies, in addition to the California Building Code (CBC). Installation of the proposed piping would be reviewed by City engineers to ensure that Proposed Project components are consistent with standard engineering practices and requirements which are specifically designed to prevent structural damage during seismic ground shaking. These standards are in place to reduce damage associated with ground-shaking as a result of potential earthquakes. Thus, the implementation of the Proposed Project would result in a less than significant impact and no mitigation is required.

iii) Liquefaction occurs when loose sand and silt saturated with water behaves like a liquid when shaken by an earthquake. Liquefaction potential has been found to be greatest where the groundwater level and loose sands occur within a depth of about 50 feet or less. According to the

City, the Proposed Project is located in zones that would be considered very low or low risk for liquefaction. Therefore, it is unlikely that liquefaction would pose a hazard for the planned Project Site. Any impacts would be less than significant and no mitigation is required.

iv) Steep slopes, in conjunction with certain soil types, can be prone to soil erosion and landslides. Landslides occur as a result of topographical and soil conditions, where loose soils move down steep slopes. Some of the natural causes of this instability are earthquakes, week soils, erosion, and heavy rainfall. Human activities such as poor grading that undercuts steep slopes or overloads them with fill, excessive irrigation, and removal of vegetation can also contribute to ground failure.

According to CGS, the City generally has low landslide susceptibility. The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The Project would be in compliance with all City of Manteca General Plan policies, City Code, and CBC requirements, which would ensure that impacts associated with landslides would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than Significant Impact.

As mentioned above, there are four different types of soil located within the Project Site: Delhi-Urban land complex, 0 to 2 percents, Timor loam sand, 0 to 2 percent slopes, Tinnin loamy coarse sand, 0 to 2 percent slopes, Veritas fine sandy loam, 0 to 2 percent slopes. During construction, any trenching and fill on the Project Site could create locally unstable soil conditions that could result in a localized increase in wind- or water- related soil erosion.

All excavation activities, grading, and construction would be conducted according to standard construction practices and building codes. A NPDES Construction Activities Stormwater General Permit would be required for construction activities from RWQCB, requiring a SWPPP. Implementation of the SWPPP, including the use of stormwater quality Best Management Practices (BMPs), would prevent erosion of soil in storm water runoff during project construction (See Section 4.10). Once construction is completed, soils would be stabilized and monitored according to the SWPPP until a Notice of Termination for the NPDES Construction Activities Stormwater General Permit is filed with RWQCB. Consequently, the Proposed Project would not result in substantial erosion and/or unstable earth conditions from project construction or operation. This is applicable to all proposed phases of construction. For these reasons, erosion-related impacts are considered to be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Less than Significant Impact.

For reasons discussed in items a) and b) above, adequate measures would be employed during Project construction, construction staging and the construction of related facilities to control and limit on and off-site soil erosion. With the limited potential for on- and off-site erosion and low depth to bedrock at the Project Site, the potential for Project-induced landslides, lateral spreading, subsidence, liquefaction, and collapse is minimal. The impact, therefore, is considered less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

"Shrink-swell potential" is the potential for volume changes in a soil with a loss or gain in moisture. If the shrink-swell potential is rated moderate to high, damage to buildings, roads, and other structures can occur. These limitations can vary substantially over short distances. Some clayey soils tend to expand when wet and contract upon drying, which can cause structural damage if not accounted for in construction designs. Soils within the Project Site have a "moderate" potential for shrink-swell behavior, or expansiveness. The Proposed Project is required to comply with existing CBC. Additionally, no new development, structures, or grading will be necessary, therefore reducing the potential for hazards from unstable and expansive soils to less than significant. Thus, the Proposed Project would result in a less than significant impact, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful lifeand lifting station with a new 36-inch sewer pipe and trunk line. Implementation of the Proposed Project would enhance the City's existing wastewater disposal system. Any impact would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

Ground disturbance will take place during construction. Although the proposed excavation depth would be limited, excavations may result in penetration of the underlying rock. As noted above, paleontological resources occur within bedrock geologic deposits that may or may not underly the soil layer and are almost exclusively preserved in sedimentary rocks; however, in rare cases, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions.

Therefore, construction of the Proposed Project may damage or destroy unknown paleontological resources. This potential impact can be mitigated to a level that is less than significant with the implementation of Mitigation Measure PALEO-1.

4.7.3 Mitigation Measures

PALEO-1: **Discovery of Unknown Resources.** If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area, and the area shall be isolated using orange or yellow fencing until the City is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. If the City resumes work in a location where paleontological remains have been discovered and cleared, the City will have a paleontologist onsite to confirm that no additional paleontological resources are in the area.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

GHG emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps more than 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in CO_2 equivalents (CO_2e). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The CEQA Guidelines Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4[b]). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account a project's incremental contribution to climate change." (14 CCR 15064.4[c]). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines § 15130[f]). As a note, the CEQA Guidelines were amended in response to Senate Bill (SB) 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if a project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of that project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SJVAPCD provides a tiered approach in assessing significance of project-specific GHG emission increases as shown below.

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA-compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement Best Performance Standards (BPSs).
- Projects implementing BPSs would not require quantification of project-specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.
- Projects not implementing BPSs would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, and compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets

> established in the 2017 Scoping Plan. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHGs.

The BPS and the BAU portion of the SJVAPCD tiered approach are problematic based on the 2015 California Supreme Court *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227 (Newhall Ranch) decision, which stated that a GHG-related impact determination based on the BAU approach is "not supported by a reasoned explanation based on substantial evidence." Additionally, the SJVAPCD thresholds were adopted to achieve statewide GHG-reduction goals for the year 2020, and the Proposed Project would not be built until after the year 2020. Therefore, for the purposes of this analysis, Project GHG emissions are quantified and compared to the thresholds issued by the California Air Pollution Control Officers Association (CAPCOA), which is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including SJVAPCD. CAPCOA recommends a significance threshold of 900 metric tons annually. This threshold is based on a capture rate of 90 percent of land use development projects, which in turn translates into a 90 percent capture rate of all GHG emissions. The 900 metric ton threshold is considered by CAPCOA to be low enough to capture a substantial fraction of future projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

In the Newhall Ranch decision, following its review of various potential GHG thresholds proposed in an academic study (Crocket 2011), the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, PRC Section 21003(f) provides it is a policy of the State that:

> …[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment.

The Supreme Court–reviewed study noted that:

> …[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts (Crockett 2011).

4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact.

A potent source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction activities. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 4.8-1. Construction-Related Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/Year)
Construction Calendar Year One	129
Potentially Significant Impact Threshold	*900*
Exceed *Significant Impact* Threshold?	**No**

Notes: CO_2e = carbon dioxide equivalents

Source: California Emissions Estimator Model Version 2022. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-1, Project construction would result in the generation of approximately 129 metric tons of CO_2e over the course of construction, which is below the significance threshold of 900 metric tons of CO_2e. Once construction is complete, the generation of these GHG emissions would cease.

Operational GHG emissions impacts are long-term GHG emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary and offsite mobile sources that substantially increase emissions. The Project proposes the replacement of sewage treatment pipes on an existing pipeline. Once upgrades are complete, the Project would not be a greater source of operational emissions beyond current conditions. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

No Impact.

In 2025, the City adopted the City of Manteca Climate Action Plan (CAP), a long-range plan to reduce communitywide GHG emissions from activities within the City limits. The CAP is a strategy for the City to continue to grow in a sustainable way that meets GHG reduction targets while continuing to allow for public and private development and redevelopment that will uphold the City as a vibrant and livable community. These efficiency-based targets represent the AB 32 and SB 32 targeted emissions levels for 2020 and 2030 on a per service population basis.

The CAP includes strategies and measures that the City will implement to achieve its GHG emissions targets over the next two decades. Implementing the City's CAP will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emission reduction targets. All development within the City, including the Project, is required to adhere to all applicable City-adopted policy provisions, including those contained in the City CAP. The City ensures all applicable provisions of the CAP are incorporated into projects and their permits through development review and applications of conditions of approval as applicable. All of the applicable and feasible provisions of the City GHG-reduction program as promulgated by its CAP will be incorporated into the Proposed Project. Therefore, the Proposed Project would in no way conflict with the stated goals of the CAP and thus would not interfere with City's ability to achieve the goals set forth in the CAP. The Proposed Project would not conflict with the CAP GHG-reduction targets. As such, the Project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

4.8.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials

4.9.1 Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, Section 25501 as follows:

> "Hazardous material" means 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. "Hazardous materials" include, but are not limited to, hazardous substances,

> hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in 22 CCR Section 662601.10 as follows:

> A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Transporters of hazardous waste in California are subject to several federal and state regulations. They must register with the California Department of Health Services and ensure that vehicle and waste container operators have been trained in the proper handling of hazardous waste. Vehicles used for the transportation of hazardous waste must pass an annual inspection by the California Highway Patrol. Transporters must allow the California Highway Patrol or California Department of Health Services to inspect its vehicles and must make certain required inspection records available to both agencies. The transport of hazardous materials that are not wastes is regulated by the U.S. Department of Transportation through national safety standards.

Other risks resulting from hazardous materials include the use of these materials in local industry, businesses, and agricultural production. The owner or operator of any business or entity that handles a hazardous material above threshold quantities is required by state and federal laws to submit a business plan to the local Certified Unified Program Agency (CUPA). San Joaquin County is designated by the State Secretary for Environmental Protection as the CUPA for San Joaquin County in order to focus the management of specific environmental programs at the local government level. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits and conduct inspection and enforcement activities throughout San Joaquin County. This approach strives to reduce overlapping and sometimes conflicting requirements of different governmental agencies independently managing these programs. San Joaquin County will refer large cases of hazardous materials contamination or violations to RWQCB and the California Department of Toxic Substances Control (DTSC). It is not uncommon for other agencies, such as federal and state Occupational Safety and Health Administrations, to become involved when issues of hazardous materials arise.

Under Government Code Section 65962.5, both DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. The Project Site is not listed by DTSC as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5 (Cortese List) (DTSC 2025). The Proposed Project is not listed on the SWRCB GeoTracker website; however, there are five sites within 0.5 mile of the Project Site. They can be found listed on Table 4.9-1 below:

Table 4.9-1. SWRCB GeoTracker LUST Cleanup Sites within 0.5 Mile of the Project Site				
Location	**Address**	**Potential Contaminants of Concern**	**Status**	**Date**
Ted Peters Trucking Manteca Facility	1985 W Yosemite Avenue, Manteca, CA, 95336	Petroleum	Case Closed	2/21/2019
Ted Peters Trucking Manteca Facility	1985 W Yosemite Avenue, Manteca, CA, 95336	Gasoline	Case Closed	9/30/2003
Jackpot Food Mart	1434 Yosemite Avenue W, Manteca, CA, 95336	Gasoline	Case Closed	5/29/1997
Chevron #9-1848	1257 Yosemite Avenue W, Manteca, CA, 95336	Gasoline	Case Closed	6/28/2008
Payless Shoe Store	1160 Yosemite Avenue W, Manteca, CA, 95336	Benzene, Gasoline, Toluene, Xylene	Case Closed	7/23/2009

Notes: LUST = Leaking Underground Storage Tank; SWRCB = State Water Resources Control Board

Source: SWRCB 2025

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line.

Construction may include the use of hazardous materials, given that construction activities involve the use of heavy equipment, which uses small and incidental amounts of oils and fuels and other potentially flammable substances. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state and federal law. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The use of such materials would not create a significant hazard to the public and impacts would be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than Significant Impact.

Onsite storage and/or use of large quantities of hazardous materials capable of affecting soil and groundwater are not proposed; therefore, the potential risk associated with accidental discharge associated with use and storage of equipment-related hazardous materials during pipe construction is considered low. The Proposed Project is an infrastructure project that would not require the long-term use or storage of hazardous substances. No potential for the release of hazardous materials into the environment is expected. Furthermore, as indicated in the Project Description, the Proposed Project is a sewer rehabilitation project within the City's service area. A less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is approximately 0.4 mile south of the Stella Brockman Elementary School within the City. However, the Proposed Project does not involve the development of a use that would emit hazardous materials, substances, or waste during operations from what is currently being utilized. The use of heavy equipment and activities involving hazardous materials would be limited to the construction phase, would be confined to construction areas, and would cease upon completion of the Project. The use, transport, storage, and disposal of hazardous materials during the Project's construction phase would be regulated by health and safety requirements under federal, state, and local laws, including handling, storage, and disposal of the materials, as well as emergency spill response. The construction and operation of the Proposed Project would not pose a significant threat to human health, and impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact.

Under Government Code Section 65962.5, both DTSC and SWRCB are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified that the Proposed Project Site is not located on a hazardous material site. SWRCB showed that there are closed sites within 0.5 mile of the Project Site, however, there are no identified sites within or immediately adjacent to the Project Site. Given that there are no existing hazardous waste sites within the Project Site, the Proposed Project will have no impact, and no mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Area?	☐	☐	☐	☒

No Impact.

The Project Site is located approximately 6.2 miles south of the Stockton Metropolitan Airport. No portion of the Proposed Project is within an airport land use plan. Therefore, there would be no impact, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

The San Joaquin County Emergency Operations Plan (San Joaquin County 2022) and the City of Manteca General Plan (City 2024a) has designated Airport Way has an evacuation route within the City. Construction activities could impede the use of surrounding roadways, including Airport Way. Therefore, the Proposed Project would require implementation of Mitigation Measure TRANS-1 (Section 4.17) that requires the preparation and implementation of a Construction Traffic Management Plan. This mitigation measure would assist in maintaining traffic flow along roadways during construction activities. After construction of the Project is completed, the Project Site would be restored to the existing condition. Therefore, implementation of the Proposed Project would not obstruct evacuation routes or access to critical emergency facilities. Once construction is completed, the Proposed Project would not interfere with a Local Hazard Mitigation Plan or any evacuation. With the incorporation of Mitigation Measure TRANS-1, impact is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less than Significant Impact.

According to the California Department of Forestry and Fire Protection (CAL FIRE), the Project Site is located in a local responsibility area and has not been identified as a high fire severity zone (CAL FIRE 2025). The Project does not include any new development, structures, or would involve any new employees to be stationed permanently at the site on a daily basis. Therefore, the Proposed Project would not expose people or structures to a significant loss, injury or death due to wildfires. Any impact would be less than significant and no mitigation is required

4.9.3 Mitigation Measures

Please see Section 4.17.3 for the referenced mitigation measure.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

The City is located 12 miles south of downtown Stockton, 14 miles northwest of Modesto, and 75 miles southeast of San Francisco. The City is situated in the south-central portion of San Joaquin County. The San Joaquin River and the Stanislaus River border the southwest and southern edge of the City, respectively.

The City is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. The Great Central Valley

is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley. Drainage into the San Joaquin Valley is mainly from the Sierra Nevada. The sediments on the valley floor were deposited within the past one-two million years, some within the past few thousand years (City 2024a).

4.10.1.2 Watersheds

San Joaquin County is located in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south-central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash Sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin river system drains northwesterly through the Delta to Suisun Bay (California Department of Water Resources [DWR] 2021).

4.10.1.3 Groundwater

The City is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (ESJGS-GSP) (Eastern San Joaquin Groundwater Authority 2019) was prepared in November 2019. The purpose of the ESJGS-GSP is "to meet the regulatory requirements set forth in the three-bill legislative package consisting of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act."

According to DWR Bulletin 118 (DWR 2021), the groundwater basin is critically overdrafted, with historical declines averaging 1.7 feet per year. Past estimates of safe groundwater yield from the basin have indicated that pumping at or below 1 acre-foot per year of City land is sustainable.

4.10.1.4 Federal Emergency Management Agency Flood Zones

Federal Emergency Management Agency (FEMA) mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's

National Flood Insurance Program is intended to encourage state and local governments to adopt responsible floodplain management programs and flood measures. The National Flood Insurance Program additionally defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps.

The Proposed Project is not identified as being within a floodplain zone and has been identified as being located within Zone X (FEMA 2025).

4.10.1.5 Site Hydrology and Onsite Drainage

ECORP mapped a total of 0.010 acre of aquatic resources within the Project Site, which includes the ditch along the northern boundary (Appendix B, Figure 5) This ditch is regularly maintained by SSJID.

4.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐

Less than Significant Impact.

While no creeks, streams or rivers exist on the Project Site, stormwater ditch that is maintained by SSJID is located within the pipeline alignment.

In accordance with NPDES regulations, the State of California requires that any construction activity affecting 1 acre or more, or discharges from smaller sites that are part of a larger common plan of development or sale, obtain a General Construction Activity Stormwater Permit to minimize the potential effects of construction runoff on receiving water quality. As described previously, the Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The General Permit requires the development and implementation of a SWPPP. The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list BMPs the discharger will use to protect stormwater runoff and the placement of those BMPs.

General Permit applicants are required to submit Permit Registration Documents for the Project to the appropriate regional board, which include a Notice of Intent, risk assessment, site map, signed certification statement, an annual fee, and a SWPPP. The SWPPP includes pollution prevention measures (i.e., erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, and a detailed construction timeline. The SWPPP must also include implementation of BMPs to reduce construction effects on receiving water

quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges.

Examples of typical construction BMPs included in SWPPPs include, but are not limited to, using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the drainage system or receiving waters. SWPPP BMPs are recognized as effective methods to prevent or minimize the potential releases of pollutants into drainages, surface water, or groundwater. Strict SWPPP compliance, coupled with the use of appropriate BMPs, would reduce potential water quality impacts during construction activities.

The Proposed Project would be required to prepare and comply with an approved SWPPP. Compliance with these requirements would reduce the potential water quality impacts to less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Less than Significant Impact.

Construction and operation of the Proposed Project would in no way alter current use of groundwater within the Ione service area. Due to the existing conditions of the construction area and construction details any localized effects of the Project on groundwater recharge would be unsubstantial. Therefore, this impact is less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 that would:				
i) result in substantial erosion or siltation onsite or offsite;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐

Less than Significant Impact.

Construction of the Proposed Project will not alter the existing drainage pattern of the area, nor will it alter the course of a stream or river through addition of impervious surfaces. Project construction and staging activities will result in soil disturbances of at least one acre of total land area. As such, a NPDES Construction Activities Stormwater General Permit will be required prior to the start of construction. Additionally, coverage will not occur until an adequate SWPPP has been prepared.

As noted, required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management.

Excavation and grading activities associated with the Proposed Project will expose bare soil surfaces making these surfaces more susceptible to erosion and sediment transport. To comply with the requirements of the NPDES Construction Activities Stormwater General Permit, the City will be required to file a Notice of Intent with the State of California and submit a SWPPP defining BMPs for construction and post-construction related control of the Proposed Project Site runoff and sediment transport. Requirements for the SWPPP include incorporation of both erosion and sediment control BMPs. The SWPPP should include the following applicable elements:

- diversion of offsite run-off away from the construction area;

- prompt revegetation of proposed landscaped areas;
- perimeter straw wattles or silt fences and/or temporary basins to trap sediment before it leaves the site;
- regular sprinkling of exposed soils to control dust during construction during the dry season;
- installation of a minor retention basin(s) to alleviate discharge of increased flows;
- specifications for construction waste handling and disposal;
- erosion control measures maintained throughout the construction period;
- preparation of stabilized construction entrances to avoid trucks from imprinting debris on surrounding roadways;
- contained wash out and vehicle maintenance areas;
- training of subcontractors on general construction area housekeeping;
- construction scheduling to minimize soil disturbance during the wet weather season; and
- regular maintenance and storm event monitoring.

The SWPPP is a "live" document and should be kept current by the person responsible for its implementation. Preparation of, and compliance with a required SWPPP would effectively prevent Proposed Project on-site erosion and sediment transport off-site. This will reduce potential runoff, erosion, and siltation associated with construction and operation of the Proposed Project. The effects of the Proposed Project on on-site and off-site erosion and siltation, therefore, would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒

No Impact.

According to FEMA floodplain mapping, the Proposed Project is not located within an area that experiences floods or tsunamis (FEMA 2025). Therefore, no impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less than Significant Impact.

As discussed under a) and c) above, with acquisition of the required SWPPP, and compliance with standard permit measures for the control and management of construction-related erosion and polluted runoff, the Proposed Project impacts on the quality and quantity of runoff during construction would be less than significant. With restoration of the Project Site to pre-Project conditions relative to topography and cover after Project completion, the long-term impact of the Project on water quality is less than significant. No mitigation is required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The proposed alignment of the replacement sewer line roughly follows the existing line. It extends westward from the eastern tie-in location and continues under a maintenance yard, the Morenzone Ballpark, and a portion of the Manteca Park Golf Course. The alignment turns south briefly to cross the Southern San Joaquin Reclamation District Drain 5 ditch and under an open field before continuing westward under a portion of the Kaiser Permanente Manteca Medical Center property to the western tie-in location. Therefore, portions of the Proposed Project are under the General Plan Designations of CMU and P.

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. Implementation of the Proposed Project would not physically divide an established community. Once construction is completed, the Project Site would be restored to current, above ground conditions. Any impact would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The Proposed Project is consistent with the City's plans and policies; and therefore, the Proposed Project would not conflict with any applicable land use plan, policy, or regulation. A less than significant impact would occur and no mitigation is required.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

Minerals are defined as any naturally occurring chemical elements or compounds formed by inorganic processes and organic substances. Minable minerals are defined as a deposit of ore or minerals having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the Project Site. The conservation, extraction, and processing of mineral resources is essential to meeting the needs of society.

The Surface Mining and Reclamation Act of 1975 states that cities and counties shall adopt ordinances "...that establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations..." (PRC Section 2774). The intent of this legislation is to ensure the prevention or mitigation of the adverse environmental impacts of mining, the reclamation of mined lands, and the production and conservation of mineral resources are consistent with recreation, watershed, wildlife, and public safety objectives (PRC Section 2712).

The Surface Mining and Reclamation Act of 1975 requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to the known or inferred mineral potential of that land. The process is based solely on geology, without regard to existing land use or land ownership. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions, which could preclude mining, are made. Areas subject to California mineral land classification studies are divided into the following MRZ categories that reflect varying degrees of mineral potential:

- *MRZ-1* – Areas of no mineral resource significance

- *MRZ-2* –Areas of identified mineral resource significance
- *MRZ-3* –Areas of undetermined mineral resource significance
- *MRZ-4* – Areas of unknown mineral resource significance

According to the DOC mapping software, the Project Site is listed as MRZ-3 (DOC 2012). MRZ-3 are areas of undetermined mineral resources significance.

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

Less than Significant Impact.

The Project Site is within an area identified as having undetermined mineral resources significance. However, the Project Site runs through the center of the City and is no longer available for mining. Given that the only known MRZ-2 area within the City has already been mined and then subsequently developed, no significant potential for extraction remains from this known MRZ. There are no other known mineral deposits or resources within the City that are of significant value to the region or the State. Any impacts would be less than significant and no mitigation is required

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is not within an area identified as having the potential for mineral resources by the City (City 2024a). Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource. Any impacts would be less than significant and no mitigation is required.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

A Noise Analysis was conducted for the Proposed Project (ECORP 2026e; Appendix D).

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the Equivalent Noise Level (L_{eq}), the Day-Night Average Noise Level (L_{dn}), and the Community Noise Equivalent Level (CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{dn} is a 24-hour average L_{eq} with a 10 A-weighted decibels (dBA) "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- *CNEL* is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dBA for each doubling of distance from a stationary or point source (Federal Highway Administration [FHWA] 2017a). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2017a). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 decibels (dB) per doubling of distance is assumed (FHWA 2017a).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while

a solid wall or berm generally reduces noise levels by 5 to 10 dBA (FHWA 2017b). According to FHWA (2017b), noise barriers can reduce noise levels by 15 dBA in certain instances, yet this level of noise reduction is very difficult to achieve. To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. 2006). Generally, in exterior noise environments ranging from 60 dBA CNEL to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typical residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations). In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments experiencing less than 75 dBA CNEL with proper wall construction techniques following CBC methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL or L_{dn} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban

residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The nearest noise-sensitive receptors to all potential Project Site alignments are residences accessed from W Center Street.

4.13.1.2 Vibration Sources and Characteristics

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through Peak Particle Velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.1.3 Existing Ambient Noise Environment

There are several significant noise sources within the City. Mobile sources of noise, especially cars and trucks traveling on roadways, are the most common and significant noise in the Project Site. Other sources of noise are the various land uses (i.e., residential, commercial, institutional, and recreational) throughout the City that generate stationary-source noise. The Project Site could potentially traverse through an undeveloped parcel of land north of Yosemite Avenue and west of W Center Street. The Project Site would also traverse through W Center Street and would be surrounded by residential land uses in this potential layout. To provide a conservative analysis, this alignment was selected for evaluation as it would place construction activities in closest proximity to existing sensitive receptors. This ensures that potential noise impacts are not underestimated.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present" provides a table of approximate background sound levels in L_{dn}, daytime L_{eq}, and nighttime L_{eq}, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 4.13-1. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "*95% prediction interval [confidence interval] is on the order of +/- 10 dB*." The majority of the Project Site would be considered ambient noise Category 3.

Table 4.13-1. American National Standards Institute Standard 12.9-2013/Part 3 A-Weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	Typical L_{dn}	Daytime L_{eq}	Nighttime L_{eq}
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67 dBA	66 dBA	58 dBA
2	Moderate Commercial & Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62 dBA	61 dBA	54 dBA
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass-transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic, compose this category.	6,384	57 dBA	55 dBA	49 dBA

Table 4.13-1. American National Standards Institute Standard 12.9-2013/Part 3 A-Weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	Typical L_{dn}	Daytime L_{eq}	Nighttime L_{eq}
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52 dBA	50 dBA	44 dBA
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small-wooded valley.	638	47 dBA	45 dBA	39 dBA
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42 dBA	40 dBA	34 dBA

Notes: dBA = A-weighted decibels; L_{dn} = Day-Night Average Noise Level; L_{eq} = Equivalent Noise Level

Source: American National Standards Institute 2013

4.13.2 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than Significant Impact.

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise sensitive and

may warrant unique measures for protection from intruding noise. The nearest noise sensitive receptors to the Project Site are homes accessed from W Center Street.

4.13.2.1 Onsite Construction Noise Impacts

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

The City does not promulgate a numeric threshold pertaining to the noise associated with construction. This is because construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project. The City of Manteca Municipal Code Chapter 17.58, Performance Standards, states that construction is prohibited between the hours of 7:00 p.m. and 7:00 a.m. In order to remain compliant with the City's regulations, the Proposed Project would be required to follow these construction guidelines.

A previous appellate court decision held that the use of an absolute noise threshold for evaluating all ambient noise impacts violated CEQA because it did not provide a "complete picture" of the noise impacts that may result from implementation of the ordinance. As such, the Proposed Project's construction noise is estimated and then added to the typical noise found on the Project Site as determined by ANSI (see Table 4.13-1). As previously described, the dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. For instance, when combining two separate sources where one of the noise sources is 10 dB or more greater than then other noise source, the noise contribution of the quieter source is virtually completely obscured by the louder source.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors and in order to evaluate the potential adverse effects from construction noise, the construction equipment noise levels were calculated using FHWA's Roadway Noise Construction Model and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more

conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities but rather spread throughout the Project Site and at various distances from sensitive receptors. This analysis uses an average of the distance from the furthest and nearest point of construction from the nearest residential sensitive receptor, which in this case is approximately 965 feet distant. It is noted that the Project has multiple layout options. As such, the nearest sensitive receptor among the options was utilized in this analysis. Additionally, since the equipment required for all options is the same, only a single construction layout option is presented. The anticipated short-term construction noise levels generated for the necessary equipment for each phase of construction are presented in Table 4.13-2.

Table 4.13-2. Construction Average (dBA) Noise Levels at Nearest Residential Receptors

Equipment	Ambient Noise Level* (dBA L_{eq})	Estimated Exterior Construction Noise Level at Existing Residences (dBA)	Existing Ambient Noise + Exterior Construction Noise Levels (dBA L_{eq})	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
Demolition	55.0	60.7	61.7	*85*	**No**
Site Preparation	55.0	57.8	59.6	*85*	**No**
Pipe Installation	55.0	60.0	61.2	*85*	**No**
Paving	55.0	58.6	60.2	*85*	**No**

Notes: CalEEMod = California Emissions Estimator Model; dBA = A-weighted decibels;
FHWA = Federal Highway Administration; L_{eq} = Equivalent Noise Level†
*Ambient noise levels of the Project Site are estimated using the American National Standards Institute Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present" (see Table 4.13-1).
†L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Construction equipment used taken from defaults for San Joaquin valley using CalEEMod Version 2022 (Appendix A). CalEEMod is designed to calculate air pollutant emissions from construction activity and contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters.
This analysis uses an average of the distance from the furthest and nearest point of construction from the nearest residential sensitive receptor, which in this case is approximately 965 feet distant.

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix D for Model Data Outputs.

As shown in Table 4.13-2, Project onsite construction activities would not exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest noise-sensitive receptors. Construction noise would have a less than significant impact.

4.13.2.2 Operational Noise Impacts

The Project is proposing the replacement of an existing and active sewage trunk system. Once upgrades are complete, the Project Site would not generate noise beyond current conditions. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☐	☒

No Impact.

4.13.2.3 Construction Vibration Impacts

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance (Caltrans 2020).

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.13-3.

Table 4.13-3. Typical Construction Equipment Vibration Levels

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Caisson Drilling	0.089
Loaded Trucks	0.076
Rock Breaker	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Federal Transit Administration 2018

Per Section 17.58.070 of the City of Manteca Municipal Code, vibration from temporary demolition/ construction is exempt from City standards. However, a discussion of construction vibration is included for full disclosure purposes. The nearest structure of concern to the construction site is a residential building north of the Project Site approximately 20 feet distant.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-3 and the construction vibration assessment methodology published by the Federal Transit Administration (FTA), it is possible to estimate the potential Project construction vibration levels. FTA provides the following equation:

$$[PPVequip = PPVref \times (25/D)^{1.5}]$$

Construction vibration was measured from the edge of the Project Site. Table 4.13-4 presents the expected Project related vibration levels at a distance of 20 feet.

Table 4.13-4. Construction Vibration Levels at 20 Feet

Receiver Peak Particle Velocity Levels (inches per second)					Peak Vibration
Large Bulldozer, Caisson Drilling, and Hoe Ram	**Loaded Trucks**	**Jackhammer**	**Pile Driver**	**Vibratory Roller**	
0.1244	0.1062	0.0489	0.2376	0.2935	**0.2935**

As shown in Table 4.13-4, groundborne vibrations attenuate rapidly from the source due to geometric spreading and material damping. Geometric spreading occurs because the energy is radiated from the source and spreads over an increasingly large distance while material damping is a property of the friction loss which occurs during the passage of a vibration wave. As mentioned previously, the City of Manteca Municipal Code exempts all vibration generated by construction and construction vehicles. Thus, Project construction would be less than significant.

4.13.2.4 Operational Vibration Impacts

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the Project would not result groundborne vibration impacts during operations. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?	☐	☐	☐	☒

No Impact.

The Project Site is located approximately 6.2 miles south of the Stockton Metropolitan Airport. Aircraft noise does not significantly impact the Project Site area and would not expose people working on the Project Site to excess airport noise levels. No impact would occur and no mitigation is required.

4.13.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.14 Population and Housing

4.14.1 Environmental Setting

According to the Department of Finance, in 2024 the total population for the City was estimated to be 92,116 and in 2025 was estimated to be 93,733, which resulted in approximate negative 1.8 precent increase (California Department of Finance 2025).

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No Impact.

Implementation of the Proposed Project would not extend service to areas that do not currently have service. The Proposed Project would upgrade existing deficient infrastructure and would not induce substantial population growth in the area. Furthermore, minimal operation and maintenance would be required, and no permanent employees would be hired as a result of the Proposed Project. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact.

The Proposed Project would not displace any existing housing and would not impact any existing housing. Therefore, no impact would occur and no mitigation is required.

4.14.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

4.15.1.1 Police Services

The Manteca Police Department (MPD) provides law enforcement and police protection services throughout the city. MPD operates out of its headquarters located at 1001 W. Center Street. In 2022, MPD had 76 sworn officers (City 2024a).

MPD is organized into two divisions: Operations and Services. Additionally, MPD operates a Public Affairs Unit. For budgeting purposes, MPD is organized into the following programs: administration, patrol, investigations, support services, dispatch, code enforcement, jail services, and animal services.

4.15.1.2 Fire Services

The Manteca Fire Department is responsible for the primary provision of fire service and emergency medical response for the City and its residents. The Manteca Fire Department operates out of five facilities that are strategically located within the City. The Manteca Fire Department is headquartered in Station 242 located at 1154 S. Union Road. This building serves as the Fire Department headquarters and the Fire Prevention Bureau. Fire training and emergency medical services are managed out of Station 241. Apparatus includes three engines, three reserve engines, one ladder truck, one medium rescue unit, one Urban Search and Rescue trailer, eight staff vehicles, two pick-up trucks, and a public education trailer (City 2024a).

The closest fire station to the Proposed Project is Station 242 located at 1154 South Union Road, approximately 1.25 miles away.

4.15.1.3 Schools

The Manteca Unified School District provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. The District is approximately 113 square miles and serves more than 23,500 students. Within the City, there are 14 schools serving elementary age and middle school students (grades K-8), one K-6 school, four high schools (grades 9-12), one community day school (grades 7-12), and one vocational high school (grades 11- 12).

The closest school is the Stella Brockman Elementary School and approximately 0.4 mile north of the Proposed Project Site.

4.15.1.4 Parks

The City of Manteca Parks and Recreation Department serves thousands of individuals, including toddlers, youth, teens, and adults throughout the greater Manteca area. The department offers programs and services that foster health, wellness, and human development, strengthen families, and provide recreational opportunities for the purpose of positively affecting the quality of life for all involved. The Department oversees more than 600 acres of neighborhood and community parks, maintenance districts, urban forest, the Tidewater Bikeway, skate park, swimming pool, senior center, library services, and an 18-hole golf course.

4.15.1.5 Other Public Facilities

The Manteca Branch Library, a branch library of the Stockton - San Joaquin County Library system, is located at 320 West Center Street. The library offers a circulating collection of books, magazines, compact discs, and DVDs in both English and Spanish, and carries a number of local regional and national newspapers.

The Manteca Senior Center located at 295 Cherry Lane is a 10,000-plus square-foot, multi-purpose Senior Center serving and involving adults and seniors age 50 and above throughout the greater Manteca area.

4.15.2 Public Services (XV) Environmental Checklist and Discussion

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

Less than Significant Impact with Mitigation Incorporated.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life line and lift station with a new 36-inch sewer pipe and trunk line. The proposed pipeline would be maintained by the City and would not require public services beyond existing conditions. During construction, partial roadway closures would be required. The City would consult with affected property owners as to what specific requirements could apply to the use of their property during construction. TRANS-1 requires preparation and implementation of a traffic management plan to ensure access along the Project roadways is maintained for both emergency and residential use during construction. With implementation of TRANS-1, the Proposed Project would have a less than significant impact on public services and no mitigation is required

4.15.3 Mitigation Measures

Please refer to Section 4.17.3 for the referenced mitigation measure.

4.16 Recreation

4.16.1 Environmental Setting

The City of Manteca Parks and Recreation Department serves thousands of individuals, including toddlers, youth, teens, and adults throughout the greater Manteca area. The department offers programs and services that foster health, wellness, and human development, strengthen families, and provide

recreational opportunities for the purpose of positively affecting the quality of life for all involved. The Department oversees more than 600 acres of neighborhood and community parks, maintenance districts, urban forest, the Tidewater Bikeway, skate park, swimming pool, senior center, library services, and an 18-hole golf course. The City has six developed Community Parks, totaling approximately 78 acres, and 50 Neighborhood Parks, totaling approximately 216 acres (City 2024a). Additionally, the City has 10 Special Use Parks/Facilities totaling approximately 91 acres, including a major multi-use recreation trail that covers over 3.5 miles of terrain.

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The Proposed Project would not increase city population and would be implemented consistent with all adopted General Plan policies and implementation measures.

The Proposed Project would occur within a portion of the Morenzone Ballpark and the Manteca Park Golf Course. Trenching would occur that would temporarily impact recreational activities during Project construction. However, once construction was completed, the ballpark and the golf course would return to existing conditions.

The Proposed Project would not 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. Any impacts would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The Proposed

Project would not increase city population and would be implemented consistent with all adopted General Plan policies and implementation measures. Thus, the Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No impact would occur and no mitigation is required.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Environmental Setting

4.17.1.1 State Highways

Two highways operated and maintained by Caltrans pass through the City: SR-99 and SR-120.

SR-99 is a six-lane north-south freeway running through the eastern portion of the City. SR-99 is a primary route, along with I-5, connecting the City to the Cities of Stockton and Sacramento to the north. SR-99 is the primary route connecting the City to the Cities of Modesto and Fresno to the south. SR-99 has interchanges at the following City streets:

- Lathrop Road
- Yosemite Avenue
- Austin Road

SR-120 is an east-west freeway running through the southern and eastern portions of the City. SR-120 begins at I-5 within the City of Lathrop at its west terminus approximately 1.5 miles west of the city limit and extends six miles easterly to SR-99. It is coincidental with SR-99 for the short distance from the SR-99/120 interchange to the SR-99/Yosemite Avenue interchange and then extends easterly beyond the City toward Yosemite National Park and the Sierra Nevada Mountains. SR-120 has interchanges at the following City streets:

- Airport Way
- Union Road
- Main Street

4.17.1.2 Arterials

Arterial streets are designed to serve through traffic and major local traffic generators such as residential, commercial, industrial, and institutional uses. Airport way, which would be used to access the Project Site, is primarily a two-lane road within the City. Outside the City, the facility operates as a two-lane rural

highway, passing primarily through rural residential and agricultural uses. North of SR-120, Airport Way carries approximately 17,300 vehicles per day (City 2024a).

4.17.2 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. No long-term modifications to roadway features are Proposed that would conflict with adopted policies, plans, or programs regarding alternative transportation. Traffic disruption during Project construction, however, may adversely impact access to roadways for alternative transportation. This is considered short-term but potentially significant impact. Implementation of Mitigation Measure TRANS-1 will reduce this impact to less than significant with mitigation incorporated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒

No Impact.

CEQA Guidelines Section 15064.3 subdivision (b) addresses the criteria for analyzing transportation impacts and establishes the VMT metric as the most appropriate measure of transportation impacts in a CEQA document. The Proposed Project is a pipeline infrastructure project and will not result in a permanent increase in VMT. Consequently, there would be no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact.

The Proposed Project involves installation of a below-ground sewer pipeline. After Project installation, the site would return to existing conditions above-ground. No modifications to roadway features are proposed as part of the Project. The Project would not introduce transportation hazards and related impacts. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

Traffic disruption during Project construction would be short-term but may adversely affect access to roadways within the Proposed Project Site. This is considered a short-term but potentially significant impact. Implementation of Mitigation Measure TRANS-1 will reduce this impact to less than significant with mitigation incorporated.

4.17.3 Mitigation Measures

TRANS-1: **Construction Traffic Management Plan**. Prior to commencing construction of the Proposed Project, a construction traffic management plan shall be prepared by the Contractor, in coordination with the City. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and construction-related traffic. The construction traffic management plan will include, at a minimum, the following measures:

A. Adequate off-street worker parking shall be provided along the pipeline route.

B. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe.

C. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours.

D. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses.

E. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route.

F. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes.

G. All paved surfaces disturbed during construction shall be repaved when work is complete.

H. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction.

I. To minimize delays in emergency response during Project construction, emergency providers shall be notified in advance. Police, fire protection, and ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the Project's construction process.

4.18 Tribal Cultural Resources

4.18.1 Environmental Setting

Prior to the arrival of Euro-Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Subject experts recognize the uniqueness of California's indigenous groups and classified them as belonging to the California culture area.

The area is associated with territory occupied by the Penutian-speaking Northern Valley Yokuts. Their territory extends from a point just south of the junction of the San Joaquin, Old, and Mokelumne rivers on the north, to a point south of a large eastward bend in the San Joaquin. Unfortunately, the ethnography of the northern, or lower, San Joaquin Valley is poorly known, due to the fact that the native inhabitants were for the most part gone by the time studies were undertaken. Disease, flight from missionization, and conflicts with the miners and settlers who suddenly entered the area in large numbers reduced the native population to small, isolated remnants. Thus, the available information has been gleaned from historic-era accounts of early explorers, soldiers, hunters and trappers, missionaries, etc. Archaeology has added some information, but the record is by no means complete.

The Yokuts, (meaning "person" or "people") who were Penutian/Yokutsan speakers, were divided into three distinct groups: the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothills Yokuts. These groups spoke different dialects and were separated by topography. Controversy surrounds the date for Yokuts presence in the northern part of the San Joaquin Valley. Linguistic studies suggest that the Northern Valley Yokuts were relatively recent arrivals, moving from the south about 500 years ago as a result of pressure from Numic speakers moving into the San Joaquin drainage from the west. However, others have suggested that a Yokuts presence in the Stockton area can be discerned in the archaeological record before AD 400. A drier climate in the lower foothills and valley edges may have triggered occupation of the riverbanks in the central valley at that time. In any case, by the time the Spanish arrived in the early part of the nineteenth century, the Northern Valley Yokuts were well entrenched, with established settlements on low mounds in the delta and along the banks of the San Joaquin River and its tributaries. Population estimates for the entire San Joaquin Valley range from 11,000 to over 52,000, but these are only estimates, and the true population is not known.

Village settlements were composed of small round to oval house structures, which were closely spaced in a row along a riverbank. Houses were covered with light, woven tule reed mats. Villages were located mostly along the eastern bank of the San Joaquin River and along its tributaries. Sweathouses and ceremonial chambers were also found in these villages. Experts suggest that territories of the tribes within

the Yokuts group averaged about 300 square miles, which he suggests is about a half-day's walk in each direction. Though no records exist, it is likely that social organization was centered on the family. It has been suggested that the Southern Valley Yokuts were divided into two moieties based on patrilineal descent, and this may have also been true for those in the north. However, marriage was matrilocal, with the groom moving in with the bride's family. Polygamy was also practiced, with wives located in several villages, thus creating ties and alliances between dispersed groups.

Not surprisingly, given their proximity to rivers and the delta, a large part of Northern Valley Yokuts subsistence was based on fishing. King salmon, which spawned in the San Joaquin River and its tributaries, were an important resource, but the Yokuts made use of other native species such as white sturgeon, river perch, western suckers, and Sacramento pike. Dragnets with stone sinkers were used, as were harpoons with bone or antler tips.

In addition, the enormous populations of waterfowl present in the valley were exploited, as were the large herds of tule elk and pronghorn antelope. It is thought, however, that hunting was a marginal resource procurement activity, when compared to fishing. Gathering of plant resources, though, was as important as fishing, with acorns from the stands of huge valley oaks being a major component of this activity. Tule roots and a variety of seeds also were utilized.

Like their Nisenan neighbors to the north, the Northern Valley Yokuts were politically organized into tribelets, estimated to be of about 300 people each. Tribelets known to be in the Delta area were the Chulamni, the Cholbones, the Coybos, and the Nototemnes. A tribelet identified as the Leuchas reportedly were mostly missionized by about 1815. Generally sedentary, the Northern Valley Yokuts would disperse seasonally for hunting and gathering expeditions and were sometimes forced out by flooding. Chiefs gained their position through wealth, and since women were occasionally chiefs, inheritance appears to have been important.

The Spanish arrived on the coast in 1769, and by 1776 the central valley had been explored by José Canizares. In 1808, the area was crossed by Gabriel Moraga, and in 1813, a major battle was fought between the Miwok to the north and the Spaniards near the mouth of the Cosumnes River. Though the Yokuts appear to have escaped being removed to missions by the Spanish, they were not spared the ravages of European-spread disease. In 1833, an epidemic – probably malaria – raged through the Sacramento and San Joaquin valleys, killing an estimated 75% of the native population. Not far to the north, when John Sutter erected his fort at the future site of Sacramento, he had no problem getting the few neighboring Nisenan survivors to settle nearby. The discovery of gold in 1848, near the Nisenan village of Colluma (also Coloma), drew thousands of miners into the area, and led to widespread killing and devastating consequences to traditional Nisenan and Yokuts cultures.

4.18.1.1 Summary of Consultation

On March 19, 2026 the City has notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the Proposed Project: Confederated Villages of Lisjan Nation, Confederated Villages of Lisjan Nation, Wuksachi Indian Tribe/Eshom Valley Band, Wilton Rancheria, Tule River Indian Tribe, North Valley Yokuts Tribe, North Valley Yokuts Tribe, Muwekma Ohlone

Indian Tribe of the SF Bay Area, Muwekma Ohlone Indian Tribe of the SF Bay Area, Ione Band of Miwok Indians, and Buena Vista Rancheria of Me-Wuk Indians. The letter provided each tribe with a brief description of the Project and its location, the contact information for the City, and a notification that the tribe has 30 days to request consultation. To date, the only tribe that has responded and requested consultation is the Lisjan Nation. At this time, consultation is ongoing.

4.18.2 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated

As discussed in Section 4.5, ECORP surveyed the Project Area for cultural resources on September 10, 2025. ECORP did not conduct any subsurface investigations or artifact collections during the pedestrian survey.

ECORP contacted the California Native American Heritage Commission (NAHC) on July 14, 2025 to request a search of the Sacred Lands File (SLF) for the Project Site. This search determines whether the California Native American tribes with ancestral ties to the land within the Project Site have recorded Sacred Lands in the SLF, which is populated by members of the Native American community with

knowledge about the locations of tribal cultural resources. The search of the SLF by NAHC returned a negative result for sacred lands in their search area

ECORP sent letters to the San Joaquin County Historical Society and Museum and the Manteca Historical Society and Museum on July 14, 2025 to solicit comments or obtain historical information that the repositories might have regarding events, people, or resources of historical significance in the area.

Examination of the lines of evidence summarized above indicates that the Proposed Project would not have an impact on known TCRs. However, there exists a potential for the discovery of previously unknown TCRs during Project construction. If TCRs are encountered, the Project activity could result in a significant impact to those resources. Implementation of unanticipated discovery procedures, as provided in mitigation measure TCR-1 below, as well as the measure CUL-1, would reduce that impact to less than significant.

4.18.3 Mitigation Measures

TCR-1: **Unanticipated Discovery of Tribal Cultural Resources.** If potentially significant TCRs are discovered during ground disturbing activities, all work shall cease within 50 feet of the find. A Native American Representative from traditionally and culturally affiliated Native American Tribes that requested consultation on the Project shall be immediately contacted and invited to assess the significance of the find and make recommendations for further evaluation and treatment, as necessary. If deemed necessary by the City, a qualified cultural resources specialist, who meets the Secretary of Interior's Standards and Qualifications for Archaeology, may also assess the significance of the find in joint consultation with Native American representatives to ensure that tribal values are considered. Work at the discovery location cannot resume until the City, in consultation as appropriate and in good faith, determines that the discovery is either not a TCR, or has been subjected to culturally appropriate treatment, if avoidance and preservation cannot be accommodated.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

4.19.1.1 Water Service

The City's water service area is contiguous with City limits. The City's water supply sources consist of treated surface water from SSJID through the South County Water Supply Program, local groundwater, and reclaimed water produced at the City's WQCF (City 2024b).

4.19.1.2 Wastewater

The City's sewer service area is contiguous with City limits, and is divided into north, south and central sewer sheds. The municipal wastewater collection system includes 242 miles of sewer mains and 19 pump stations. The collection system includes gravity flow pipes ranging from 6-inch to 60-inch diameter, and force mains from 6-inch to 24-inch diameter.

Municipal wastewater is treated at the City's WQCF, which treats municipal sanitary sewage from the City, portions of Lathrop, and Raymus Village, just northeast of the City (City 2024a).

4.19.1.3 Solid Waste

The City of Manteca Solid Waste Division (SWD) provides solid waste hauling service for the City. SWD's services include residential and commercial trash pick-up, residential and commercial recycling pick-up, green waste pick-up, and hazardous waste collections. Solid waste from the City is primarily landfilled at the Forward Sanitary Landfill, located northeast of the City. Other landfills used include Foothill Sanitary and North County.

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. Implementation of the Proposed Project would not require new or expanded water or wastewater facilities. Any impact would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of replacing an existing pipeline that, due to it's age and deterioration, is beyond its useful life and lifting station with a new 36-inch sewer pipe and trunk line. The Proposed Project would be operated by the City, and no new or expanded water demand is associated with implementation of the Proposed Project. Therefore, no impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of replacing an existing, failing and over 50 years old sized wastewater line and lifting station with a new 36-inch sewer pipe and trunk line. Implementation of the Proposed Project would enhance wastewater facilities beyond current conditions. Any impacts would be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

No recycling or waste disposal would be required for operation and maintenance of the Proposed Project and therefore would not affect landfill capacity because the amount of construction debris requiring disposal would be minor and would only occur during the construction and demolition period. The Project contractors would be responsible for disposing of construction-related debris in local construction-material receiving areas. A less than significant impact would occur. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Less than Significant Impact.

As previously described, no recycling or waste disposal would be required for operation and maintenance of the Proposed Project. The contractors would be responsible for disposing of construction-related debris in local construction-material receiving facilities and would comply with all federal, state, and local

statues and regulations related to solid waste. Therefore, any impacts would be less than significant and no mitigation is required.

4.19.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

The State has charged CAL FIRE with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CAL FIRE must recommend Very High FHSZs (VHFHSZs) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

According to CAL FIRE, the Project Site is located in a local responsibility area and has not been identified as a VHFHSZ (CAL FIRE 2025).

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is not within a VHFHSZ zone. The San Joaquin County Emergency Operations Plan (San Joaquin County 2022) and the City of Manteca General Plan (City 2024a) has designated Airport Way has an evacuation route within the City. While the Project Site does not include Airport Way, construction activities could impede the use of surrounding roadways, including Airport Way. Therefore, the Proposed Project would require implementation of Mitigation Measure TRANS-1 (Section 4.17) that requires the preparation and implementation of a Construction Traffic Management Plan if any road closures are required as part of Project implementation. This mitigation measure would assist in maintaining traffic flow along roadways during construction activities. After construction of the Project is completed, the Project Site would be restored to the existing condition. Therefore, implementation of the Proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Any impacts would be less than significant and no mitigation required.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

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?	☐	☐	☐	☒

No Impact.

The Proposed Project is not within a VHFHSZ and would not exacerbate an existing condition by the addition of structures, machinery, people, or recreational opportunities that would encourage the use of flammable materials or create situations that could lead to increase fire risk. The pipeline will be entirely underground, and as an infrastructure improvement project, the Project Site will be returned to its pre-construction state after Project completion. There will be no change to the local population or increase in development associated with the Project that would increase fire risk to the local community. Consequently, the Project would not exacerbate wildfire risks or expose people to pollutant concentrations. No impact would occur, and no mitigation is required.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

As discussed in item b), the Proposed Project does not exacerbate fire risk under existing conditions. The Proposed Project does not include installation or maintenance of associated structures (i.e., 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. There would be no impact, and no mitigation would be required.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

See discussion in items b) and c). The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes. Therefore, no impact would occur and no mitigation is required..

4.20.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

As stated previously in Section 4.4, with implementation of Mitigation Measures BIO-1 through BIO-8 the Proposed Project would result in a less than significant impact on the habitat of wildlife species or population, on any plant or animal community, and would not restrict the range of a rare or endangered plant or animal. Furthermore, as stated above in Section 4.5, with the implementation of proposed Mitigation Measures CUL-1, development of the Proposed Project would not result in significant impacts to Cultural Resources. Therefore, the Proposed Project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of 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

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects	☐	☐	☒	☐

of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact.

Project impacts would not be cumulatively considerable. No mitigation is required relevant to potential cumulative impacts.

For natural resource subjects (Aesthetics, Agriculture and Forest Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Mineral Resources), there would be no cumulative effects because all impacts would be less than significant or would be reduced to less than significant with mitigation incorporated.

The nature of the Proposed Project would not induce population growth or result in the development of new housing or employment-generating uses. Therefore, the Proposed Project would not result in a cumulative effect regarding increased demand or expansion for services or utilities. Furthermore, there are no approved or planned projects within proximity to the Proposed Project that would contribute to cumulative effects.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Less than Significant Impact.

Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this IS/MND.

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Air Quality and Greenhouse Gas Analysis for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025.

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COM Force Main Project Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	COM Force Main Project
Construction Start Date	3/3/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.799668761118284, -121.24248740579115
County	San Joaquin
City	Manteca
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2161
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.30

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	37.5	1000sqft	0.86	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.10	9.51	12.3	0.02	0.33	0.69	0.88	0.30	0.10	0.30	—	2,031	2,031	0.08	0.08	1.14	2,038
Mit.	1.10	9.51	12.3	0.02	0.33	0.29	0.49	0.30	0.06	0.30	—	2,031	2,031	0.08	0.08	1.14	2,038
% Reduced	—	—	—	—	—	57%	45%	—	43%	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.60	5.06	6.59	0.01	0.20	1.24	1.39	0.18	0.22	0.36	—	1,675	1,675	0.05	0.13	0.05	1,715
Mit.	0.60	5.06	6.59	0.01	0.20	0.90	1.05	0.18	0.17	0.31	—	1,675	1,675	0.05	0.13	0.05	1,715
% Reduced	—	—	—	—	—	28%	25%	—	24%	15%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.39	3.37	4.40	0.01	0.12	0.11	0.23	0.11	0.02	0.13	—	779	779	0.03	0.02	0.09	785

Mit.	0.39	3.37	4.40	0.01	0.12	0.07	0.19	0.11	0.01	0.12	—	779	779	0.03	0.02	0.09	785
% Reduced	—	—	—	—	—	36%	17%	—	27%	4%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.62	0.80	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	129	129	< 0.005	< 0.005	0.01	130
Mit.	0.07	0.62	0.80	< 0.005	0.02	0.01	0.04	0.02	< 0.005	0.02	—	129	129	< 0.005	< 0.005	0.01	130
% Reduced	—	—	—	—	—	36%	17%	—	27%	4%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.10	9.51	12.3	0.02	0.33	0.69	0.88	0.30	0.10	0.30	—	2,031	2,031	0.08	0.08	1.14	2,038
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.60	5.06	6.59	0.01	0.20	1.24	1.39	0.18	0.22	0.36	—	1,675	1,675	0.05	0.13	0.05	1,715
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.39	3.37	4.40	0.01	0.12	0.11	0.23	0.11	0.02	0.13	—	779	779	0.03	0.02	0.09	785
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07	0.62	0.80	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	129	129	< 0.005	< 0.005	0.01	130

2.3. Construction Emissions by Year, Mitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.10	9.51	12.3	0.02	0.33	0.29	0.49	0.30	0.06	0.30	—	2,031	2,031	0.08	0.08	1.14	2,038
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.60	5.06	6.59	0.01	0.20	0.90	1.05	0.18	0.17	0.31	—	1,675	1,675	0.05	0.13	0.05	1,715
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.39	3.37	4.40	0.01	0.12	0.07	0.19	0.11	0.01	0.12	—	779	779	0.03	0.02	0.09	785
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07	0.62	0.80	< 0.005	0.02	0.01	0.04	0.02	< 0.005	0.02	—	129	129	< 0.005	< 0.005	0.01	130

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.09	5.58	0.01	0.13	—	0.13	0.12	—	0.12	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	0.96	0.96	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.8
Demolition	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73	7.73	< 0.005	< 0.005	—	7.76
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.01	83.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.94	0.22	0.01	0.01	0.20	0.21	0.01	0.05	0.07	—	741	741	0.01	0.12	0.04	777
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.60	4.60	< 0.005	< 0.005	0.01	4.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.72	6.72	< 0.005	< 0.005	0.01	7.05

3.2. Demolition (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.09	5.58	0.01	0.13	—	0.13	0.12	—	0.12	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	0.61	0.61	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.8
Demolition	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73	7.73	< 0.005	< 0.005	—	7.76
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.01	83.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.94	0.22	0.01	0.01	0.20	0.21	0.01	0.05	0.07	—	741	741	0.01	0.12	0.04	777
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.60	4.60	< 0.005	< 0.005	0.01	4.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.72	6.72	< 0.005	< 0.005	0.01	7.05

3.3. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.74	5.54	0.01	0.19	—	0.19	0.17	—	0.17	—	858	858	0.03	0.01	—	861

Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.74	5.54	0.01	0.19	—	0.19	0.17	—	0.17	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.0	47.0	< 0.005	< 0.005	—	47.2
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.81
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	45.3	45.3	< 0.005	< 0.005	0.16	45.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.50	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.01	0.07	0.98	443
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.9	40.9	< 0.005	< 0.005	< 0.005	41.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.53	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.01	0.07	0.03	442
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.83	3.83	< 0.005	< 0.005	< 0.005	4.01

3.4. Site Preparation (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.74	5.54	0.01	0.19	—	0.19	0.17	—	0.17	—	858	858	0.03	0.01	—	861

Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.74	5.54	0.01	0.19	—	0.19	0.17	—	0.17	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.0	47.0	< 0.005	< 0.005	—	47.2
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.81
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	45.3	45.3	< 0.005	< 0.005	0.16	45.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.50	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.01	0.07	0.98	443
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.9	40.9	< 0.005	< 0.005	< 0.005	41.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.53	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.01	0.07	0.03	442
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.83	3.83	< 0.005	< 0.005	< 0.005	4.01

3.5. Pipe Installation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.10	9.51	12.3	0.02	0.33	—	0.33	0.30	—	0.30	—	2,031	2,031	0.08	0.02	—	2,038

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.60	3.38	0.01	0.09	—	0.09	0.08	—	0.08	—	556	556	0.02	< 0.005	—	558
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.48	0.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	92.1	92.1	< 0.005	< 0.005	—	92.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Pipe Installation (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.10	9.51	12.3	0.02	0.33	—	0.33	0.30	—	0.30	—	2,031	2,031	0.08	0.02	—	2,038
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.60	3.38	0.01	0.09	—	0.09	0.08	—	0.08	—	556	556	0.02	< 0.005	—	558
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.48	0.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	92.1	92.1	< 0.005	< 0.005	—	92.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.67	5.92	0.01	0.20	—	0.20	0.18	—	0.18	—	916	916	0.04	0.01	—	920
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.67	5.92	0.01	0.20	—	0.20	0.18	—	0.18	—	916	916	0.04	0.01	—	920

Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	50.2	50.2	< 0.005	< 0.005	—	50.4
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.31	8.31	< 0.005	< 0.005	—	8.34
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.84	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	158	158	< 0.005	0.01	0.54	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.05	8.05	< 0.005	< 0.005	0.01	8.16

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.67	5.92	0.01	0.20	—	0.20	0.18	—	0.18	—	916	916	0.04	0.01	—	920
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.67	5.92	0.01	0.20	—	0.20	0.18	—	0.18	—	916	916	0.04	0.01	—	920
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	50.2	50.2	< 0.005	< 0.005	—	50.4
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.31	8.31	< 0.005	< 0.005	—	8.34
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.84	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	158	158	< 0.005	0.01	0.54	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.05	8.05	< 0.005	< 0.005	0.01	8.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	3/3/2026	3/30/2026	5.00	20.0	—
Site Preparation	Site Preparation	3/31/2026	4/27/2026	5.00	20.0	Site Prep-Trenching
Pipe Installation	Building Construction	4/28/2026	9/14/2026	5.00	100	—
Paving	Paving	9/15/2026	10/12/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40

Demolition	Tractors/Loaders/Back	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Pipe Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Pipe Installation	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Pipe Installation	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Pipe Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pipe Installation	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Pipe Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Pipe Installation	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Pipe Installation	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37

Pipe Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pipe Installation	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	10.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	6.15	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Pipe Installation	—	—	—	—
Pipe Installation	Worker	0.00	11.9	LDA,LDT1,LDT2
Pipe Installation	Vendor	0.00	9.10	HHDT,MHDT
Pipe Installation	Hauling	0.00	20.0	HHDT
Pipe Installation	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	17.5	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	10.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	6.15	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Pipe Installation	—	—	—	—
Pipe Installation	Worker	0.00	11.9	LDA,LDT1,LDT2
Pipe Installation	Vendor	0.00	9.10	HHDT,MHDT
Pipe Installation	Hauling	0.00	20.0	HHDT
Pipe Installation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	18,763	—
Site Preparation	—	982	10.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.86

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	0.86	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.4	annual days of extreme heat
Extreme Precipitation	1.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	57.8

AQ-PM	55.1
AQ-DPM	33.7
Drinking Water	99.0
Lead Risk Housing	21.8
Pesticides	38.4
Toxic Releases	50.2
Traffic	27.9
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	14.3
Haz Waste Facilities/Generators	62.5
Impaired Water Bodies	0.00
Solid Waste	52.9
Sensitive Population	—
Asthma	79.2
Cardio-vascular	83.5
Low Birth Weights	51.8
Socioeconomic Factor Indicators	—
Education	48.6
Housing	53.1
Linguistic	2.81
Poverty	38.3
Unemployment	28.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	49.94225587
Employed	30.10393943
Median HI	52.16219684
Education	—
Bachelor's or higher	42.93596818
High school enrollment	100
Preschool enrollment	27.71718209
Transportation	—
Auto Access	53.75336841
Active commuting	37.23854741
Social	—
2-parent households	64.55793661
Voting	50.81483383
Neighborhood	—
Alcohol availability	65.75131528
Park access	81.35506224
Retail density	70.2681894
Supermarket access	38.1239574
Tree canopy	37.63634031
Housing	—
Homeownership	42.08905428
Housing habitability	65.64865905
Low-inc homeowner severe housing cost burden	60.64416784
Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	44.45014757
Health Outcomes	—
Insured adults	43.71872193
Arthritis	54.3

Asthma ER Admissions	23.0
High Blood Pressure	46.3
Cancer (excluding skin)	55.0
Asthma	34.7
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	47.8
Diagnosed Diabetes	70.5
Life Expectancy at Birth	37.3
Cognitively Disabled	54.2
Physically Disabled	63.7
Heart Attack ER Admissions	25.4
Mental Health Not Good	41.5
Chronic Kidney Disease	73.0
Obesity	33.9
Pedestrian Injuries	54.4
Physical Health Not Good	51.8
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	19.3
Current Smoker	34.1
No Leisure Time for Physical Activity	45.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	12.9
Elderly	83.6
English Speaking	51.2
Foreign-born	37.2

Outdoor Workers	67.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	50.5
Traffic Density	35.3
Traffic Access	0.0
Other Indices	—
Hardship	59.0
Other Decision Support	—
2016 Voting	39.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	46.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Phasing names and timing changed to reflect a more conservative expectation for construction.
Construction: Off-Road Equipment	More equipment added to maintain a more conservative analysis of construction.

APPENDIX A2 - SAN JOAQUIN APCD PRIORITIZATION CALCULATOR OUTPUTS

Prioritization Calculator

Applicability	Use to provide a Prioritization score based on the emission potency method. Entries required in yellow areas, output in gray areas.		
Author or updater	Marco Caipo	*Last Update*	July 9, 2025
Facility:	Central Trunk Sewer Project	**Notes:**	Distance to receptors was averaged between the furthest and closest points on the Project Site to receptors. Calculated distance was 300 meters.
ID#:	CEQA		
Project #:	2025-144		
Unit and Process#	Construction		

Operating Hours hr/yr	1,280.00				
Receptor Proximity and Proximity Factors	**Cancer Score**	**Chronic Score**	**Acute Score**	**Max Score**	Receptor proximity is in meters. Priortization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.
0< R<100 1.000	1.09E+02	1.11E+00	0.00E+00	1.09E+02	
100≤R<250 0.250	2.74E+01	2.78E-01	0.00E+00	2.74E+01	
250≤R<500 0.040	4.38E+00	4.44E-02	0.00E+00	4.38E+00	
500≤R<1000 0.011	1.20E+00	1.22E-02	0.00E+00	1.20E+00	
1000≤R<1500 0.003	3.28E-01	3.33E-03	0.00E+00	3.28E-01	
1500≤R<2000 0.002	2.19E-01	2.22E-03	0.00E+00	2.19E-01	
2000<R 0.001	1.09E-01	1.11E-03	0.00E+00	1.09E-01	

Construction	Enter the unit's CAS# of the substances emitted and their amounts.				Prioritzation score for each substance generated below. Totals on last row.		
Substance	**CAS#**	**MW Correction**	**Annual Emissions (lbs/yr)**	**Maximum Hourly (lbs/hr)**	**Annual Emissions (lbs/yr)**	**Maximum Hourly (lbs/hr)**	**Average Hourly (lbs/hr)**
Diesel engine exhaust, particulate matter (Diesel PM)	**9901**	**1.0000**	47.4	0.325	4.74E+01	3.25E-01	3.70E-02
Carbon Monoxide [Criteria Pollutant]	**42101**	**1.0000**	1595.4	12.349	1.60E+03	1.23E+01	1.25E+00
Oxides of Nitrogen	**42603**	**1.0000**	1222.6	9.5064	1.22E+03	9.51E+00	9.55E-01
Reactive Organic Gas	**16113**	**1.0000**	140.2	1.1015	1.40E+02	1.10E+00	1.10E-01
Oxides of sulfur	**42401**	**1.0000**	2.8	0.0215	2.80E+00	2.15E-02	2.19E-03
Particulate Matter	**11101**	**1.0000**	69.6	1.0469	6.96E+01	1.05E+00	5.44E-02
Particulate Matter 2.5 Microns or less	**88101**	**1.0000**	44.6	0.3053	4.46E+01	3.05E-01	3.48E-02

APPENDIX B

Biological Resources Assessment for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025

Biological Resources Assessment for the City of Manteca Central Trunk Sewer Project

City of Manteca, California

Prepared For:

HydroScience Engineers

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, CA 95677

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
°F	degrees Fahrenheit
BCC	Birds of Conservation Concern
BRA	Biological Resources Assessment
BSA	Biological Study Area
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
ECORP	ECORP Consulting, Inc.
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
MSL	Mean Sea Level
N/A	Not Applicable
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
Project	City of Manteca Central Trunk Sewer Project
RWQCB	Regional Water Quality Control Board
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SSC	Species of Special Concern
SSJID	South San Joaquin Irrigation District
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WBWG	Western Bat Working Group

1.0 INTRODUCTION

ECORP Consulting, Inc. (ECORP) has conducted a Biological Resources Assessment (BRA) at the request of HydroScience Engineers, for the proposed City of Manteca Central Trunk Sewer Project (Project) located west of North Union Road, north of West Yosemite Avenue, and South of Crom Street in Manteca, San Joaquin County, California. The results of this assessment will support environmental review of the Project in accordance with the California Environmental Quality Act (CEQA) and provide the basis for identifying appropriate measures to lessen or avoid significant impacts to biological resources.

1.1 Project Description

The Proposed Project consists of the replacement of an existing, inadequately sized wastewater line and lifting station with a new 36-inch sewer pipe and trunk line. The existing lifting station would be abandoned.

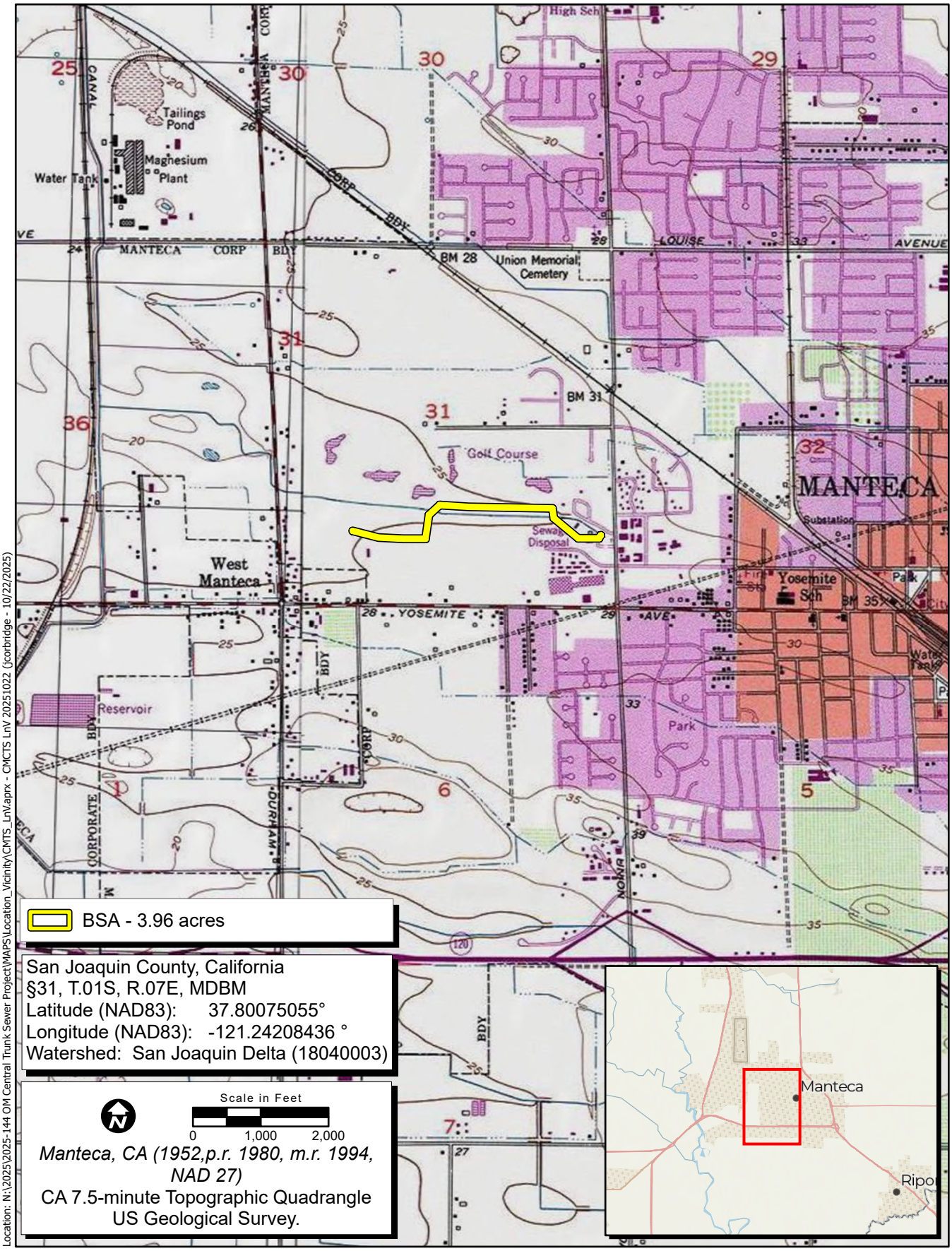
The Project Area consists of an area approximately 0.8 mile long and 40 feet wide for the proposed new segment of sewer line. The proposed alignment of the replacement sewer line roughly follows the existing line. It extends westward from the eastern tie-in location and continues under a maintenance yard, the Morenzone Ballfield, and a portion of the Manteca Park Golf Course. The alignment turns south briefly to cross the Southern San Joaquin Reclamation District Drain 5 ditch and under an open field before continuing westward under a portion of the Kaiser Permanente Manteca Medical Center property to the western tie-in location.

1.2 Biological Study Area

The Biological Study Area (BSA) includes all areas where Project-related activities may result in impacts to sensitive biological resources. The 3.96-acre BSA corresponds to a portion of Section 31, Township 01 South, and Range 7 East (Mount Diablo Base and Meridian) of the "Manteca, California" 7.5-minute quadrangle (U.S. Geological Survey 1952 [photorevised 1980; map revised 1994]) (Figure 1). The approximate center of the BSA is located at 37.870075055° North and -121.24208436° West within the San Joaquin Delta watershed (Hydrological Unit Code 18040003; Natural Resources Conservation Service [NRCS] et al. 2024).

1.3 Purpose of This Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and other sensitive or protected resources such as migratory birds, sensitive natural communities, riparian habitat, oak woodlands, and potential Waters of the U.S. or state, including wetlands, within the BSA. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of available literature and the results of site reconnaissance field surveys.



Map Date: 10/22/2025
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2025-144 City of Manteca Central Trunk Sewer Project

For the purposes of this assessment, *special-status species* are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPRs] 1 and 2), plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), and plants of limited distribution (CRPR 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, Section 1900 et seq.);
- are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes); or
- are San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Covered Species.

2.0 REGULATORY SETTING

Federal, state and local regulations applicable to the Project are described below.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal ESA protects plants and animals that are listed as endangered or threatened by USFWS or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, the ESA prohibits removing or possessing any listed plant on federal land, maliciously damaging or destroying any listed plant in any area, or removing, cutting, digging up, damaging, or destroying any such species in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals or funding, may affect a listed species (including plants) or its designated critical habitat. Through consultation and the issuance of a Biological Opinion (formal consultation), USFWS and/or NMFS may authorize take of a listed species that is incidental to an otherwise legal activity provided the activity will not jeopardize the continued existence

of the species. USFWS and/or NMFS may issue a letter of concurrence through an informal consultation process if the federal agency demonstrates that the action is not likely to adversely affect a listed species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. USFWS may issue permits to qualified applicants as authorized by the MBTA for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

> …that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3 7b).

Under the current regulations implementing the CWA, wetlands are considered Waters of the U.S. and are subject to USACE jurisdiction if they are adjacent (defined as having a continuous surface connection) to relatively permanent, standing or continuously flowing bodies of water.

Substantial impacts to Waters of the U.S. may require an individual permit. Projects with only minimally effects may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA applies the take

prohibitions to species proposed for listing (called *candidates* by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2081 allows CDFW to authorize incidental take permits if species-specific minimization and avoidance measures are incorporated to fully mitigate the impacts of a project.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as *fully protected* prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. Previously, the regulations that implement the Fully Protected Species Statute (California Fish and Game Code Sections 4700 for mammals, 3511 for birds, 5050 for reptiles and amphibians, and 5515 for fish) provided that fully protected species may not be taken or possessed at any time. However, on July 10, 2023, Senate Bill 147 was signed into law authorizing CDFW to issue take permits under the California ESA for fully protected species for qualifying projects through 2033. Qualifying projects include:

- a maintenance, repair, or improvement project to the State Water Project, including existing infrastructure, undertaken by the Department of Water Resources;
- a maintenance, repair, or improvement project to critical regional or local water agency infrastructure;
- a transportation project, including any associated habitat connectivity and wildlife crossing project, undertaken by a state, regional, or local agency, that does not increase highway or street capacity for automobile or truck travel;
- a wind project and any appurtenant infrastructure improvement, and any associated electric transmission project carrying electric power from a facility that is located in the State to a point of junction with any California based balancing authority; or
- a solar photovoltaic project and any appurtenant infrastructure improvement, and any associated electric transmission project carrying electric power from a facility that is located in the State to a point of junction with any California-based balancing authority.

CDFW may also issue licenses or permits for take of these species for necessary scientific research or live capture and relocation, and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.1.3 Native Plant Protection Act

The NPPA of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code Sections 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as *endangered* or *rare* and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code Sections 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 Special Protections for Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protect birds. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 prohibits the take, possession, or destruction of any birds in the orders Strigiformes (owls) or Falconiformes (hawks and eagles), as well as their nests and eggs. Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that, with limited exceptions, it is unlawful to take any nongame bird, defined as all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. These provisions, along with the federal MBTA, serve to protect all nongame birds and their nests and eggs, except as otherwise provided in the code.

2.2.1.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires an entity to notify CDFW of activities that may: "substantially divert or obstruct the natural flow of any river stream or lake; substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or deposit or dispose of debris, waste or other materials containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake." The statute has been interpreted by CDFW to include modification of adjacent wetland and riparian habitat. If CDFW determines the activity may "substantially adversely affect a fish or wildlife resource," the entity may not commence the activity without a Lake or Streambed Alteration Agreement. The Lake or Streambed Alteration Agreement establishes measures necessary to protect the resource, and is mutually agreed upon by CDFW and the applicant.

2.2.2 California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was passed in 2001 to address loss of oak woodland habitats throughout the State. As a result of the Act, the Oak Woodland Conservation Program was established to provide funding for conservation and protection of California oak woodlands. Public Resources Code Section 21083.4 went into effect as of January 1, 2005 and requires lead agencies to analyze potential effects to oak woodlands during the CEQA process. The lead agency must implement one of several mitigation alternatives, including conservation of oak woodlands through conservation easements, planting or restoration of oak woodlands, contribution of funds to the Oak Woodlands Conservation Fund, or other appropriate mitigation measures if it is determined that a project may have a significant effect on oak woodlands,.

2.2.3 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb 1 or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB also regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code 13260[a]). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

2.2.4 California Environmental Quality Act

CEQA requires state and local agencies to disclose and evaluate the significant environmental impacts of proposed projects. Where significant impacts are identified, the agency must adopt all feasible mitigation measures to reduce or eliminate those impacts.

2.2.4.1 California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to state or federally listed (i.e., rare, threatened, or endangered) species are considered significant. Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if it meets certain criteria. A species is considered "endangered" if its survival and reproduction in the wild are in immediate jeopardy; a species is considered "rare" when it is present in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.

Assessment of *impact significance* to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Pursuant to Appendix G, impacts to biological resources would normally be considered significant if a project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.4.2 Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that is not legally protected under the ESA, the California ESA, or the California Fish and Game Code but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the State or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not State) threatened or endangered, and meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

Projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.4.3 U.S. Fish and Wildlife Service Bird of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of BCC (USFWS 2021) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS's highest conservation priorities. Projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.2.4.4 California Rare Plant Ranks

CNPS maintains the *Rare Plant Inventory* (CNPS 2025a), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academic, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDB). The following are definitions of the CNPS CRPRs:

- *Rare Plant Rank 1A* – presumed extirpated in California and either rare or extinct elsewhere
- *Rare Plant Rank 1B* – rare, threatened, or endangered in California and elsewhere
- *Rare Plant Rank 2A* – presumed extirpated in California, but more common elsewhere
- *Rare Plant Rank 2B* – rare, threatened, or endangered in California but more common elsewhere
- *Rare Plant Rank 3* – a review list of plants about which more information is needed
- *Rare Plant Rank 4* – a watch list of plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 0.1 through 0.3, with 0.1 being the most threatened and 0.3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- *Threat Rank 0.1* – seriously threatened in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)
- *Threat Rank 0.2* – moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- *Threat Rank 0.3* – not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2025b). Substantial impacts to plants ranked 1A, 1B, 2A, or 2B are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4.5 Sensitive Natural Communities

Sensitive natural communities are vegetation communities that are imperiled or vulnerable to environmental effects of projects. CDFW maintains the California Natural Community List (CDFW 2025b), which provides a list of vegetation alliances, associations, and special stands as defined in the Manual of California Vegetation (MCV; CNPS 2025b), along with their respective state and global rarity ranks, if applicable. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Substantial impacts to sensitive natural communities may be considered significant under CEQA.

2.2.4.6 Wildlife Movement Corridors and Nursery Sites

Impacts to wildlife movement corridors or nursery sites may be considered significant under CEQA. As part of the California Essential Habitat Connectivity Project, CDFW and the California Department of Transportation maintain data on Essential Habitat Connectivity areas. This data is available in the CNDDB. The goal of the California Essential Habitat Connectivity Project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife. In urban settings, riparian vegetated stream corridors can also serve as wildlife movement corridors. Nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, and mule deer critical fawning areas. These data are available through CDFW's Biogeographic Information and Observation System database or as occurrence records in the CNDDB and are supplemented with the results of the field reconnaissance.

2.2.5 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The key purpose of the SJMSCP (San Joaquin Council of Governments 2000) is to:

- provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy;
- preserve landowner property rights;
- provide for the long-term management of plant, fish, and wildlife species, especially those that are currently listed, or may be listed in the future, under the federal ESA or the California ESA;
- provide and maintain multiple-use Open Space which contributes to the quality of life of the residents of San Joaquin County; and
- accommodate a growing population while minimizing costs to project proponents and society at large.

In accordance with federal ESA Section 10(a)(1)(B) and California ESA Section 2081(b) incidental take permits, the SJMSCP provides compensation for the conversion of Open Space to non-Open Space uses that affect the plant, fish, and wildlife species covered by the SJMSCP.

The SJMSCP allows SJMSCP Permittees (San Joaquin Council of Governments, Inc., San Joaquin County and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy) to issue incidental take permits or allows project applicants to mitigate for impacts to SJMSCP-Covered Species resulting from Open Space land conversion resulting from covered projects. Once an incidental take permit is issued, it allows a project applicant to unintentionally "take" a threatened or endangered species listed under the Federal and California Endangered Species Acts.

The BSA is located within the Central Zone of the SJMSCP area.

2.2.6 City of Manteca Code of Ordinances Title 12, Chapter 12.08 – Trees and Shrubs

No individual is allowed to cut, prune, remove, harm, or otherwise disturb any tree, shrub, or plant located in a street tree area (area between public street right-of-way lines) or other public space within the City of Manteca without first obtaining permission and approval from the designated director or representative of the City of Manteca. The director has the authority to grant this permission as needed and at their discretion. Except for utility companies, as described in Section 12.08.080, any permission given cannot remain valid for more than thirty days after it is issued.

The designated director may authorize trimming, pruning, or removal of any tree, shrub, plant, or vegetation in street tree areas or other public spaces. If street trees are removed, they must be replaced with trees that comply with the street tree plan and the approved street tree list.

3.0 METHODS

3.1 Literature Review

ECORP biologists reviewed existing available information for the BSA. Literature sources included current and historical aerial imagery, previous biological studies conducted for the area, topographic mapping, soil survey mapping available from the NRCS *Web Soil Survey*, USFWS Critical Habitat Mapper, NMFS Essential Fish Habitat Mapper, and other relevant literature as cited throughout this document. ECORP reviewed the following resources to identify special-status plant and wildlife species that have been documented within or near the BSA:

- CDFW's CNDDB data for the "Lathrop, California" and "Manteca, California" 7.5-minute quadrangles and the surrounding ten quadrangles (CDFW 2025a)
- CNPS Rare Plant Inventory data for the "Lathrop, California" and "Manteca, California" 7.5-minute quadrangles and the surrounding ten quadrangles (CNPS 2025a)
- USFWS Information for Planning and Consultation Resource Report List for the BSA (USFWS 2025a)

- National Oceanic and Atmospheric Administration (NOAA) National ESA Critical Habitat Mapper (NOAA 2025a)
- NOAA Essential Fish Habitat Mapper for the Pacific Region (NOAA 2025b)

Note that unprocessed CNDDB data were not included in the results, as these data have not been quality controlled by CDFW. The results of the database queries are provided in Appendix A. Each special-status species identified in the literature review is evaluated for its potential to occur within the BSA in Section 4 based on available information concerning species habitat requirements and distribution, occurrence data, and the findings of the site reconnaissance.

3.2 Site Reconnaissance

ECORP Senior Biologist Daniel Wong conducted the site reconnaissance visit on September 10, 2025. The biologist visually assessed the BSA while walking meandering transects through all portions of the site, paying special attention to identifying those portions of the BSA with the potential to support special-status species or sensitive habitats, and using binoculars to scan inaccessible areas. The biologist collected the following biological resource information:

- Characteristics and approximate boundaries of vegetation communities and other land cover types
- Plant and animal species or their sign directly observed
- Characteristics and approximate extents of potential aquatic resources observed
- Incidental observations of special habitat features such as burrows, active raptor nests, and potential bat roost sites

The biologist qualitatively assessed and mapped vegetation communities based on dominant plant composition. Vegetation community classification was based on the classification systems presented in the MCV. Data were recorded on a GPS unit, field notebooks, and/or maps. Photographs were taken during the survey to provide visual representation of the conditions within the BSA.

3.3 Focused Surveys

3.3.1 Preliminary Wetland Assessment

ECORP biologist Daniel Wong conducted a preliminary wetland assessment for the BSA concurrently with the site reconnaissance in accordance with the field methods described the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

3.3.2 Valley Elderberry Longhorn Beetle Survey

ECORP biologist Daniel Wong conducted a survey for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) concurrently with the site reconnaissance. The determinate-level survey for valley elderberry longhorn beetle was conducted following the guidelines in the *Framework for Assessing*

Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017). The survey requires that all elderberry shrubs (*Sambucus* spp.) with at least one stem measuring 1.0 inch or greater in diameter at ground level within the BSA be identified, their locations mapped, and the shrubs thoroughly searched for evidence of valley elderberry longhorn beetle presence (i.e., exit holes). The guidelines recommend a 165-foot survey buffer around the Project Area; however, a survey buffer was not included for this survey because the BSA is in an urbanized area and is surrounded by properties that have been developed or are highly disturbed.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The BSA is located on relatively flat terrain situated at an elevational range of approximately 20 to 27 feet above Mean Sea Level (MSL) in the San Joaquin Valley subregion of the California floristic province (Jepson Flora Project [eds.] 2025). The average winter low temperature is 39.3 degrees Fahrenheit (°F) and the average summer high temperature is 94.3 °F; the average annual precipitation is approximately 12.24 inches at the Stockton Metro AP station, which is approximately 6 miles from the BSA (NOAA 2025c).

The BSA is a narrow linear corridor that includes fallow agricultural fields, stormwater and surface flow infrastructure, recreational development, and urban development. Undeveloped portions of the BSA primarily include annual grasslands and disturbed areas. Vegetation communities and plant species composition are described in further detail in Section 4.3.

Representative photographs of the BSA are provided in Appendix B.

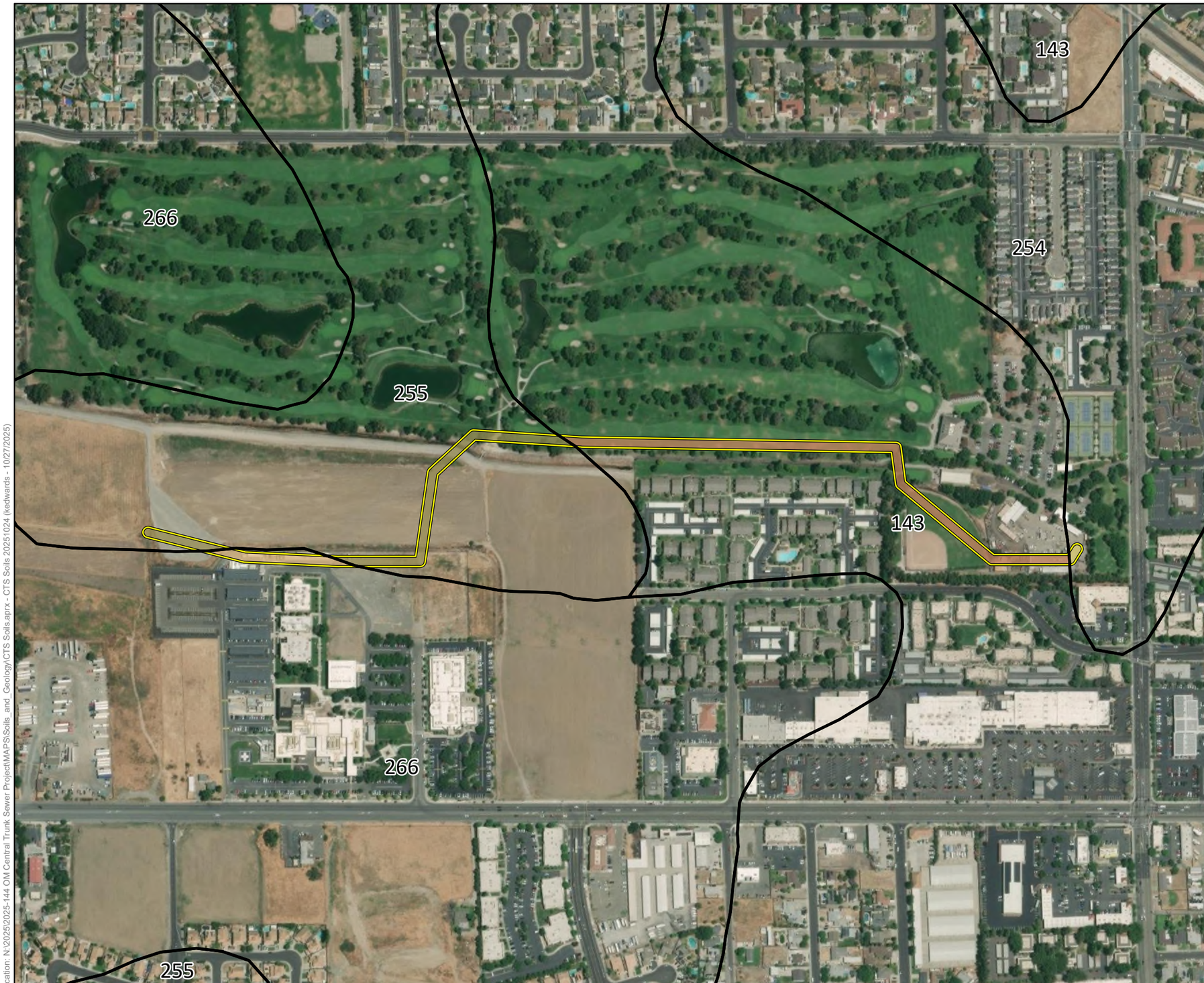
4.2 Soils and Geology

ECORP staff obtained soil survey mapping for the BSA from the NRCS *Web Soil Survey* (Figure 2; NRCS 2025). Table 1 provides an overview of the soil map units within the BSA, including the presence of hydric soils, parent materials, or other key features that may influence the potential for sensitive biological resources to occur onsite.

Table 1. Soil Map Units within the Biological Study Area

Map Unit Symbol	Map Unit Name	Parent Material or Key Features	Hydric Soils Present
143	Delhi-Urban land complex, 0 to 2 percents	Wind-modified alluvium derived from granitic rock sources; Non-saline to very slightly saline	Not Applicable
254	Timor loam sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources; Non-saline to very slightly saline	Bisgani (alluvial fans)
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources; Non-saline to very slightly saline	Not Applicable
266	Veritas fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed rock sources; Non-saline to slightly saline	Bisgani (alluvial fans)

Source: Natural Resources Conservation Service 2025



Map Features

BSA - 3.96 ac.

NRCS Soils Type

Series Number - Series Name

143 - Delhi-Urban land complex, 0 to 2 percent slopes

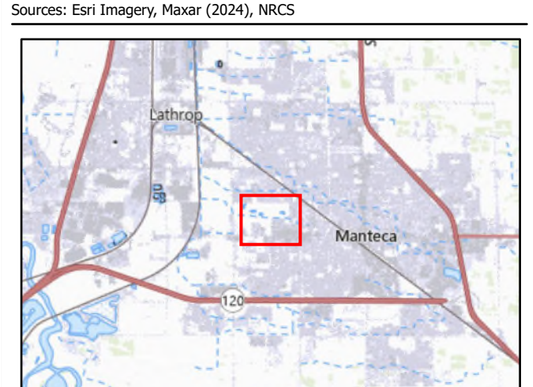
254 - Timor loamy sand, 0 to 2 percent slopes

255 - Tinnin loamy coarse sand, 0 to 2 percent slopes

266 - Veritas fine sandy loam, 0 to 2 percent slopes

Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for San Joaquin County, CA

Sources: Esri Imagery, Maxar (2024), NRCS



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Map Date: 10/27/2025

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Scale in Feet
0 200 400

Figure 2. Natural Resources Conservation Service Soil Types

2025-144 City of Manteca Central Trunk Sewer Project

4.3 Vegetation Communities and Land Cover Types

The following sections describe the vegetation community and land cover types within the BSA as observed during the site reconnaissance. A list of plants incidentally observed within the BSA during the site reconnaissance can be found in Appendix C. The approximate extent of the vegetation community and land cover types are depicted on Figure 3.

4.3.1 Annual Grassland

Small strips of annual grassland are found within detention basins within the central portion of BSA. The annual grassland within the BSA is dominated by nonnative annual grasses including ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), and Johnson grass (*Sorgum halepense*). Russian thistle (*Salsola tragus*) is the dominant forb.

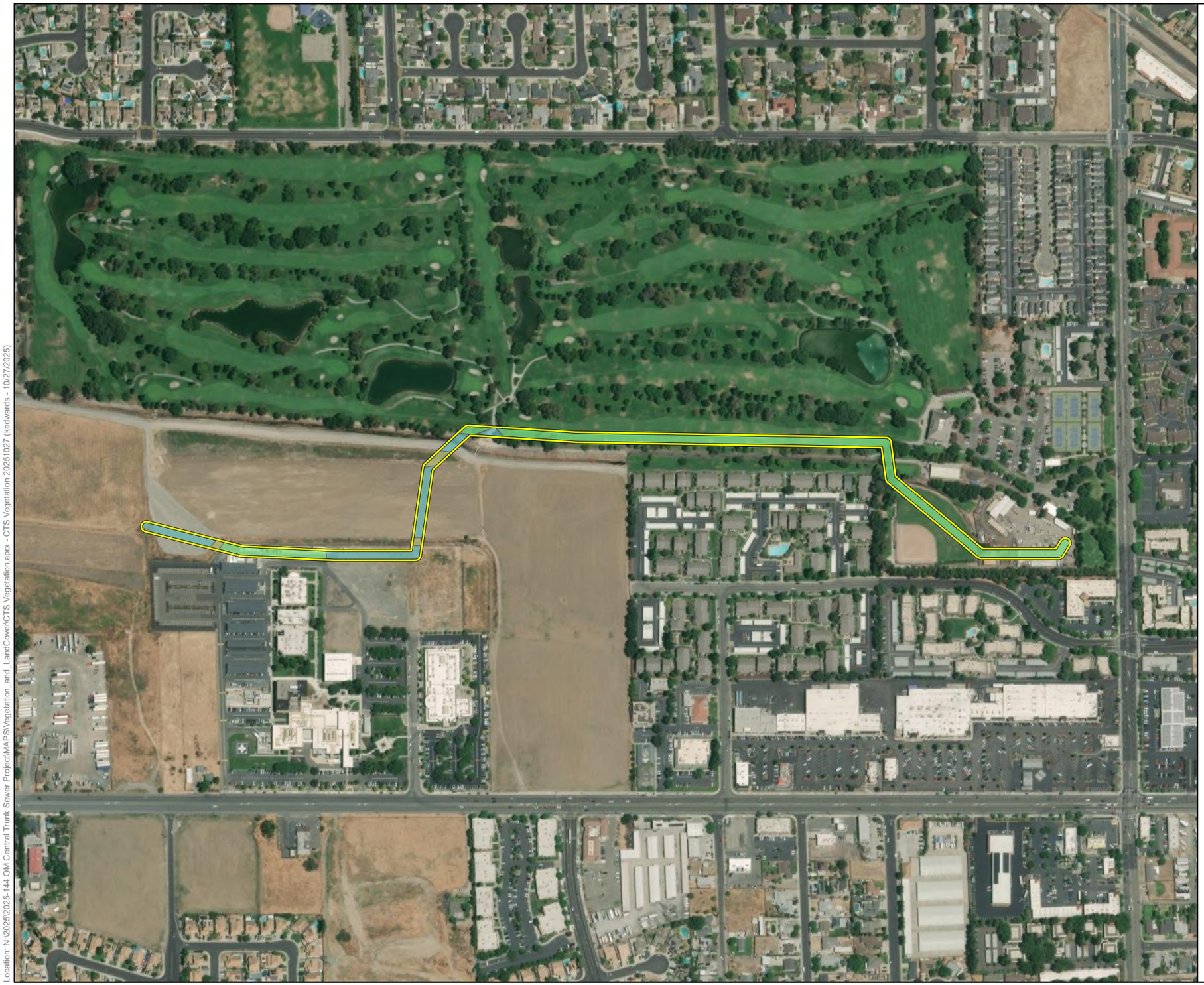
The annual grasslands can be characterized as the *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance (CNPS 2025b). Semi-natural alliances are strongly dominated by nonnative plants that have become naturalized in the State, do not have state rarity rankings, and are not considered sensitive natural communities.

4.3.2 Ruderal/Disturbed

The ruderal/disturbed land cover type is found along the trails of the nearby golf course, the South San Joaquin Irrigation District (SSJID) maintenance roads, the farm road margins, and the recently disced, bare-ground agricultural fields within the BSA. Scattered populations or individuals of Bermuda grass, turkey mullein (*Croton setiger*), and Jimson weed (*Datura stramonium*) are predominant species in this land cover type.

4.3.3 Urban/Developed

The urban/developed land cover type within the BSA consists of species commonly used in landscaping, including trees such as coast redwood (*Sequoia sempervirens*), eucalyptus trees (*Eucalyptus* sp.), pines (*Pinus* sp.), and Callery pear (*Pyrus calleryana*). The Manteca Park Golf Course and Union Road Park in the northern and eastern portions of the BSA respectively, contained the greatest concentration of mature trees. The understory consists of a variety of turf grasses and other ornamental landscaping species which were not identified during the assessment. This land cover type generally does not provide habitat for most wildlife species, except for trees or structures tall enough to support nesting or roosting animals.



Map Contents

BSA - 3.96 acres

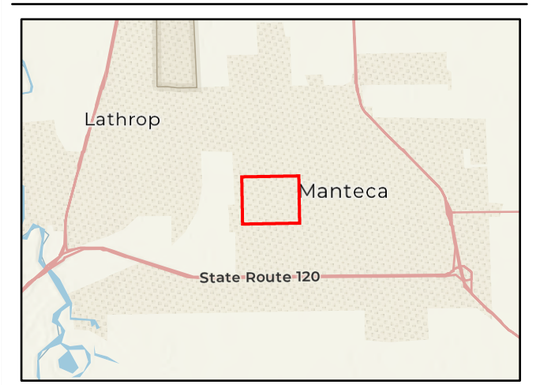
Vegetation and Land Cover Type

Annual Grassland - 0.15 ac.

Ruderal/Disturbed - 1.04 ac.

Urban/Developed - 2.78 ac.

Sources: Esri Imagery, Maxar (2024)



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Map Date: 10/27/2025

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Scale in Feet
0 200 400

Figure 3. Vegetation Communities and Land Cover Types

2025-144 City of Manteca Central Trunk Sewer Project

4.4 Aquatic Resources

The USFWS has established the National Wetlands Inventory (NWI) to conduct a nationwide inventory of U.S. wetlands to provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts (USFWS 2025b). The USFWS's objective of mapping wetlands and deep-water habitats is to produce reconnaissance-level information on the location, type, and size of these resources. The maps are prepared from the analysis of high-altitude imagery. Wetlands are identified based on vegetation, visible hydrology, and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE. However, the NWI provides a baseline of potential aquatic resources for ECORP biologists to ground-truth during assessments.

Review of the NWI showed one aquatic feature mapped within the BSA (Figure 4). The NWI mapping designation indicates the presence of Freshwater Emergent Wetland within or adjacent to the BSA (USFWS 2025b), which roughly corresponds to the detention basin and ditch observed on site.

ECORP mapped a total of 0.010 acre of aquatic resources within the BSA, which includes the ditch along the northern boundary (Figure 5) This ditch is regularly maintained by SSJID and was primarily unvegetated during the site reconnaissance. Scattered ruderal species were present such as turkey mullein or Bermuda grass.

4.5 Wildlife

The BSA provides a very limited amount of habitat for a variety of wildlife species commonly found in urban environments. A full list of wildlife species observed within or near the BSA is provided in Appendix D.

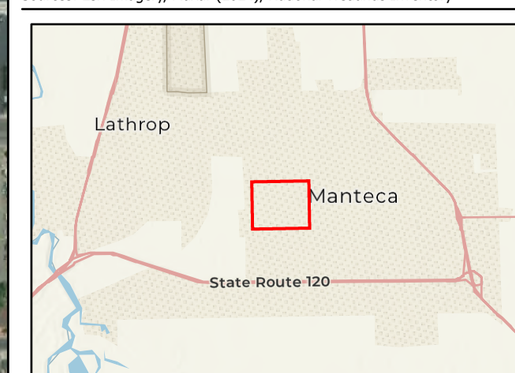
Map Contents

BSA - 3.96 acres

NWI Type

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Sources: Esri Imagery, Maxar (2024), National Wetlands Inventory



Location: N:\2025\2025-144 OM Central Trunk Sewer Project\MAPS\Aquatic_Resources\CTS ARD.aprx - CTS NWI 20251024 (kedwards - 10/27/2025)

Map Date: 10/27/2025

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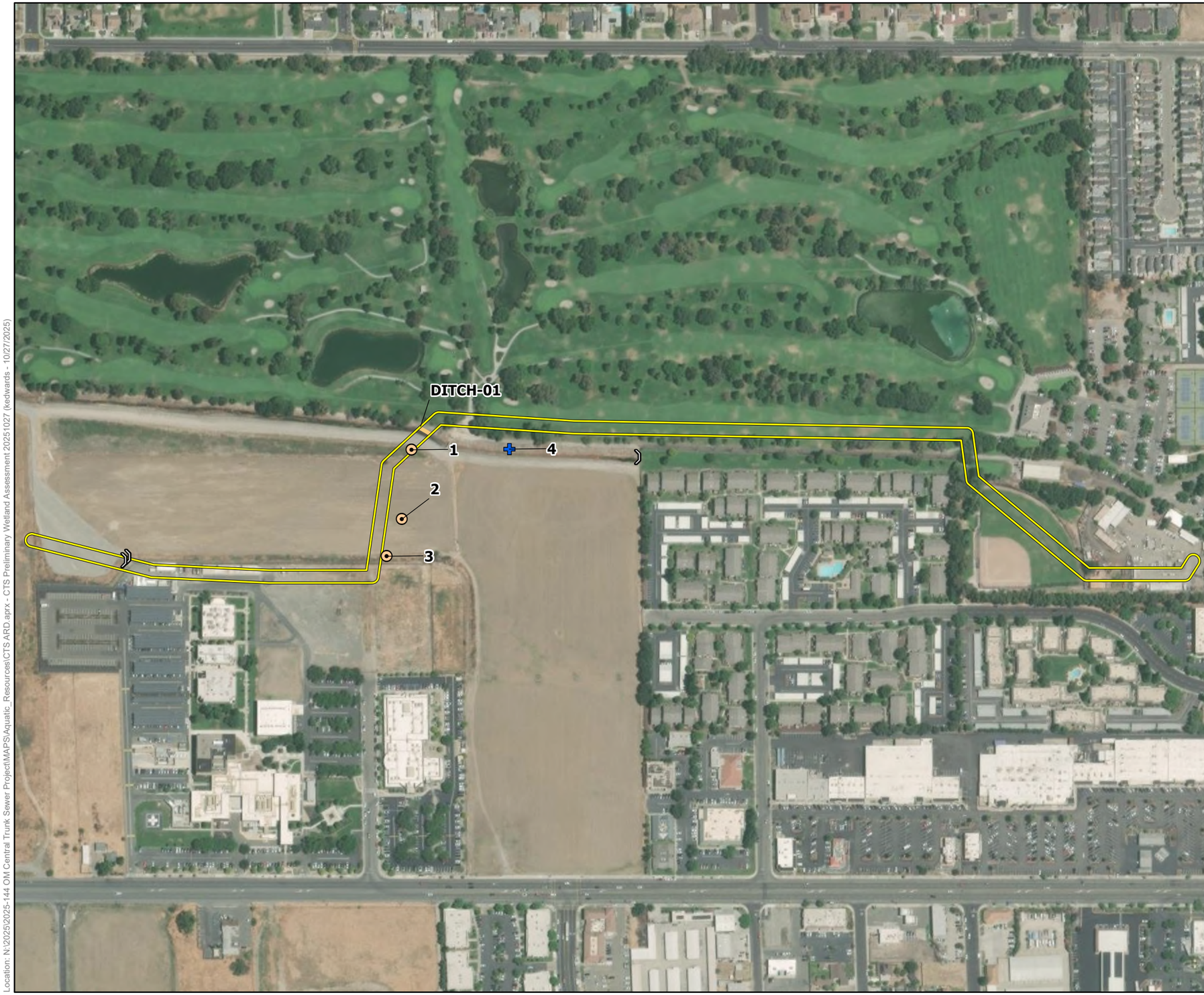
Scale in Feet
0 200 400

Figure 4. National Wetlands Inventory

2025-144 City of Manteca Central Trunk Sewer Project



Map Contents

- BSA - 3.96 acres
- Culvert
- Transect

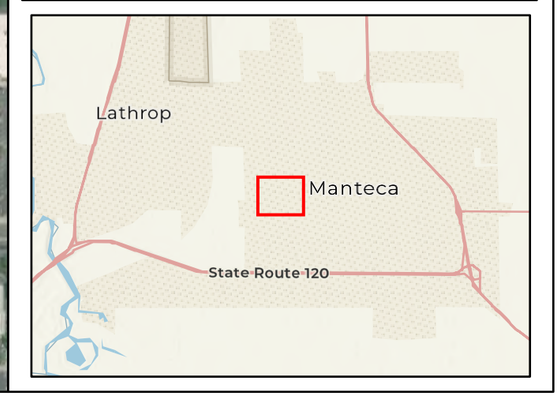
Sample Points

- Upland

Wetland Type

- Ditch - 0.010 ac.

Sources: Esri Imagery, Maxar (2024)



Location: N:\2025\2025-144 OM Central Trunk Sewer Project\MAPS\Aquatic_Resources\CTS ARD.aprx - CTS Preliminary Wetland Assessment 20251027 (kedwards - 10/27/2025)

Map Date: 10/27/2025

ECORP Consulting, Inc.
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Scale in Feet
0 320

Figure 5. Preliminary Wetland Assessment

2025-144 City of Manteca Central Trunk Sewer Project

4.6 Special-Status Species

Table 2 presents the full list of special-status plant and animal species identified through the literature review. For each species, the table provides the listing status, a brief description of habitat requirements and/or species ecology, a determination of the potential to occur within the BSA, and the rationale for that determination. The potential for each species to occur onsite was assessed using the following criteria:

- *Present* – Species was observed during the site visit or is known to occur within the BSA based on recent documented occurrences in the CNDDB or other literature.
- *Moderate to High Potential* – Suitable habitat (including soils and elevation requirements) occurs within the BSA, and the species is known to occur in the vicinity of the BSA based on available data sources.
- *Low Potential* – Marginal or limited amounts of habitat occur within the BSA, or the species is not known to occur in the vicinity of the BSA based on available data sources.
- *Presumed Absent* – No suitable habitat (including soils and elevation requirements) occurs within the BSA, or the BSA is outside of the current known geographical range for the species.

Following the table is a brief description and discussion of each special-status species that was determined to have potential to occur within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential to Occur within the BSA
	ESA	CESA/ NPPA	Other		
Plants*					
Large-flowered fiddleneck (*Amsinckia grandiflora*)	FE	CE	1B.1, SJMSCP	Cismontane woodland and valley and foothill grasslands. Elevation: 885–1,805 feet Bloom Period: April–May	Presumed Absent. The BSA is outside of the known geographical range for this species.
Alkali milk-vetch (*Astragalus tener* var. *tener*)	–	–	1B.2, SJMSCP	Alkaline playas and vernal pools, and alkaline adobe clay soils in valley and foothill grasslands. Elevation: 5–195 feet Bloom Period: March–June	Presumed Absent. The grassland within the BSA contains no alkaline or adobe clay soils; there are no playas, ephemeral wetlands within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Heartscale (*Atriplex cordulata* var. *cordulata*)	–	–	1B.2, SJMSCP	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities. Elevation: 0–1,835 feet Bloom Period: April–October	Low Potential to Occur. The annual grassland within the BSA contains slightly saline soils and may provide marginally suitable habitat for this species.
Crownscale (*Atriplex coronata* var. *coronata*)	–	–	4.2	Alkaline, often clay substrates in chenopod scrub, valley and foothill grassland, and vernal pools. Elevation: 5–1,935 feet Bloom Period: March–October	Presumed Absent. The BSA contains no alkaline soils nor vernal pool habitat.
Brittlescale (*Atriplex depressa*)	–	–	1B.2, SJMSCP	Alkaline and clay soils within chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools. Elevation: 5–1,050 feet Bloom Period: April–October	Presumed Absent. The BSA contains no alkaline soils nor vernal pools.
Lesser saltscale (*Atriplex minuscula*)	–	–	1B.1	Alkaline, sandy soils in chenopod scrub, playas, and valley and foothill grassland. Elevation: 50–655 feet Bloom Period: May–October	Presumed Absent. There are no alkaline soils within the BSA.
Big tarplant (*Blepharizonia plumosa* ssp. *plumosa*)	–	–	1B.1	Valley and foothill grassland. Elevation: 100–1,655 feet Bloom Period: July–October	Low Potential. There is marginally suitable habitat within the BSA for this species.
Watershield (*Brasenia schreberi*)	–	–	2B.3	Freshwater marshes and swamps. Elevation: 0–7,220 feet Bloom Period: June–September	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Hoover's calycadenia (*Calycadenia hooveri*)	–	–	1B.3, SJMSCP	Rocky soils in cismontane woodland and valley and foothill grassland. Elevation: 215–985 feet Bloom Period: July–September	Presumed absent. There is marginally suitable potential habitat within the BSA for this species; however, this species is not known to occur in the vicinity of the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Bristly sedge (*Carex comosa*)	–	–	2B.1, SJMSCP	Mesic (Zika et al. 2015) valley and foothill grassland, coastal prairie, and lake margins of marshes and swamps. Elevation: 0–2,050 feet Bloom Period: May–September	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Succulent owl's clover (*Castilleja campestris* var. *succulenta*)	FT	CE	1B.2, SJMSCP	Vernal pools and other moist places (CDFW 2025a), often in acidic environments. Elevation: 165–2,460 feet Bloom Period: April–May	Presumed Absent. There are no vernal pools or moist habitat within the BSA for this species.
Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*)	–	–	4.2	Alkaline, vernally mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides and in disturbed sites (Baldwin 2012) Elevation: 0–330 feet Bloom Period: May–October	Low Potential. There is no alkaline or vernally mesic habitat within the BSA; however, the grassland and disturbed areas within the BSA may provide marginally suitable habitat for this species.
Palmate-bracted bird's-beak (*Chloropyron palmatum*)	FE	CE	1B.1	Saline-alkaline soils in seasonally-flooded lowland plains and basins (CDFW 2023) in chenopod scrub and valley and foothill grassland. Elevation: 15–510 feet Bloom Period: May–October	Presumed absent. There is no seasonally flooded or alkaline habitat within the BSA for this species.
Slough thistle (*Cirsium crassicaule*)	–	–	1B.1, SJMSCP	Chenopod scrub, sloughs in marshes and swamps, and riparian scrub. Elevation: 10–330 feet Bloom Period: May–August	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Recurved larkspur (*Delphinium recurvatum*)	–	–	1B.2, SJMSCP	Alkaline habitats within chenopod scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 10–2,590 feet Bloom Period: March–June	Presumed Absent. The BSA contains no alkaline soils required for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Delta button-celery (*Eryngium racemosum*)	–	CE	1B.1, SJMSCP	Vernally mesic clay depressions in riparian scrub communities. Elevation: 10–100 feet Bloom Period: June–October	Presumed Absent. There is no mesic or clay habitat within the BSA for this species.
Diamond-petaled California poppy (*Eschscholzia rhombipetala*)	–	–	1B.1, SJMSCP	Valley and foothill grassland in alkaline and clay soils. Elevation: 0–3,200 feet Bloom Period: March–April	Presumed Absent. There are no alkali or clay soils within the BSA for this species.
San Joaquin spearscale (*Extriplex joaquinana*)	–	–	1B.2	Alkaline soils in chenopod scrub, meadows seeps, playas, and valley and foothill grassland. Elevation: 5–2,740 feet Bloom Period: April–October	Presumed Absent. The grassland within the BSA contains no alkaline soils required for this species.
Hogwallow starfish (*Hesperevax caulescens*)	–	–	4.2	Mesic areas with clay soil within valley and foothill grassland, shallow vernal pools, and sometimes alkaline areas. Elevation: 0–1,655 feet Bloom Period: March–June	Presumed Absent. There is no mesic or alkaline habitat within the BSA for this species.
Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*)	–	–	1B.2 SJMSCP	Marshes and freshwater swamps (river banks and low peat islands in sloughs), and riprap on sides of levees. Elevation: 0–395 feet Bloom Period: June–September	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)	–	–	1B.1, SJMSCP	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 115–4,100 feet Bloom Period: March–June	Presumed Absent. There is no mesic habitat within the BSA for this species.
Alkali-sink goldfields (*Lasthenia chrysantha*)	–	–	1B.1	Alkaline vernal pools. Elevation: 0–655 feet Bloom Period: February–April	Presumed Absent. There is no alkaline or vernal pool habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Ferris' goldfields (*Lasthenia ferrisiae*)	–	–	4.2	Alkaline and clay vernal pools. Elevation: 65–2,295 feet Bloom Period: February–May	Presumed Absent. There is no alkaline or vernal pool habitat within the BSA for this species.
Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)	–	–	1B.2, SJMSCP	Freshwater and brackish marshes and swamps. Elevation: 0–15 feet Bloom Period: May–July	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Legenere (*Legenere limosa*)	–	–	1B.1, SJMSCP	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005). Elevation: 5–2,885 feet Bloom Period: April–June	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Mt. Hamilton coreopsis (*Leptosyne hamiltonii*)	–	–	1B.2, SJMSCP	Rocky soils in cismontane woodland. Elevation: 1,805–4,265 feet Bloom Period: March–May	Presumed Absent. There is no suitable habitat within the BSA for this species.
Mason's lilaeopsis (*Lilaeopsis masonii*)	–	–	1B.1, SJMSCP	Brackish or freshwater marshes or swamps and riparian scrub. Elevation: 0–35 feet Bloom Period: April–November	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Delta mudwort (*Limosella australis*)	–	–	2B.1, SJMSCP	Usually mud banks in freshwater or brackish marshes and swamps and riparian scrub. Elevation: 0–10 feet Bloom Period: May–August	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Showy golden madia (*Madia radiata*)	–	–	1B.1, SJMSCP	Cismontane woodland and valley and foothill grassland. Elevation: 80–3,985 feet Bloom Period: March–May	Low Potential to Occur. The grassland within the BSA may provide marginally suitable habitat for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
California alkali grass (*Puccinellia simplex*)	–	–	1B.2	Alkaline, vernally mesic areas and sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 5–3,050 feet Bloom Period: March–May	Presumed Absent. There is no alkaline or mesic habitat within the BSA for this species.
Sanford's arrowhead (*Sagittaria sanfordii*)	–	–	1B.2, SJMSCP	Shallow freshwater marshes and swamps. Ponds, ditches Elevation: 0–2,135 feet Bloom Period: May–October	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Suisun Marsh aster (*Symphyotrichum lentum*)	–	–	1B.2, SJMSCP	Brackish and freshwater marshes and swamps. Elevation: 0–10 feet Bloom Period: May–November	Presumed Absent. There is no aquatic habitat within the BSA for this species.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	–	–	2B.1, SJMSCP	Alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools. Elevation: 15–1,425 feet Bloom Period: May–September	Presumed Absent. There is no alkaline or aquatic habitat within the BSA for this species.
Saline clover (*Trifolium hydrophilum*)	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools. Elevation: 0–985 feet Bloom Period: April–June	Presumed Absent. There is no alkaline or aquatic habitat within the BSA for this species.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	–	–	1B.1, SJMSCP	Alkaline hills in valley and foothill grassland. Elevation: 5–1,495 feet Bloom Period: March–April	Presumed Absent. There is no alkaline habitat within the BSA for this species.
Greene's tuctoria (*Tuctoria greenei*)	FE	CR	1B.1, SJMSCP	Vernal pools. Elevation: 100–3,510 feet Bloom Period: May–July	Presumed Absent. There is no vernal pool habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Invertebrates					
Crotch's bumble bee *(Bombus crotchii)*	–	CC	–	Primarily nests underground, found in variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings, from the California coast east to the Sierra Cascade and from Redding south to Mexico. Survey Period: February-October (Preferably April–August)	Presumed Absent. There is no suitable habitat within the BSA for this species due to high site disturbance and lack of nectar resources.
Western bumble bee (*Bombus occidentalis*)	–	CC	–	Meadows and grasslands with abundant floral resources. Primarily nests underground. Largely restricted to high elevation sites in the Sierra Nevada, although rarely detected on the California coast. Survey Period: April–November	Presumed Absent. There is no suitable habitat within the BSA for this species due to high site disturbance and lack of nectar resources.
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE	–	SJMSCP	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Longhorn fairy shrimp (*Branchinecta longiantenna*)	FE	–	SJMSCP	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	–	SJMSCP	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Midvalley fairy shrimp (*Branchinecta mesovallensis*)	–	–	SJMSCP	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Monarch butterfly (*Danaus plexippus*)	FPT	–	–	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed. Survey Period: Any season	Presumed Absent. There is no overwintering habitat or milkweed, and there are very limited, if any, nectar sources for this species within the BSA.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	–	SJMSCP	Elderberry shrubs. Survey Period: Any season	Absent. There are no elderberry shrubs within the BSA.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	–	SJMSCP	Vernal pools/wetlands. Survey Period: November–April	Presumed Absent. There is no suitable aquatic habitat within the BSA for this species.
Moestan blister beetle (*Lytta moesta*)	–	–	SJMSCP	Annual grassland, foothill woodland, and saltbrush (*Atriplex* spp.) scrub with ground-nesting bees (San Joaquin Council of Governments 2000). Adults are often found on flowers, eggs are deposited in shallow excavated underground burrows, and larvae are nest parasitize of solitary bees (Shanks 2006).	Presumed Absent. There are only small patches of grassland and are very limited, if any, floral resources within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Molestan blister beetle (*Lytta molesta*)	–	–	SJMSCP	Annual grassland, foothill woodland, and saltbrush (*Atriplex* spp.) scrub with ground-nesting bees (San Joaquin Council of Governments 2000). Adults are often found on flowers, eggs are deposited in shallow excavated underground burrows, and larvae are nest parasitize of solitary bees (Shanks 2006).	Presumed Absent. There are only small patches of grassland and are very limited, if any, floral resources within the BSA for this species.
Fish					
Green sturgeon (*Acipenser medirostris*)	FT	–	SSC, SJMSCP	Anadromous; undammed cold-water rivers having relatively deep pools with large substrates. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Delta smelt (*Hypomesus transpacificus*)	FT	CE	SJMSCP	Sacramento-San Joaquin Delta. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Hardhead (*Mylopharodon conocephalus*)	–	–	SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Steelhead (CA Central Valley DPS) (*Oncorhynchus mykiss irideus*)	FT	–	SSC	Fast-flowing, well-oxygenated rivers and streams below dams in the Sacramento and San Joaquin River systems. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Steelhead (Northern California DPS) (*Oncorhynchus mykiss irideus*)	FT	–	–	Fast-flowing, well-oxygenated rivers and streams below dams in Humboldt and Sonoma counties. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Steelhead (South-Central California Coast DPS) (*Oncorhynchus mykiss irideus*)	FT	–	–	Fast-flowing, well-oxygenated rivers and streams. This DPS, includes naturally spawned anadromous steelhead originating below natural and manufactured impassable barriers from the Pajaro River to (but not including) the Santa Maria River. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Sacramento splittail (*Pogonichthys macrolepidotus*)	–	–	SSC, SJMSCP	San Francisco Bay estuary and Central Valley lakes and rivers. Spawns in upstream floodplains and backwater sloughs. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Longfin smelt – San Francisco Bay-Delta DPS (*Spirinchus thaleichthys*)	FE	CT	SSC, SJMSCP	Occurs primarily in the brackish zones of the San Francisco Bay-Delta region of California. Survey Period: N/A	Presumed Absent. There is no suitable habitat for this species within the BSA.
Amphibians					
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	WL	Breeds in vernal pools and seasonal wetlands in grassland or oak woodland habitats; adults are terrestrial using underground refuges such as ground squirrel or gopher burrows. Central Valley and Inner Coast Range. Survey Period: Winter–Spring.	Presumed Absent. There is no suitable habitat for this species within the BSA.
Western spadefoot (Northern DPS) (*Spea hammondii*)	FPT	–	SSC, SJMSCP	California endemic species of vernal pools, swales, and seasonal wetlands in grassland, scrub and woodland habitats throughout the Central Valley and South Coast Ranges. Prefers open areas with sandy or gravelly soils. Survey Period: Winter–Spring.	Presumed Absent. There is no suitable habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
California red-legged frog (*Rana draytonii*)	FT	–	SSC, SJMSCP	Lowlands and foothills of the northern and southern Coast Ranges and Sierra Nevada. Found in deep standing or flowing water with dense shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development. Adults require aestivation habitat to endure summer dry down. Survey Period: January–Sept.	Presumed Absent. There is no suitable habitat for this species within the BSA.
Foothill yellow-legged frog West/Central Coast Clade (*Rana boylii*)	FT	CE	SSC, SJMSCP	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. San Francisco Peninsula and Diablo Range to southern inner Coast Ranges. Survey Period: May–October.	Presumed Absent. There is no suitable habitat for this species within the BSA.
Reptiles					
Northwestern pond turtle (*Actinemys marmorata*)	FPT	–	SSC, SJMSCP	Requires basking sites and upland habitats up to 0.5 kilometer from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches. Survey Period: April–September	Low Potential to Occur. There is no suitable habitat for this species within the BSA, however aquatic habitat was observed within the vicinity.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Northern California legless lizard (*Anniella pulchra*)	–	–	SSC	The most widespread of California's *Anniella* species. Occurs in sandy or loose soils under sparse vegetation from Antioch south coastally to Ventura. Bush lupine is often an indicator plant, and two melanistic populations are known. Survey Period: Generally spring, but depends on location and conditions	Presumed Absent. There is no suitable habitat for this species within the BSA.
San Joaquin coachwhip (*Coluber flagellum ruddocki*)	–	–	SSC, SJMSCP	Occurs in open, dry, usually flat habitats in Valley Grassland and Saltbush Scrub with little to no shrub cover in the San Joaquin Valley. A dietary generalist. Survey Period: March–October	Presumed Absent. There grassland community does provide shrub cover or flat open habitat. for this species within the BSA.
Blainville's ("Coast") horned lizard (*Phrynosoma blainvillii*)	–	–	SSC, SJMSCP	Formerly a wide-spread horned lizard found in a wide variety of habitats, often in lower elevation areas with sandy washes and scattered low bushes. Also occurs in Sierra Nevada foothills. Requires open areas for basking, but with bushes or grass clumps for cover, patches of loamy soil or sand for burrowing and an abundance of ants (Stebbins and McGinnis 2012). Survey Period: April–October	Presumed Absent. There is no suitable habitat for this species within the BSA.
Giant garter snake (*Thamnophis gigas*)	FT	CT	SJMSCP	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range. Survey Period: April–October	Presumed Absent. There is no suitable aquatic habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Birds					
Sharp-shinned hawk *(Accipiter striatus)*	–	–	WL, SJMSCP	Nests in trees in most forest types with at least some conifers. In California, nesting occurs in the Sierra Nevada and Cascade Ranges (foothills to tree line) and northwestern coastal range. Nesting: April–August Wintering in Central Valley: September–April	Presumed Absent. There is no suitable nesting or wintering habitat within the BSA for this species.
Western grebe (*Aechmophorus occidentalis*)	–	–	BCC, SJMSCP	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Nests on freshwater lakes and marshes with open water bordered by emergent vegetation. Nesting: June–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Tricolored blackbird (*Agelaius tricolor*)	–	CT	BCC, SSC, SJMSCP	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields (Beedy et al. 2023). Nesting: March–August	Presumed Absent. There is no suitable nesting or foraging habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Mountain plover (*Anaryhnchus montanus*)	–	–	BCC, SSC, SJMSCP	Breeds in the Great Plains/Midwestern U.S.; winters in California, Arizona, Texas, and Mexico; wintering habitat in California includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields. Wintering: September–March	Presumed Absent. There is no suitable wintering or breeding habitat within the BSA for this species.
Great egret (*Ardea alba*)	–	–	CNDDB, SJMSCP	Colonial nester; nests in woody vegetation, shrubs and trees usually near lakes, ponds, marshes estuaries, human-made impoundments, or natural and human-made islands. Nesting: March-July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Great blue heron (*Ardea herodias*)	–	–	CNDDB, SJMSCP	Colonial nester; prefers to nest in vegetation on islands or in swamps but may also be found in upland habitats in trees, bushes, on the ground and on artificial structures. Foraging habitat is widely diverse and includes swamps, coastlines, estuaries, beaches, pastures, cultivated fields, and riparian areas. Nesting: February–July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Bell's sparrow (*Artemisiospiza belli belli*)	–	–	WL, SJMSCP	*A. b. belli* – resident in California in Coast Ranges from the San Francisco Bay region and Sierra Nevada foothills south to Baja California; nests in dry chaparral and coastal sage scrub. *A. b. canescens* breeds in southern San Joaquin Valley through Mojave Desert to Owens Valley; nests in low desert scrub of saltbush, bitterbrush, big sagebrush, and shadescale. A. b. cinerea is resident in Baja California (Martin and Carlson 2020). Nesting: March–July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Cooper's hawk (*Astur cooperii*)	–	–	WL, SJMSCP	Nests in trees in riparian woodlands, deciduous/mixed and evergreen forests, and urban landscapes (Rosenfield et al. 2024). Nesting: March–July	Moderate to High Potential to Occur. There is suitable nesting and foraging habitat within the BSA for this species.
Short-eared owl (*Asio flammeus*)	–	–	BCC, SSC, SJMSCP	Nests in large expanses of prairie, coastal grasslands, heathlands, shrub-steppe, tundra, and agricultural areas. Nesting: March–July Wintering in Central Valley: August–March	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Burrowing owl (*Athene cunicularia*)	–	CC	BCC, SSC, SJMSCP	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-landscapes such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds. Nesting: February–August	Low Potential to Occur. There are suitable ground squirrel burrows observed within the BSA for this species. However, foraging habitat is marginal.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Golden eagle (*Aquila chrysaetos*)	–	–	CFP, WL, SJMSCP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter. Nesting: February-August Wintering in Central Valley: October–February	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Oak titmouse (*Baeolophus inornatus*)	–	–	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines, and Joshua tree). Nesting: March–July	Moderate to High Potential to Occur. There is suitable nesting habitat within the BSA for this species.
Aleutian cackling goose (*Branta hutchinsii leucopareia*)	De-listed	–	WL, SJMSCP	Overwintering habitat includes mudflats, shallow tidal waters, salt marsh, wet grasslands, freshwater marsh, lakes, reservoirs and rivers (breeds in Alaska on various Aleutian Islands; winters in California's Central Valley, with a small wintering population in southwestern Oregon, and migration staging areas around Humboldt Bay and Crescent City in California and New River bottoms in Oregon. Wintering: October–March	Presumed Absent. There is no suitable wintering habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Ferruginous hawk (*Buteo regalis*)	–	–	BCC, WL, SJMSCP	Rarely breeds in California (Lassen County); winter range includes grassland and shrub-steppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas. Wintering: September–March	Presumed Absent. There is no suitable nesting or wintering habitat within the BSA for this species.
Swainson's hawk (*Buteo swainsoni*)	–	CT	SJMSCP	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures. Nesting: March–August	Moderate to High Potential to Occur. There are suitable nesting and foraging habitat within the BSA for this species.
Northern harrier (*Circus hudsonius*)	–	–	BCC, SSC, SJMSCP	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, and shrub-steppe. Nesting: April–September	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	SJMSCP	Breeding habitat is generally open woodland with clearings and low, dense, scrubby vegetation associated with watercourses, and includes desert riparian woodlands with willow, Fremont's cottonwood, alder, walnut, box-elder, and dense mesquite. Nests are generally found in deciduous hardwoods with thick bushes, vines, or hedgerows providing dense foliage within 10 meters (33 feet) of ground; prefer riparian patches of at least 81 hectares (200 acres) (Hughes 2020). Winters in South America. Nesting: June 15–August 15	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Nuttall's woodpecker *(Dryobates nuttallii)*	–	–	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands. Nesting: April–July	Moderate to High Potential to Occur. There is suitable nesting habitat within the BSA for this species.
Snowy egret (*Egretta thula*)	–	–	CNDDB, SJMSCP	Colonial nester; nests in coastal and inland wetlands in isolated sites. Nesting habitat includes a variety of trees, including cactus, along large rivers, reservoirs/lakes, grassy marshes, wet meadows, irrigation channels, and estuaries. Nesting: March–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
White-tailed kite (*Elanus leucurus*)	–	–	CFP, SJMSCP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats. Nesting: March–August	Moderate to High Potential to Occur. There is suitable nesting and foraging habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
California horned lark (*Eremophila alpestris actia*)	–	–	WL, SJMSCP	San Joaquin Valley, coast range from Sonoma County south to Baja California; grassland, agricultural. Nesting: March–July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Merlin (*Falco columbarius*)	–	–	WL, SJMSCP	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings. Wintering in the Central Valley: September–April; does not breed in California.	Presumed Absent. There is no suitable wintering habitat within the BSA for this species.
Prairie falcon (*Falco mexicanus*)	–	–	WL, SJMSCP	Found in open habitat at all elevations up to 3,350 meters (Steenhof 2024). Nests on cliffs and bluffs in arid plains and steppes; In California, nesting throughout state except northwest corner, along immediate coast, and the Central Valley floor. Winters throughout California, in open habitats, such as grasslands in Central Valley. Nesting: March–July Wintering in Central Valley: September–February	Presumed Absent. There is no suitable nesting or wintering habitat within the BSA for this species.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	–	–	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County. Nesting: March–July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Yellow-breasted Chat (*Icteria virens*)	–	–	SSC, SJMSCP	Early successional riparian habitats with a well-developed shrub layer and an open canopy. Narrow borders of streams, creeks, sloughs, and rivers. Taller trees like cottonwood (*Populus* sp.) and alder (*Alnus* sp.) are necessary for song perches. Nesting: March–September	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Bullock's oriole (*Icterus bullockii*)	–	–	BCC	Breeding habitat includes riparian and oak woodlands. Nesting: March–July	Moderate to High Potential to Occur. There is suitable nesting habitat within the BSA for this species.
Loggerhead shrike (*Lanius ludovicianus*)	–	–	SSC, SJMSCP	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats. Nesting: March–July	Low Potential. There is marginally suitable habitat within the BSA for this species.
California gull (nesting colony) *(Larus californicus)*	–	–	BCC, WL	Nesting occurs in the Great Basin, Great Plains, Mono Lake, and south San Francisco Bay. Breeding colonies located on islands on natural lakes, rivers, or reservoirs. Winters along Pacific Coast from southern British Columbia south to Baja California and Mexico. In California, winters along coast and inland (Central Valley, Salton Sea). Nesting: April–August	Presumed Absent. There is no suitable nesting or wintering habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
California black rail (*Laterallus jamaicensis coturniculus*)	–	CT	CFP, SJMSCP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, and El Dorado counties). Nesting: March–September	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Song sparrow "Modesto" (*Melospiza melodia heermanni*)	–	–	SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat. Nesting: April–June	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Santa Barbara song sparrow (*Melospiza melodia graminea*)	–	–	BCC	Breeding habitat includes dense shrubs and thickets of giant coreopsis (*Coreopsis gigantea*), grasslands with scattered shrubs, Artemisia-Opuntia grass associations, and dense grasslands. Resident on California Channel Islands (San Clemente, San Miguel, Santa Cruz, Santa Rosa, Anacapa) and Isla Los Coronados, Baja California.; nests February–July	Presumed Absent. Outside of known historic range for this species.
Double-crested cormorant *(Nannopterum auritum)*	–	–	WL, SJMSCP	Nests near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines and typically forages in shallow water. Non-nesters are found in many coastal and inland waters. Nesting: April–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Long-billed curlew (*Numenius americanus*)	–	–	BCC, WL, SJMSCP	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands. Wintering: September–March	Presumed Absent. There is no suitable wintering or breeding habitat within the BSA for this species.
Black-crowned night heron (*Nycticorax nycticorax*)	–	–	CNDDB, SJMSCP	Colonial nester; Nests in trees, usually above water, within open shrub/grassland, wetlands, riparian, urban habitats, and in rocky crevices on islands. Nesting: March–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Osprey (*Pandion haliaetus*)	–	–	WL, SJMSCP	Nesting habitat requires close proximity to accessible fish, open nest site free of mammalian predators, and extended ice-free season. Nest in large trees, snags, cliffs, transmission/ communication towers, artificial nest platforms, channel markers/buoys. Nesting: April–September	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	–	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh. Year-round resident; nests March–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
American white pelican (*Pelecanus erythrorhynchos*)	–	–	BCC, SSC, SJMSCP	Nests on isolated islands in freshwater lakes and forages on inland marshes, lakes, rivers. Winters on coastal bays, inlets, and estuaries, and rarely inland. Nesting: March–July	Presumed Absent. There is no suitable nesting or wintering habitat within the BSA for this species.
Yellow-billed magpie (*Pica nuttallii*)	–	–	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings. Nesting: April–June	Moderate to High Potential to Occur . There is suitable nesting and foraging habitat within the BSA for this species.
White-faced ibis *(Plegadis chihi)*	–	–	WL, SJMSCP	Colonial nester; Nests in shallow marshes with islands of emergent vegetation, flooded shoals and mangrove swamps. Nesting: May–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Yellow warbler (*Setophaga petechia*)	–	–	SSC, SJMSCP	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte counties), Sierra Nevada range above tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America. Nesting: May–August	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	–	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur. Nesting: April 1–July 31	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	–	–	BCC, SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange, Lake counties and locally in the Central Valley, Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes. Nesting: April–July	Presumed Absent. There is no suitable nesting habitat within the BSA for this species.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Mammals					
Pallid bat (*Antrozous pallidus*)	–	–	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (WBWG 2025). Survey Period: April–September	Presumed Absent. The trees within the BSA do not provide suitable maternity roost habitat for this species.
Ringtail (*Bassariscus astutus*)	–	–	CFP, SJMSCP	Most often found in riparian corridors in forested, shrubby habitats. Dens in rock outcrops, hollow trees and snags at low to middle elevations. Its range includes the North and South Coast Ranges, Sierra Nevada, Cascades, and the mountainous areas of the Mojave Desert. Survey Period: Any season	Presumed Absent. Outside of know range and no suitable habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Townsend's big-eared bat *(Corynorhinus townsendii)*	–	–	SSC, SJMSCP	Occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 3,300 meters. Habitat associations include: coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Roosting can occur within caves, mines, buildings, rock crevices, trees. Survey Period: April–September	Presumed Absent The trees within the BSA do not provide suitable maternity roost habitat for this species.
Berkeley kangaroo rat (*Dipodomys heermanni berkleyensis*)	–	–	SJMSCP	Inhabits brushy and grassy slopes and flats in the San Francisco Bay area. Survey Period: Any season	Presumed Absent. There is no suitable foraging or burrowing habitat for this species within the BSA.
Western mastiff bat (*Eumops perotis californicus*)	–	–	SSC, SJMSCP	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings (WBWG 2025). Survey Period: April–September	Presumed Absent. There is no suitable roosting habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Western red bat (*Lasiurus frantzii*)	–	–	SSC, SJMSCP	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2025). Survey Period: April–September	Low Potential to Occur. There is marginally day roosting habitat for this species within the BSA.
Fringed myotis (*Myotis thysanodes*)	–	–	SJMSCP	Desert scrub, mesic coniferous forest, grassland, and sage-grass steppe habitats; roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges; hibernacula include caves, mines and buildings (WBWG 2025). Survey Period: April–September	Presumed Absent. There is no suitable roosting habitat for this species within the BSA.
Long-legged myotis *(Myotis volans)*	–	–	SJMSCP	Abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels as hibernacula (WBWG 2025). Survey Period: April–September	Low Potential to Occur. There is marginally suitable day roosting habitat for this species within the BSA.
Yuma myotis (*Myotis yumanensis*)	–	–	SJMSCP	Usually associated with permanent sources of water, typically rivers and streams; occurs in riparian, arid scrublands and deserts, and forests; roosts in bridges, buildings, cliff crevices, caves, mines, and trees (WBWG 2025). Survey Period: April–September	Presumed Absent. There is no suitable roosting habitat for this species within the BSA.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
Riparian woodrat (*Neotoma fuscipes riparia*)	FE	–	SSC	The riparian woodrat occurs in riparian woodland with an overstory canopy of trees and moderate to dense shrub understory, with abundant dead branches and downed woody material (Williams 1993). Currently, a single population is known to exist along the Stanislaus River in and immediately adjacent to Caswell Memorial State Park (Cook 1992; Williams 1993). Survey Period: Any season	Presumed Absent. There is no riparian habitat for this species within the BSA.
San Joaquin pocket mouse (*Perognathus inornatus*)	–	–	SSC, SJMSCP	Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Survey Period: Any season	Presumed Absent. There is no suitable open foraging or shrub habitat for this species within the BSA..
Riparian brush rabbit (*Sylvilagus bachmani riparius*)	FE	CE	–	Riparian brush rabbits inhabit dense, brushy areas of valley riparian forests marked by extensive thickets of California wild rose (*Rosa californica*), California blackberries (*Rubus ursinus*), and willows (*Salix* spp.). Thriving mats of low-growing vines and shrubs serve as ideal living sites where they build tunnels under and through the vegetation. Survey Period: Any season	Presumed Absent. riparian habitat for this species within the BSA..
American badger *(Taxidea taxus)*	–	–	SSC, SJMSCP	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Survey Period: Any season	Presumed Absent. There is no suitable foraging or burrowing habitat for this species within the BSA..

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	**Status**			**Habitat Description/ Species Ecology**	**Potential to Occur within the BSA**
	ESA	**CESA/ NPPA**	**Other**		
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE	CT	SJMSCP	Grasslands, sagebrush scrub. Survey Period: April 15–July 15, September 1–December 1	Presumed Absent. There is no suitable range, foraging, or burrowing habitat for this species within the BSA.

Notes: BSA = Biological Study Area; CDFW = California Department of Fish and Wildlife; CESA = California Endangered Species Act; CNDDB = California Natural Diversity Database; CNPS = California Native Plant Society; CRPR = California Rare Plant Rank; DPS = Distinct Population Segment; ESA = Endangered Species Act; N/A = Not Applicable; NPPA = Native Plant Protection Act; USFWS = U.S. Fish and Wildlife Service; WBWG = Western Bat Working Group

Status Codes:

- 1A CRPR/Presumed extinct
- 1B CRPR/Rare or Endangered in California and elsewhere
- 2A CRPR/Plants presumed extirpated in California but common elsewhere
- 2B CRPR/Plants rare, threatened, or endangered in California but more common elsewhere
- 3 CRPR/Plants About Which More Information is Needed – A Review List
- 4 CRPR/Plants of Limited Distribution – A Watch List
- 0.1 Threat Rank/Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2 Threat Rank/Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- 0.3 Threat Rank/Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
- BCC USFWS Birds of Conservation Concern*
- CC Candidate for CESA listing as Endangered or Threatened
- CE CESA- or NPPA-listed, Endangered
- CFP California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5050-reptiles/amphibians)
- CNDDB Species that is tracked by CDFW's CNDDB but does not otherwise have any of the special-status designations listed herein
- CR CESA- or NPPA-listed, Rare
- CT CESA- or NPPA-listed, Threatened
- Delisted Formally Delisted
- FE ESA-listed, Endangered
- FPT Formally Proposed for ESA listing as Threatened
- FT ESA-listed, Threatened
- SJMSCP San Joaquin County Multi-Species Habitat Conservation and Open Space Plan–Covered Species
- SSC CDFW Species of Special Concern
- WL CDFW Watch List

Sources: Baldwin 2012; Beedy et al. 2023; CDFW 2023, 2025a; CNPS 2025; Cook 1992; Hughes 2020; Martin and Carlson 2020; Rosenfield et al. 2024; San Joaquin Council of Governments 2000; Shanks 2006; Stebbins and McGinnis 2012; Steenhof 2024; USFWS 2005, *2021; WBWG 2025; Williams 1993; Zika et al. 2015

*Plant species information is from the CNPS Rare Plant Inventory (CNPS 2025a), unless otherwise cited.

4.6.1 Plants

ECORP identified potential habitat for four special-status plant species during the site reconnaissance. Further detail for these species are provided below.

4.6.1.1 Heartscale

Heartscale (*Atriplex cordulata* var. *cordulata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species and an SJMSCP-Covered Species. This species is an herbaceous annual found within alkaline or saline sandy valley and foothill grasslands, meadows and seeps, and chenopod scrub communities. Heartscale flowers from April through October and is known to occur at elevations ranging from 0 to 1,835 feet above MSL. Heartscale is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo counties; it is considered extirpated from San Joaquin, Stanislaus, and Yolo counties (CNPS 2025b).

There are no CNDDB records of heartscale occurring within 5 miles of the BSA (CDFW 2025a), however the slightly saline soils (NRCS 2025) in the annual grassland within the BSA may provide marginally suitable habitat for this species. Heartscale has low potential to occur within the BSA.

4.6.1.2 Big Tarplant

Big tarplant (*Blepharizonia plumosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in valley and foothill grassland, usually in clay soil. Big tarplant blooms from July through October and is known to occur from 100 to 1,655 feet above MSL. Big tarplant is endemic to California; the current range of the species includes Alameda, Contra Costa, San Joaquin, Solano, and Stanislaus counties; it is considered extirpated from Solano County (CNPS 2025a).

There are no CNDDB records of big tarplant occurring within 5 miles of the BSA (CDFW 2025a), however the annual grassland within the BSA provides marginally suitable habitat for this species due to disturbance from surrounding urban development. Big tarplant has low potential to occur within the BSA.

4.6.1.3 Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in vernal pools and valley and foothill grassland with alkaline and vernally mesic soils, seeps, and sometimes roadsides. Parry's rough tarplant blooms from May through October and is known to occur at elevations ranging from 0 to 330 feet above MSL. Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Modoc, Sacramento, San Joaquin, Solano, Stanislaus, and Yolo counties (CNPS 2025b).

There are no CNDDB records of Parry's rough tarplant occurring within 5 miles of the BSA (CDFW 2025a), however the annual grassland and ruderal/disturbed portions of the agricultural or SSJID easement within

the BSA provides suitable habitat for this species. Parry's rough tarplant has moderate to high potential to occur within the BSA.

4.6.1.4 Showy Golden Madia

Showy golden madia (*Madia radiata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species and an SJMSCP-Covered Species. This species is an herbaceous annual that occurs in cismontane woodland and valley and foothill grassland. Showy golden madia blooms from March through May and is known to occur at elevations ranging from 80 to 3,985 feet above MSL. Showy golden madia is endemic to California; its current range includes Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, San Luis Obispo, and Stanislaus counties. It is considered to be extirpated in Contra Costa, Kings, Monterey, Santa Barbara, and San Joaquin counties (CNPS 2025b).

There are no CNDDB records of showy golden madia occurring within 5 miles of the BSA (CDFW 2025a), however the annual grassland within the BSA provides marginally suitable habitat for this species. Showy golden madia has low potential to occur within the BSA.

4.6.2 Invertebrates

ECORP identified no potential habitat for special-status invertebrate species during the site reconnaissance.

4.6.3 Amphibians

ECORP identified no potential habitat for special-status amphibian species during the site reconnaissance.

4.6.4 Reptiles

ECORP identified potential habitat for one special-status reptile species during the site reconnaissance. Further details about this species are provided below.

4.6.4.1 Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is proposed for listing as Threatened pursuant to the federal ESA, is considered an SSC by CDFW, and an SJMSCP-Covered Species. The range of the northwestern pond turtle in California extends from the Coast Ranges on the Oregon border southward to Marin County, throughout the lower elevations and foothills of the southern Cascades and Sierra Nevada Mountains, and within the Sacramento and San Joaquin Valleys (Thomson et al. 2016). The elevation range for the species extends from near sea level to 4,690 feet (1,430 meters) (Jennings and Hayes 1994).

They can occur in a variety of waters including ponds, lakes, streams, reservoirs, rivers, settling ponds of wastewater treatment plants, and other permanent and ephemeral wetlands (Bury et al. 2012). However, in streams and other lotic features they generally require slack- or slow-water aquatic microhabitats (Jennings and Hayes 1994). Northwestern pond turtles also require basking areas such as logs, rocks, banks, and brush piles for thermoregulation (Bury et al. 2012). Nesting sites for pond turtles are typically

located in annual grasslands adjacent to a watercourse with little slope and hard, dry soil (Ashton et al. 1997). Nesting habitat soils typically display high clay or silt fraction, with few nests located in sandy soils. Nests are usually within 400m of a watercourse, with the majority being within 50m of the water's edge (Holland 1994).

There is one CNDDB record of northwestern pond turtle occurring within 5 miles of the BSA (CDFW 2025a).Aquatic habitat is present just northwest of the BSA and the friable soil of the ditch provides marginal nesting habitat. Northwestern pond turtle has low potential to occur within the BSA.

4.6.5 Birds

ECORP identified potential habitat for nine special-status bird species. Further details of these species are provided below.

4.6.5.1 Cooper's Hawk

The Cooper's hawk (*Astur cooperii*) is not listed pursuant to either the California or federal ESAs. However, it is a CDFW Watch List and an SJMSCP-Covered Species. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawks nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2024). Breeding occurs from March through July, with a peak from May through July.

There are no CNDDB records of Cooper's hawk occurring within 5 miles of the BSA (CDFW 2025a), however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Cooper's hawk has moderate to high potential to occur within the BSA.

4.6.5.2 Burrowing Owl

The burrowing owl (*Athene cunicularia*) is not listed pursuant to the federal ESA but is currently a candidate for listing under the California ESA; in addition, it is designated as a BCC by USFWS, an SSC by CDFW, and an SJMSCP-Covered Species. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Poulin et al. 2020). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Otospermophilus beecheyi*) but may also use manmade structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (California Department of Fish and Game [CDFG] 2012). The breeding season typically occurs between February 1 and August 31 (CDFG 2012).

There are three CNDDB records of burrowing owl occurring within 5 miles of the BSA (CDFW 2025a), and the banks of the ditch observed within the BSA provide marginally suitable habitat for this species. Burrowing owls have low potential to occur within the BSA.

4.6.5.3 Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) are not listed and protected under either state or federal ESAs but are considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs during March through July.

There are no CNDDB records of oak titmouse occurring within 5 miles of the BSA (CDFW 2025a), however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Oak titmouse has moderate to high potential to occur within the BSA.

4.6.5.4 Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and are protected pursuant to the California Endangered Species Act, and an SJMSCP-Covered Species. This migratory species nests throughout western North America (Canada, western U.S., and Mexico) and typically winters from South America, north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to mid-August.

Swainson's hawks build stick nests in trees in a variety of natural and human altered habitats including edges of riparian systems, oak woodland, agricultural landscapes, and urban areas. Natural foraging habitats include open grassland, and shrub steppe. As more lands were converted to agriculture, Swainson's hawks have become associated with low-stature agricultural fields (e.g., alfalfa), irrigated pasture and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Otospermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are 29 CNDDB records of Swainson's hawk occurring within 5 miles of the BSA (CDFW 2025a), and the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. Swainson's hawk has moderate to high potential to occur within the BSA.

4.6.5.5 Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed and protected under either state or federal ESAs but is considered a USFWS BCC. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs from April through July.

There are no CNDDB records of Nuttall's woodpecker occurring within 5 miles of the BSA (CDFW 2025a), however the taller trees within the vicinity of the BSA provides suitable habitat for this species. Nuttall's woodpecker has moderate to high potential to occur within the BSA.

4.6.5.6 White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal ESAs; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code and an SJMSCP-Covered Species. This species is a common resident in the Central Valley and the entire length of the California coast, as well as all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 2020). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within oak woodland, savannah, agricultural communities, and riparian areas adjacent to open areas (Dunk 2020).

There are no CNDDB records of white-tailed kite occurring within 5 miles of the BSA (CDFW 2025a), but the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. White-tailed kite has moderate to high potential to occur within the BSA.

4.6.5.7 Bullock's Oriole

The Bullock's oriole (*Icterus bullockii*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to USFWS. In California, Bullock's orioles are found throughout the state except the higher elevations of mountain ranges and the eastern deserts (Small 1994). They are found in riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees (Flood et al. 2020). Nesting occurs from March through July.

There are no CNDDB records of Bullock's oriole occurring within 5 miles of the BSA (CDFW 2025a), but the taller trees within the vicinity of the BSA provides suitable nesting habitat for this species. Bullock's oriole has moderate to high potential to occur within the BSA.

4.6.5.8 Loggerhead Shrike

The loggerhead shrike (L*anius ludovicianus*) is not listed pursuant to either the California or federal ESAs; but is considered an SSC by CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 2020). The nesting season extends from March through July.

There is one CNDDB records of loggerhead shrike occurring within 5 miles of the BSA (CDFW 2025a), but the limited size and level of disturbance within the BSA provides marginally suitable nesting habitat for this species. Loggerhead shrike has low potential to occur within the BSA.

4.6.5.9 Yellow-Billed Magpie

The yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late January to mid-February, which may take up to 6 to 8 weeks to complete, with eggs laid from April through May, and fledging from May through June (Koenig et al. 2022). The young leave the nest about 30 days after hatching (Koenig et al. 2022). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig et al. 2022).

There are no CNDDB records of yellow-headed magpie occurring within 5 miles of the BSA (CDFW 2025a), but the taller trees vicinity of the BSA provides suitable nesting habitat for this species. Yellow-billed magpie has moderate to high potential to occur within the BSA.

4.6.6 Mammals

ECORP conducted a literature review (CDFW 2025; San Joaquin Council of Governments 2000; USFWS 2025a) and identified potential habitat for two special-status mammal species following the site reconnaissance. Further details of these species are provided below.

4.6.6.1 Western Red Bat

The western red bat (*Lasiurus blossevillii*) is not listed pursuant to either the California or federal ESAs; however, this species is considered an SSC by CDFW and an SJMSCP-Covered Species. This species is broadly distributed, its range extending from southern British Columbia in Canada through Argentina and Chile in South America and including much of the western U.S. This solitary species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They are associated with intact riparian habitat, especially with cottonwoods, sycamores, oaks and willows. They feed on a variety of insects, and generally begin to forage 1 to 2 hours after sunset. This species is considered highly migratory; however, the timing of migration and the summer ranges of males and females may be different. Winter behavior of this species is poorly understood (Western Bat Working Group [WBWG] 2025).

There are no CNDDB records of western red bat occurring within 5 miles of the BSA (CDFW 2025a), but the trees within the BSA provides marginally suitable day roosting habitat for this species. Western red bats have low potential to occur within the BSA.

4.6.6.2 Long-Legged Myotis

The long-legged myotis (*Myotis volans*) is not listed pursuant to either the California or federal ESAs; however, this species is an SJMSCP-Covered Species. In addition, the WBWG has classified the long-legged myotis in California as "imperiled or are at high risk of imperilment" (WBWG 2025). It is common in the mountainous regions of California, occurring in the coastal ranges from Oregon to Mexico, the Sierra

Nevada/Cascade ranges to Southern California, most of the Great Basin region, and in several Mojave Desert mountain ranges. This species is most common in woodland and forest communities above 4,000 feet, and is absent from the Central Valley and Colorado and Mojave low deserts. The long-legged myotis feeds primarily on moths, foraging at low heights (10 to 15 feet) over water, close to trees and cliffs, and in forest clearings. This bat roosts in rock crevices, buildings, trees, mines, and caves, with trees potentially being the most important. This species forms maternity colonies of hundreds of individuals, usually in trees or snags (Zeiner et al. 1990).

There are no CNDDB records of long-legged myotis occurring within 5 miles of the BSA (CDFW 2025a), but the within the BSA provides marginally suitable day roosting habitat for this species. Long-legged myotis have low potential to occur within the BSA.

4.7 Wildlife Movement Corridors and Nursery Sites

The BSA does not serve as a wildlife movement corridor nor are there any nursery sites within the BSA (CDFW 2025a).

4.8 Protected Trees/Oak Woodlands

No oak woodlands were observed within or in the vicinity of the BSA. Trees within the park within the BSA may be subject to the City of Manteca Code of Ordinance Title 12, Chapter 12.08 – Trees and Shrubs.

5.0 IMPACT ASSESSMENT AND RECOMMENDATIONS

The Project is located within the Central Zone of the SJMSCP. The Project proponent has not determined if they would secure coverage under the SJMSCP. If the Project proponent secures coverage under the SJMSCP, potential impacts to SJMSCP-Covered Species would be less than significant with implementation of SJMSCP Preconstruction Surveys and the appropriate SJMSCP Incidental Take Minimization and Mitigation Measures. All Incidental Take Minimization and Mitigation Measures are provided in Appendix E.

Potential impacts to species that are only SJMSCP-Covered Species but have no State or Federal status (as listed in Section 1.3 of this BRA) would not be significant under CEQA and will not be discussed further.

The following sections specifically address questions raised by the Biological Resources section of the Environmental Checklist Form in Appendix G of the CEQA Guidelines.

5.1 CEQA Checklist Criteria IV(a) – Special-Status Species

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 Wildlife or U.S. Fish and Wildlife Service?

5.1.1 Special-Status Plants

The areas that support natural vegetation within the BSA provide a limited amount of marginally suitable potential habitat for special-status plants, as identified in Section 4.6. In the low chance that a special-status plant occurs within or near the Project Area during construction, the Project could result in damage or loss of individual plants. Impacts to plants with CRPR 4 would not likely be significant under CEQA. Impacts to special-status plants with CRPRs of 1 or 2 may be significant under CEQA. The following measures are recommended to ensure potential impacts to special-status plants are less than significant under CEQA:

- A special-status plant survey shall be conducted according to CDFW, CNPS, and USFWS protocols (CDFW 2018; CNPS 2001; USFWS 2000) prior to Project ground-disturbing or vegetation-disturbing activities within undeveloped areas. The survey shall be conducted by a qualified biologist (as defined per agency protocols) throughout all potential habitat for special-status plants within the Project Area and a 15-foot buffer. The survey shall be timed according to the identifiable period for special-status plant species with potential to occur (typically the blooming period). To the extent feasible, known reference populations shall be visited prior to the survey to confirm target species are evident and identifiable at the time of the survey. If no special-status plants are found and the survey is still considered recent as per CDFW and USFWS protocols (CDFW 2018; USFWS 2000) at the time of Project implementation, no further measures pertaining to special-status plants are necessary. If a special-status plant is identified within or adjacent to the Project Area, the following shall apply:
    - An impact assessment shall be made by a qualified biologist to determine whether Project-related activities would be significant such that they would have the potential to eliminate, substantially reduce the number of, or restrict the range of the special-status plant species, and/or conflict with any local policies or ordinances protecting special-status plant species. If impacts are determined to be less than significant, no further measures are needed.
    - If potential impacts are determined to be significant, the following shall apply:
        - A no-disturbance buffer shall be established around special-status plant populations to be avoided within or adjacent to the Project Area. The no-disturbance buffer shall include the extent of the avoided special-status plants (as determined by a qualified biologist during an appropriate time to identify the plants immediately preceding construction) plus a minimum 15-foot buffer. The avoidance area shall be clearly demarcated in the field and demarcation shall be maintained for the duration of Project construction. No

vegetation-disturbing or ground-disturbing activities shall occur within the avoidance area.

5.1.2 Special-Status Wildlife

5.1.2.1 Northwestern Pond Turtle

The ditch within the BSA supports marginally suitable nesting habitat for the northwestern pond turtle.. In the low change that the species occurs within or near the Project Area during construction, the Project may result in injury or fatalities to northwestern pond turtle through vehicular traffic and other construction activity. The following measure is recommended to ensure potential impacts to northwestern pond turtle are less than significant under CEQA:

- A qualified biologist shall conduct a preconstruction clearance survey within the Project Area within 48 hours prior to the initiation of Project activities. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If northwestern pond turtles are found within or near the Project Area during the survey or during Project implementation, they shall be allowed to move out of the Project Area on their own volition or relocated by a qualified biologist in coordination with CDFW and silt fencing shall be installed.

5.1.2.2 Nesting Birds (Including Raptors)

The BSA and its vicinity contains suitable nesting and/or wintering and foraging habitat for several special-status birds and other birds protected under the California Fish and Game Code and the MBTA. Impacts to wintering and foraging habitat would not be considered significant under CEQA. If Project-related activities occur during the nesting season, the removal of active nests or disruption of nesting activities could lead to “take” of a protected bird, or an active nest with eggs or young, which would be considered a significant impact under CEQA. The following measures are recommended to ensure potential impacts to nesting birds are less than significant under CEQA:

- If construction is scheduled during the nesting season (typically February 1–August 31, and as early as January 1 for raptors), a qualified biologist shall conduct a preconstruction nesting bird survey within 14 days prior to the commencement of Project-related activities to identify active nests that could be impacted by construction. The survey shall be conducted within the Project Area and a 500-foot buffer for raptors and a 100-foot buffer for other birds, where accessible. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If active nests are found, a no-disturbance buffer shall be established around the nest. A qualified biologist shall establish a buffer distance. The buffer shall be maintained until the nestlings have fledged (e.g., are capable of flight and become independent of the nest), to be determined by a qualified biologist. The avoidance buffer can be removed and no further measures are necessary once the young have fledged or the nest is no longer occupied, as determined by a qualified biologist.

5.1.2.3 Burrowing Owl

The BSA provides marginally suitable habitat for burrowing owls. While the BSA is regularly maintained, the ditch borders and annual grassland support ground squirrels and burrows that could be used by burrowing owls. The following measure is recommended to ensure potential impacts to burrowing owls are less than significant under CEQA:

- A qualified biologist shall conduct a *take avoidance* preconstruction survey according to the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). If active/occupied burrows are detected, a no-disturbance buffer shall be established around the burrow. The buffer distance shall be established in coordination with CDFW.

5.1.2.4 Swainson's Hawk

Swainson's hawk has potential to nest and forage within and near the BSA. The following measure is recommended to ensure potential impacts to Swainson's hawks are less than significant under CEQA:

- If construction is scheduled during the Swainson's hawk nesting season (March 1 to August 31), then, a qualified biologist shall conduct a survey for Swainson's hawk nesting activity within a 0.5-mile distance surrounding the Project Area. The qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000) or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to the initiation of surveys. If there is a lapse in Project-related work of 14 days or longer, the survey must be repeated prior to resuming Project activities. If Swainson's hawk nesting activity is observed during the survey, an avoidance buffer shall be established by a qualified biologist in consultation with CDFW. The avoidance buffer shall be maintained while the nest is active.

5.1.2.5 Western Red Bat

The trees within the BSA represent marginally suitable potential roosting habitat for western red bat. If occupied bat roosts are present, removal of the habitat feature could result in direct mortality or injury to roosting bats. It is unlikely that the BSA would provide maternity roosting habitat for western red bat. However, in the low chance that a maternity roosting site is present within the BSA, removal during the maternity roosting season could result in the loss of the site and injury or mortality of pups that are not yet able to fly. Potential impacts to bat maternity roost sites would be considered significant under CEQA. The following measures are recommended to ensure potential impacts to special-status bats and bat maternity roosts are less than significant under CEQA:

- Tree trimming/removal shall occur outside of the bat maternity season (April 15 through August 31), as feasible.

5.2 CEQA Checklist Criteria IV(b) – Sensitive Natural Communities

Would the Project:

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

The Project would have no effect on sensitive natural communities because none are present within or near the BSA.

5.3 CEQA Checklist Criteria IV(c) – Aquatic Resources

Would the Project:

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?

ECORP conducted an aquatic resources assessment and mapped an SSJID irrigation ditch within the BSA. The ditch appears to be ephemeral in nature (not a "relatively permanent" feature), and water releases are managed seasonally by SSJID. The ditch does not appear to meet the definition of Waters of the U.S. and may not subject to USACE jurisdiction due ephemeral flow and therefore lack of a continuous surface connection to a relatively permanent, standing or continuously flowing body of water. In addition, the ditch does not appear to meet the definition of Waters of the State per Section II.2 and II.3.c of the Procedures (State Water Resources Control Board 2021), as the ditch is an artificial wetland resulting from human activity, excavated in uplands, subject to ongoing operation and maintenance, and is not a modification of a surface water of the State.

Resource verification by USACE and RWQCB would be required to formally determine jurisdictional status of the drainage ditch under Sections 404 and 401 of the Clean Water Act.

Direct impacts to the ditch would be defined as any grading, trenching, excavation, or placement of temporary or permanent fill within the aquatic resource. Indirect impacts may include inadvertent encroachments, changes in hydrology, and runoff and erosion from the Project Area.

The current Project design includes boring under the ditch and avoiding all impacts to the bed or bank of the ditch. Thus, no direct impacts to the ditch are expected. The following measures are recommended to ensure potential impacts to aquatic resources are less than significant under CEQA:

- An aquatic resources delineation shall be conducted for the Project Area in accordance with the most recent USACE and RWQCB guidance. The delineation shall be submitted to the USACE with a request for verification.
- The Project shall avoid all impacts within the bed or banks of aquatic resources. The Project Area boundary adjacent to aquatic resources shall be demarcated with high visibility construction fencing and silt fencing prior to construction. Fencing shall be inspected daily and maintained

immediately if needed by construction personnel through the duration of construction. No Project-related work shall occur outside of the Project Area boundary.

- The applicant shall prepare and implement an Erosion and Sediment Control Plan to avoid and minimize sediment and erosion to aquatic resources within or adjacent to the Project Area boundary.

5.4 CEQA Checklist Criteria IV(d) – Movement Corridors and Nursery Sites

Would the Project:

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?

The BSA is not located within any movement corridors and is not expected to support nursery sites. Therefore, the Project would have no effect on wildlife movement or nursery sites.

5.5 CEQA Checklist Criteria IV(e) – Conflicts with Local Policies or Ordinances

Would the Project:

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

The Proposed Project may potentially impact planted vegetation within public spaces owned by the City of Manteca. The following measure is recommended to ensure the Project does not conflict with the City of Manteca Code of Ordinance Title 12, Ch12.08 – Trees and Shrubs:

- The Project proponent shall consult with the City of Manteca prior to impacting vegetation in any public space, and shall secure City of Manteca approval for impacting such vegetation prior to construction, if needed.

5.6 CEQA Checklist Criteria IV(f) – Conflicts with Conservation Plans

Would the Project:

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?

The Project would not conflict with any such plans. The Proposed Project is located within the Plan Area for the SJMSCP. If the Project proponent opts to participate in the SJMSCP, all required conditions of the SJMSCP would be implemented.

6.0 REFERENCES

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LIST OF APPENDICES

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Appendix B – Representative Photographs

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Appendix D – Wildlife Species Observed (September 10, 2025)

Appendix E – San Joaquin County Multi-Species Habitat Conservation and Open Space Plan Preconstruction Survey Protocols

APPENDIX A

Results of Database Queries

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Manteca (3712172) OR Avena (3712171) OR Peters (3712181) OR Lathrop (3712173) OR Stockton East (3712182) OR Stockton West (3712183) OR Salida (3712161) OR Vernalis (3712163) OR Ripon (3712162))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	***Ambystoma californiense pop. 1*** California tiger salamander - central California DPS	Threatened	Threatened	G3T3	S3	WL
AAABF02020	***Spea hammondii*** western spadefoot	Proposed Threatened	None	G2G3	S3S4	SSC
ABNJB05035	***Branta hutchinsii leucopareia*** cackling (=Aleutian Canada) goose	Delisted	None	G5T3	S3	WL
ABNKC06010	***Elanus leucurus*** white-tailed kite	None	None	G5	S3S4	FP
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S4	
ABNKD06030	***Falco columbarius*** merlin	None	None	G5	S3S4	WL
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	Candidate Endangered	G4	S2	SSC
ABPAT02011	***Eremophila alpestris actia*** California horned lark	None	None	G5T4Q	S4	WL
ABPBR01030	***Lanius ludovicianus*** loggerhead shrike	None	None	G4	S4	SSC
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S3	
ABPBXA3013	***Melospiza melodia pop. 1*** song sparrow ("Modesto" population)	None	None	G5T3?Q	S3?	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S2	SSC
ABPBXB3010	***Xanthocephalus xanthocephalus*** yellow-headed blackbird	None	None	G5	S3	SSC
AFCAA01031	***Acipenser medirostris pop. 1*** green sturgeon - southern DPS	Threatened	None	G2T1	S1	SSC
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	SSC
AFCHB01040	***Hypomesus transpacificus*** Delta smelt	Threatened	Endangered	G1	S1	
AFCHB03040	***Spirinchus thaleichthys pop. 2*** longfin smelt - San Francisco Bay-Delta DPS	Endangered	Threatened	G5TNRQ	S1	
AFCJB25010	***Mylopharodon conocephalus*** hardhead	None	None	G3	S3	SSC

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMAEB01021	***Sylvilagus bachmani riparius*** riparian brush rabbit	Endangered	Endangered	GNRT2	S2	
AMAFF08081	***Neotoma fuscipes riparia*** riparian (=San Joaquin Valley) woodrat	Endangered	None	G5T1	S1	SSC
ARACC01020	***Anniella pulchra*** Northern California legless lizard	None	None	G3	S2S3	SSC
ARADB36150	***Thamnophis gigas*** giant gartersnake	Threatened	Threatened	G2	S2	
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63440CA	***Elderberry Savanna*** Elderberry Savanna	None	None	G2	S2.1	
ICBRA03010	***Branchinecta conservatio*** Conservancy fairy shrimp	Endangered	None	G2	S2	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	***Branchinecta mesovallensis*** midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G3	S3	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T3	S3	
IICOL49010	***Anthicus sacramento*** Sacramento anthicid beetle	None	None	G4	S4	
IICOL4C020	***Lytta moesta*** moestan blister beetle	None	None	G2	S2	
IIDIP05010	***Rhaphiomidas trochilus*** San Joaquin Valley giant flower-loving fly	None	None	G1	S1	
IIHYM24252	***Bombus occidentalis*** western bumble bee	None	Candidate Endangered	G3	S1	
IIHYM24260	***Bombus pensylvanicus*** American bumble bee	None	None	G3G4	S2	
IIHYM24380	***Bombus caliginosus*** obscure bumble bee	None	None	G2G3	S1S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
IIHYM24480	***Bombus crotchii*** Crotch's bumble bee	None	Candidate Endangered	G2	S2	
IMBIV19010	***Gonidea angulata*** western ridged mussel	None	None	G3	S2	
PDAPI0Z0S0	***Eryngium racemosum*** Delta button-celery	None	Endangered	G1	S1	1B.1
PDAST1C011	***Blepharizonia plumosa*** big tarplant	None	None	G1G2	S1S2	1B.1
PDAST2E0U0	***Cirsium crassicaule*** slough thistle	None	None	G1	S1	1B.1
PDAST5L030	***Lasthenia chrysantha*** alkali-sink goldfields	None	None	G2	S2	1B.1
PDAST9F031	***Trichocoronis wrightii var. wrightii*** Wright's trichocoronis	None	None	G4T3	S1	2B.1
PDASTE8470	***Symphyotrichum lentum*** Suisun Marsh aster	None	None	G2	S2	1B.2
PDBRA2R010	***Tropidocarpum capparideum*** caper-fruited tropidocarpum	None	None	G1	S1	1B.1
PDCAB01010	***Brasenia schreberi*** watershield	None	None	G5	S3	2B.3
PDCHE040B0	***Atriplex cordulata var. cordulata*** heartscale	None	None	GNRT2	S2	1B.2
PDCHE041F3	***Extriplex joaquinana*** San Joaquin spearscale	None	None	G2	S2	1B.2
PDCHE042M0	***Atriplex minuscula*** lesser saltscale	None	None	G2	S2	1B.1
PDFAB0F8R1	***Astragalus tener var. tener*** alkali milk-vetch	None	None	G2T1	S1	1B.2
PDFAB250D2	***Lathyrus jepsonii var. jepsonii*** Delta tule pea	None	None	G5T2	S2	1B.2
PDFAB400R5	***Trifolium hydrophilum*** saline clover	None	None	G2	S2	1B.2
PDMAL0H0R3	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	None	None	G5T3	S3	1B.2
PDRAN0B1J0	***Delphinium recurvatum*** recurved larkspur	None	None	G2?	S2	1B.2
PDSCR0J0J0	***Chloropyron palmatum*** palmate-bracted bird's-beak	Endangered	Endangered	G1	S1	1B.1
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMPOA53110	***Puccinellia simplex*** California alkali grass	None	None	G2	S2	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1

Record Count: 62

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

24 matches found. Click on scientific name for details

Search Criteria: , 9-Quad include [3712172:3712171:3712181:3712173:3712183:3712182:3712161:3712163:3712162]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	Yes	1994-01-01
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	GNRT2	S2	1B.2	Yes	1988-01-01
Atriplex coronata var. *coronata*	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	Yes	1994-01-01
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	None	None	G1G2	S1S2	1B.1	Yes	1994-01-01
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	G5	S3	2B.3		2010-10-27
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Yes	2007-05-22
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	G1	S1	1B.1	Yes	1974-01-01
Cirsium crassicaule	slough thistle	Asteraceae	annual/perennial herb	May-Aug	None	None	G1	S1	1B.1	Yes	1974-01-01
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2	1B.2	Yes	1988-01-01
Eryngium racemosum	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	Yes	1974-01-01

Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1988-01-01
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	1974-01-01
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	Yes	2001-01-01
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	None	None	G5T2	S2	1B.2	Yes	1974-01-01
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	Yes	1974-01-01
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1		1988-01-01
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	2001-01-01
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	Yes	1974-01-01
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	Yes	1974-01-01

Showing 1 to 24 of 24 entries

Go to top

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 29 October 2025].
}

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

NOT FOR CONSULTATION

Location

San Joaquin County, California

Local office

Sacramento Fish And Wildlife Office

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

Federal Building
2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

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

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

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

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

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

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

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

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

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

Reptiles

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

Amphibians

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

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

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Vernal Pool Fairy Shrimp Branchinecta lynchi Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2246

Critical habitats

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

There are no critical habitats at this location.

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

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Bald & Golden Eagles

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

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

Additional information can be found using the following links:

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

Bald & Golden Eagles FAQs

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

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

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

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

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

Interpreting the Probability of Presence Graphs

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

How is the probability of presence score calculated? The calculation is done in three steps:

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

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

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

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

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

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

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

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Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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

Additional information can be found using the following links:

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

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

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Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Santa Barbara Song Sparrow Melospiza melodia graminea — Breeds Mar 1 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5513

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

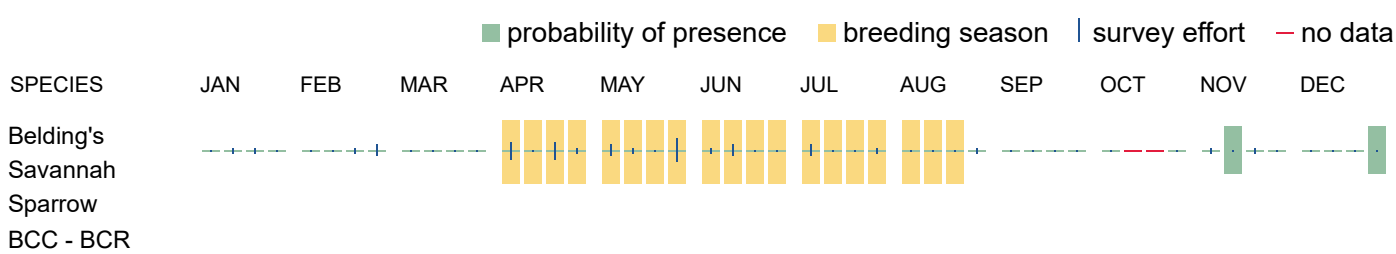
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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

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



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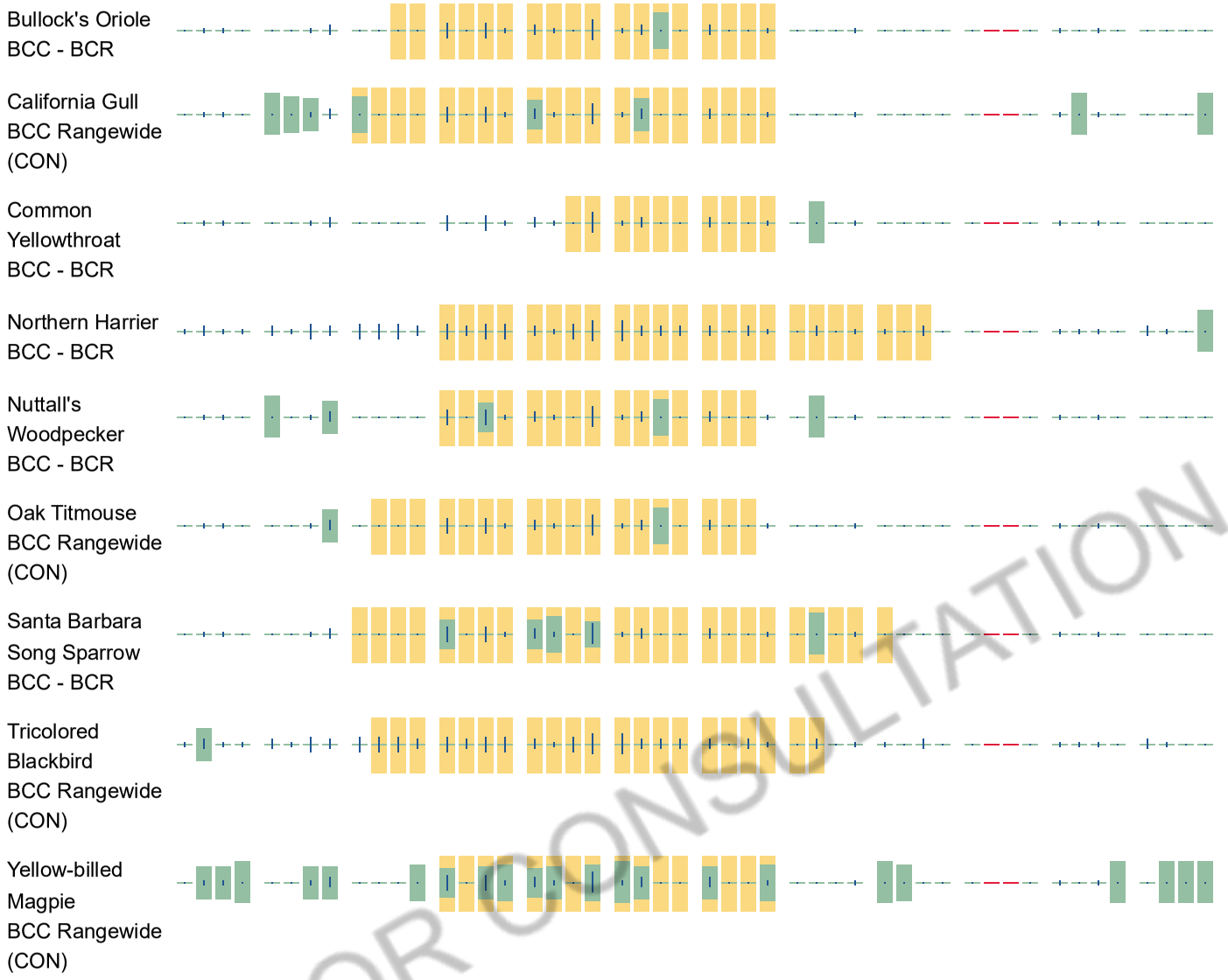

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Migratory Bird FAQs

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

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

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

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

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

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

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

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

Details about birds that are potentially affected by offshore projects

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

Proper interpretation and use of your migratory bird report

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

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

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

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability

of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

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

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

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

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

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

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory

(NWI)

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

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- PEM1C
- PEM1Cx

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

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

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Data limitations

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

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

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

Data exclusions

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

Data precautions

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

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APPENDIX B

Representative Photographs

Photo 1. Representative Photo of the BSA Northern Alignment Adjacent to the Golf Course (September 10, 2025; facing west).

Photo 2. Representative Photo of the Annual Grassland Habitat in the Southern Portion of the BSA (September 10, 2025; facing southeast).

Photo 3. Representative Photo of the BSA Crossing the South San Joaquin Irrigation District Ditch (September 10, 2025; facing west).

Photo 4. Representative Photo of the BSA in the recently Disced Agricultural Field (September 10, 2025; facing northwest).

Photo 5. Representative Photo of the Annual Grassland Habitat in the Northern Portion of the BSA (September 10, 2025; facing west).

Photo 6. Representative Photo of Potential Nesting Trees in the Eastern Portion of the BSA (September 10, 2025; facing south).

Photo 7. Photo Showing Development Outside of the Eastern End of the BSA (September 10, 2025; facing north).

Photo 8. Representative Photo of the Eastern End of the Alignment in the Eastern Portion of the BSA (September 10, 2025; facing northeast).

APPENDIX C

Plant Species Observed (September 10, 2025)

SCIENTIFIC NAME	COMMON NAME
ANACARDIACEAE	**SUMAC FAMILY**
Schinus sp.*	Peppertree
ARECACEAE	**PALM FAMILY**
*Washingtonia robusta**	Mexican fan palm
ASTERACEAE	**SUNFLOWER FAMILY**
*Carduus pycnocephalus**	Italian thistle
*Centaurea solstitialis**	Yellow star-thistle
*Dittrichia graveolens**	Stinkwort
Erigeron canadensis	Canada horseweed
Helianthus annuus	Common sunflower (cultivated)
Heterotheca grandiflora	Telegraph weed
*Lactuca serriola**	Prickly lettuce
BRASSICACEAE	**MUSTARD FAMILY**
Nasturtium officinale	Water cress
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
*Chenopodium album**	White goosefoot
*Salsola tragus**	Russian thistle
CYPERACEAE	**SEDGE FAMILY**
*Cyperus difformis**	Variable flatsedge
Cyperus eragrostis	Tall flatsedge
Cyperus esculentus	Nutsedge
EUPHORBIACEAE	**SPURGE FAMILY**
Euphorbia serpens	Matted sandmat
FABACEAE	**LEGUME FAMILY**
*Medicago polymorpha**	Bur clover
*Medicago sativa**	Alfalfa
*Trifolium subterraneum**	Subterranean clover
FAGACEAE	**OAK FAMILY**
Quercus wislizeni	Interior live oak
MALVACEAE	**MALLOW FAMILY**
*Malva parviflora**	Cheeseweed

SCIENTIFIC NAME	COMMON NAME
MORACEAE	**MULBERRY FAMILY**
*Ficus carica**	Common fig (cultivated)
MYRTACEAE	**MYRTLE FAMILY**
Eucalyptus sp.*	Eucalyptus (cultivated)
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
*Ludwigia peploides**	Floating water primrose
OXALIDACEAE	**OXALIS FAMILY**
*Oxalis corniculata**	Creeping woodsorrel
PHYTOLACCACEAE	**POKEWEED FAMILY**
*Phytolacca americana**	American pokeweed
PINACEAE	**PINE FAMILY**
Pinus sp.*	Pine (cultivated)
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago lanceolata**	English plantain
PLATANACEAE	**PLANE-TREE FAMILY**
*Platanus occidentalis**	American sycamore
POACEAE	**GRASS FAMILY**
Avena sp.*	Wild oat
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft brome
*Cynodon dactylon**	Bermuda grass
*Festuca myuros**	Rat-tail fescue
*Festuca perennis**	Italian ryegrass
*Glyceria declinata**	Waxy mannagrass
Hordeum marinum ssp. *gussoneanum**	Mediterranean barley
Panicum sp.	Panic grass
*Poa annua**	Annual bluegrass
*Sorghum halepense**	Johnson grass
ROSACEAE	**ROSE FAMILY**
*Pyrus calleryana**	Callery pear

SCIENTIFIC NAME	COMMON NAME
SALICACEAE	**WILLOW FAMILY**
Populus fremontii	Fremont's cottonwood
SAPINDACEAE	**SOAPBERRY FAMILY**
Acer sp.*	Maple (cultivated)
SOLANACEAE	**NIGHTSHADE FAMILY**
*Datura stramonium**	Jimson weed
TAXODIACEAE	**BALD CYPRESS FAMILY**
Sequoia sempervirens	Coast redwood (cultivated)
TYPHACEAE	**CATTAIL FAMILY**
Typha latifolia	Broad-leaf cattail
ZYGOPHYLLACEAE	**CALTROP FAMILY**
*Tribulus terrestris**	Puncture vine

Notes: * = non-native species

APPENDIX D

Wildlife Species Observed (September 10, 2025)

SCIENTIFIC NAME	COMMON NAME
Amphibians	
Pseudacris regilla	Pacific chorus frog
Reptiles	
Sceloporus occidentalis	Western fence lizard
Birds	
Ardea herodias	Great Blue Heron
Aphelocoma californica	California Scrub-Jay
Sialia mexicana	Western Bluebird
Haemorhous mexicanus	House Finch
Spinus psaltria	Lesser Goldfinch

APPENDIX E

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
Preconstruction Survey Protocols

5.2.2 PRECONSTRUCTION SURVEYS

5.2.2.1 Overview

There are four categories of preconstruction surveys necessary to the implementation of the SJMSCP:

A. Preconstruction surveys to verify vegetation types affected by the project and to determine if SJMSCP Covered Species are present and, if present, attaching Incidental Take Minimization Measures as conditions of project approval for individual projects (see Section 5.2.2.5 for survey methodologies and Section 5.2.2.4 for special provisions for conducting plant surveys). These preconstruction surveys shall be conducted in the field when a project is located on suitable habitat for one or more of the SJMSCP Covered Species;

B. Preconstruction surveys conducted prior to (or, for some Incidental Take Minimization Measures, during) ground-disturbing activities to determine if SJMSCP Covered Species have been successfully relocated and/or to determine if other Incidental Take Minimization Measures have been implemented, as specified in the conditions of project approval; and

C. Preconstruction surveys, conducted in compliance with current U.S. Fish and Wildlife Service protocols, to determine the presence or absence of Conservancy and/or longhorn fairy shrimp within vernal pools or other wetlands located southwest of I-580 in the *Southwest Zone* unless complete avoidance of vernal pools and/or wetlands is achieved in compliance with SJMSCP Section 5.5.9.

D. Preconstruction surveys conducted pursuant to the protocol established in Section 5.2.2.5(A-C) for:

- Large-flowered fiddleneck southwest of the 900 foot contour line in the *Southwest Zone* southwest of I-580;
- Showy madia in the *Southwest Zone*;
- Hospital canyon larkspur in the *Southwest Zone*;
- Diamond-petaled poppy in the *Southwest Zone*;
- Greene's tuctoria in the *Vernal Pool Zone*;
- Succulent owl's clover in the *Vernal Pool Zone*;
- Legenere in the *Vernal Pool Zone*;
- Delta button celery in the *Central Zone* in S(Scrub) vegetation types;
- Sanford’s arrowhead in the *Central Zone* in W3, W4 and all I and R vegetation types; and
- Slough thistle in the *Central and Central/Southwest Transition Zones* in W4, R, R2, R3, R4 or R5 vegetation types–in particular where R touches or transitions to W.

The costs of conducting preconstruction surveys described in paragraphs A, B, and D, above, are calculated in the administrative costs for the SJMSCP and are included in funding estimates. The JPA shall conduct preconstruction surveys described in the paragraphs A, B, and D, above, at no additional cost to the Project Proponent. Preconstruction surveys required pursuant to paragraph C, above, are the responsibility of the Project Proponent.

5.2.2.2 Time Limits for Conducting JPA Preconstruction Surveys

The JPA shall conduct preconstruction surveys to determine the necessity of establishing Incidental Take Minimization Measures as conditions of project approval, as described above in 5.2.2.1(A and D) within the following time periods commencing from the date of receipt of Advisory Agency Notices from the Plan Participants except as provided in Section 5.2.2.5(B):

A. For projects of 40 acres or less, surveys shall be conducted within 30 calendar days

B. For projects of greater than 40 acres surveys shall be conducted within 60 calendar days,

C. For projects requiring an environmental impact report, the time limits shall be extended to allow for surveys for SJMSCP Covered Plant Species during optimal blooming seasons.

The JPA shall conduct preconstruction surveys prior to ground-disturbing activities to determine if SJMSCP Covered Species have been successfully relocated and/or to determine if other Incidental Take Minimization Measures have been implemented as specified in the conditions of project approval, as described above in Section 5.2.2.1(B), within two working days from the date that the JPA receives written or oral notice that the Project Proponent is ready to begin Site Disturbances except as provided in Sections 5.2.2.4(D) and 5.2.2.5(D) and 5.2.2.5 (E). Extensions of these time limits may be granted with the approval of the Project Proponent.

While the time limits for responding to Advisory Agency Notices remain as described above, actual preconstruction survey time limits do not apply for the following:

A. For projects proposed within potential habitat for the following plant species: large-flowered fiddleneck (*Amsinckia grandiflora*); succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) Greene's tuctoria (*Tuctoria greenei*), Delta button celery (*Eryngium racemosum*), Diamond-petaled California poppy (*Escholzia rhombipetala*), showy madia (*Madia radiata*), slough thistle (*Cirsium crassicaule*), legenere (*Legenere limosa*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), and Sanford's arrowhead (*Sagittaria sandfordii*). For these plant species, preconstruction surveys shall occur based on blooming periods for the plants and in accordance with the provisions of Section 5.2.2.5(B) unless otherwise approved pursuant to Section 5.2.2.5(C), unless full avoidance of all potential suitable habitat for the species occurs pursuant to Sections 5.5.9 (F) for narrowly distributed plant species or unless no kill/no Conversion of occupied habitat limits are lifted pursuant to Section 5.5.2.1; and

B. For projects proposed within potential habitat for the longhorn fairy shrimp and Conservancy fairy shrimp. Preconstruction surveys for these species shall be in accordance with current USFWS survey protocols unless full avoidance of all potential habitat for these species occurs pursuant to Section 5.5.9(B) or unless no kill/no Conversion of occupied

habitat limits are lifted pursuant to Section 5.5.2.7.

5.2.2.3 Determining the Necessity for Site Visits as Part of Preconstruction Surveys

To assist in its assessment of the necessity for Incidental Take Minimization Measures, the JPA shall consult the *SJMSCP GIS Database* or other sources (e.g., current reports from Permitting Agency field personnel; published results of field surveys conducted by, or on behalf of, Permitting Agencies or other local, state or federal agencies; the SJMSCP Biological Analysis; or other sources that provide information related to the location of SJMSCP Covered Species), if necessary, to determine the likelihood for disturbing an SJMSCP Covered Species or Natural Land area (in particular vernal pools or other wetlands) based on information indicating known species occupation sites, vegetation types present and the potential for the site to be occupied by a species given the vegetation types and species needs. If insufficient information exists to make a determination, the JPA shall conduct a preconstruction survey to assess the likelihood of the occurrence of an SJMSCP Covered Species or any Natural Lands located within the project area. It is anticipated that preconstruction surveys occurring on the project site will occur on the majority (perhaps up to 90%) of project sites. Preconstruction surveys at the project site will always occur when suitable habitat is present or potentially present for one or more of the SJMSCP Covered Species. The estimated 10% of projects which are unlikely to require a preconstruction survey include, for example, infill areas within well-developed urban centers with extensive ground disturbance and extensive paving.

5.2.2.4 Special Provisions for Conducting Preconstruction Surveys for Plants

Since plants permanently occupy a given site (and therefore cannot easily be avoided by timing construction to avoid breeding seasons) and some plants may only be seasonally identified during sometimes brief blooming seasons, special provisions have been included in the SJMSCP for conducting pre-construction surveys for plants to ensure that Incidental Take Minimization Measures can be undertaken.

SJMSCP Covered Plant Species in San Joaquin County are located primarily on Natural Lands outside the boundaries of proposed development areas anticipated over the next 50 years as illustrated in the following maps located at the back of the SJMSCP:

- *SJMSCP Planned Land Use Map* - Illustrates boundaries of proposed development areas for the next 50 years.

- San Joaquin County Habitat Map Conservation and Open Space Plan Maps - Distribution of Existing Vegetation Habitat Types in San Joaquin County. Provides overview of the locations of Natural Lands, Natural Lands which are Wetlands, High and Low Habitat Value Agricultural Lands, and Urban Lands.

- San Joaquin County Habitat Map Conservation and Open Space Plan Maps - Species Occurrence. This map provides an overview of the distribution of SJMSCP Covered plants, birds, mammals, amphibians, reptiles, and invertebrates.

These three maps illustrate that **most SJMSCP Covered Plant Species, with few exceptions (e.g., Delta slough thistle, Delta button celery and vernal pool species), are located almost exclusively on Natural Lands located outside of proposed development boundaries**.

Further, based upon development patterns over the past 30± years and the fact that proposed development

will occur primarily on highly disturbed and cultivated lands (Agricultural Habitat Lands) while most SJMSCP Covered Plant Species occur on Natural Lands, only minimal impacts are anticipated for most SJMSCP Covered Plant Species. In fact, **there is a much higher likelihood that most SJMSCP Covered Plant Species will be protected than they will be subject to Incidental Take under the SJMSCP.**

The following factors further support these conclusions:

! ***Southwest Zone.*** This area consists primarily of grasslands (Natural Lands). Virtually no development (except for some minor mineral resource development and urbanization concentrated along I-580--see the *SJMSCP Proposed Land Use Map* at the back of the SJMSCP) is proposed in this zone.

While nearly devoid of proposed development, the following SJMSCP Covered Plant Species are located almost exclusively in the *Southwest Zone* and the likelihood of protecting these species within SJMSCP Preserves established for the San Joaquin kit fox are much higher than the likelihood of disturbing these species through SJMSCP Permitted Activities: Large-flowered fiddleneck (*Amsinckia grandiflora*), hospital canyon larkspur (*Delphinium californicum* ssp. *interius*), showy madia (*Madia radiata*) and recurved larkspur (*Delphinium recurvatum*). Alkali milk-vetch (*Astragalus tener* var. *tener*), brittlescale (*Atriplex depressa*), Mt. Hamilton coreopsis (*Coreopsis hamiltonii*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), mad-dog skullcap (*Scutellaria lateriflora*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*) also have their potential habitat in the *Southwest Zone*, although no known occurrences of these species exist in this zone. Similarly, heartscale (*Atriplex cordulata*) was found historically in the *Southwest Zone*, but has no current records identifying occupied habitat in the County. These species would be protected in the same manner as the other four plant species known to occur in the *Southwest Zone* should they be discovered over the life of the Plan.

In addition, ensuring that no disturbance will occur to the most narrowly distributed of these species, the SJMSCP Permits prohibit kill of individuals and conversion of occupied habitat for the large-flowered fiddleneck, diamond-petaled California poppy, showy madia and Hospital canyon larkspur unless special findings have been made upon consultation with the Permitting Agencies in accordance with the criteria established in Section 5.5.2.1. Special provisions for pre-construction surveys to ensure identification of these species are included in Section 5.2.2.5(B).

! ***Primary Zone of the Delta.*** SJMSCP Covered Plant Species located in the *Primary Zone of the Delta* are well-documented due to extensive surveys undertaken in this zone by state and federal agencies often associated with the management of water resources in the Sacramento/San Joaquin Delta. In addition, the Delta Protection Act places strict limits on urban development and other SJMSCP Permitted Activities within the *Primary Zone of the Delta*. Therefore, SJMSCP Covered Plant Species in the *Primary Zone of the Delta* are both highly protected by state legislation and are easily located due to extensive study of this region and, as with the *Southwest Zone*, the likelihood of protecting SJMSCP Covered Plant Species within Preserves established for the California black rail and Valley elderberry longhorn beetle is much higher than the likelihood that SJMSCP Covered Plant species in the *Primary Zone of the Delta* will be subject to Incidental Take pursuant to the SJMSCP.

The following plants occur almost exclusively in the *Primary Zone of the Delta*: Suisun marsh aster (*Aster lentus*), California hibiscus (*Hibiscus lasiocarpus*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella subulata*) and Sanford's arrowhead (*Sagittaria sanfordii*).

As previously noted, to ensure that no disturbance will occur to narrowly distributed species, the SJMSCP Permits prohibit kill of individuals and conversion of occupied habitat for Sanford's arrowhead unless special findings have been made upon consultation with the Permitting Agencies in accordance with the criteria established in Section 5.5.2.1. 5.5.2.1. Special provisions for pre-construction surveys to ensure identification of this species are included in Section 5.2.2.5(B).

! ***Vernal Pool Zone.*** The Conversion of up to 5,000 acres of vernal pool grasslands to orchards and vineyards, permitted pursuant to a pending U.S. Army Corps of Engineers Federal Clean Water Act Section 404 permit, or equivalent (as described in SJMSCP Section 5.6), is the primary activity anticipated to impact SJMSCP Covered Plant Species associated with vernal pools. This 5,000 acres of vernal pool grasslands contains approximately 707 acres of vernal pools (actual wetted surface area). Of the SJMSCP Covered Plant Species associated with vernal pools, only three are known to occur in San Joaquin County: succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), and legenere (*Legnere limosa*). The remaining plants have been proposed for coverage due to historical records of the species which are presumed extirpated within the County. The primary emphasis of the SJMSCP with respect to these presumed extirpated species is the potential reintroduction on an experimental basis as part of vernal pool creation efforts to be undertaken by the SJMSCP. These species are: Greene's tuctoria (*Tuctoria greenei*), Hoover's calycadenia (*Calycadenia hooveri*), bristly sedge (*Carex comosa*), and Red Bluff dwarf rush (*Juncus leiospermus*). In addition, due to their rarity, special protocols are required pursuant to Section 5.2.2.5(B) for conducting preconstruction surveys for Greene's tuctoria, legenere and the succulent owl's clover to protect against inadvertent take (i.e., kill of individuals or conversions of occupied habitat) of these species if these species are more widely distributed in the County than anticipated. Therefore, the SJMSCP includes special provisions for locating populations of the rarest of the vernal pool plant species and provides a potential for reintroducing populations for several extirpated vernal pool species in San Joaquin County.

As previously noted, to ensure that no disturbance will occur to narrowly distributed species, the SJMSCP Permits prohibit kill of individuals and conversion of occupied habitat for succulent owl's clover, Greene's tuctoria, and legenere unless special findings have been made upon consultation with the Permitting Agencies in accordance with the criteria established in Section 5.5.2.1.

! ***Central Zone.*** Most SJMSCP Permitted Activities will occur within the *Central Zone.* While the majority of the Central Zone is composed of cultivated lands (i.e., Agricultural rather than Natural Lands), some Natural Lands associated with riparian corridors exists in this zone. These riparian corridors are associated with two plant species: the slough thistle (*Cirsium crassicaule*), and the Delta button-celery (*Eryngium racemosum*). In addition, Sanford's arrowhead is known to occur in this zone.
As previously noted, to ensure that no disturbance will occur to narrowly distributed species,

the SJMSCP Permits prohibit kill of individuals and conversion of occupied habitat for Sanford's arrowhead, slough thistle and Delta button celery unless special findings have been made upon consultation with the Permitting Agencies in accordance with the criteria established in Section 5.5.2.1. 5.5.2.1. Special provisions for pre-construction surveys to ensure identification of this species are included in Section 5.2.2.5(B).

! All *SJMSCP Index Zones*. Based upon development proposals considered by local jurisdictions over the past 25 years, SJMSCP Planners conclude that new non-agricultural developments occurring on Natural Lands (the most likely location for SJMSCP Covered Plant Species) are almost always large developments which require long (i.e., often one year) review processes and preparation of environmental impact reports. Therefore, planners conclude, given the distribution of the SJMSCP Covered Plant Species and Natural Lands in San Joaquin County, approximately 95% of the SJMSCP Permitted Activities which will involve SJMSCP Covered Plant species will involve an environmental review process providing ample time (i.e., at least one year) to conduct both preconstruction surveys during optimal blooming seasons for SJMSCP Covered Plants and to implement appropriate mitigation measures (e.g., seed collections). The exception to this generalization is the Conversion of vernal pool grasslands to orchards and vineyards which is not subject to an environmental review process undertaken by local jurisdictions, but is normally subject to a Section 404 permit review process instead (thereby extending the project review period by a period of time similar to that of an environmental review and allowing for additional survey time).

! All *SJMSCP Index Zones*. In addition to SJMSCP restrictions against kill and Conversion of occupied habitat for ten of the SJMSCP's most narrowly distributed plant species (and, in fact true for all other non-plant SJMSCP Covered Species), two mechanisms are included in the SJMSCP to allow a reevaluation of the procedure for assessing impacts resulting from SJMSCP Permitted Activities (including impacts to SJMSCP Covered Plants) should development patterns within San Joaquin County shift from the patterns described above in paragraphs A-E change:

1. A requirement for permitting SJMSCP Covered Activities which are unmapped on the *SJMSCP Planned Land Use Map* as described in SJMSCP Section 3.4; and

2. A requirement for a Major Plan Amendment (Section 8.8.5) to change the urban boundaries as indicated on the *SJMSCP Planned Land Use Map* if that total changes to the boundaries exceed the 5,000 acre annexation allocation provided pursuant to Section 8.2.1(10).

Based on these factors, preconstruction surveys for SJMSCP Covered Plants within the various *SJMSCP Index Zones* shall

A. Be conducted pursuant to the protocols established in Section 5.2.2.5 (A-C) for large-flowered fiddleneck (*Amsinckia grandiflora*); succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) Greene's tuctoria (*Tuctoria greenei*), Delta button celery (*Eryngium racemosum*), Diamond-petaled California poppy (*Escholzia rhombipetala*), showy madia (*Madia radiata*), slough thistle (*Cirsium crassicaule*), legenere (*Legenere limosa*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), and Sanford's arrowhead

(*Sagittaria sandfordii*). No kill and no Conversion of occupied habitat for these species is permitted pursuant to the SJMSCP unless the findings of Section 5.5.2.1 are made with the concurrence of the Permitting agencies; or

B. Be undertaken for SJMSCP Covered Plants excluded from the preceding paragraph (A) during the discretionary project's application review process to provide ample opportunities to identify plants during the blooming seasons. The presence of SJMSCP Covered Plant Species can be determined on a project site well in advance of project construction, (with nearly no risk of a new SJMSCP Covered Plant Species moving in before construction), through reviewing the *SJMSCP GIS Database* and other current information sources and, when necessary, by conducting pre-construction surveys. Through this process, the JPA shall conduct pre-construction surveys during appropriate blooming seasons in areas of known SJMSCP Covered Plant Species occurrences or if the area's characteristics are likely to support SJMSCP Covered Plant Species.

C. If SJMSCP Covered Plant Species are identified and will not be fully avoided pursuant to provisions in Section 5.5.9, then seed collection may be undertaken by the JPA if the TAC recommends that such salvage has a high likelihood of resulting in a conservation benefit for the species and construction schedules permit, well in advance of project construction. Seed collection or other identified mitigation measures may occur immediately after or even before project approval with the consent of the landowner.

If SJMSCP Covered Species are identified by preconstruction surveys or are strongly suspected to be present based on the vegetation or habitat types present or if a Natural Land type is present, the JPA shall identify, in writing to the Plan Participant, the Incidental Take Minimization Measures applicable to the project and attach these as conditions of project approval per the procedure described in 5.2.1. All SJMSCP Covered Species identified by the JPA shall be recorded on both California Natural Diversity Database (CNDDB) and *SJMSCP GIS Database* forms, as needed.

When the JPA determines that an SJMSCP Covered Species does or may occur on a particular project site after completing the preceding process, the JPA will conduct a preconstruction survey prior to ground-disturbing activities to verify that the appropriate Incidental Take Minimization Measures have been implemented to protect individual SJMSCP Covered Species.

The following table shall be used to guide the timing of preconstruction surveys for SJMSCP Covered Plant Species when required as described in the preceding paragraphs. The blooming periods established in Table 5.2-1 represent the widest possible blooming season as compiled from: 1) *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California*, February, 1994; 2) *CEQA-Defined Or Endangered Plants Currently Known to Occur Along the Waterways of the Sacramento-San Joaquin Delta*, B. Baba, CDFG Region 2, 1994; and 3) *A California Flora and Supplement* by Philip A. Munz; University of California Press, 1973 combined edition. All survey periods may be modified pursuant to the provisions of 5.2.2.5(B)(ii) and 5.2.2.5(C) or, based on updated scientific information evaluated and approved by the JPA with the by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC.

TABLE 5.2-1
SURVEY WINDOWS FOR SJMSCP COVERED PLANT SPECIES

SJMSCP COVERED PLANT SPECIES	BLOOMING PERIOD/SURVEY PERIOD

Large flowered fiddle-neck (*Amsinckia grandiflora*)	April-May
Suisun Marsh Aster (*Aster lentus*)	Late May through November
Alkali milk-vetch (*Astragalus tener* var. *tener*)	March - June
Heartscale (*Atriplex cordulata*)	May - October
Brittlescale (*Atriplex depressa*)	May - October
Hoover's calycadenia (*Calycadenia hooverii*)	July - September
Bristly sedge (*Carex comosa*)	May - September
Succulent owl's clover (*Castilleja campestris* ssp. *succulenta* fmr. *Orthocarpus succulentus*)	April - May
Slough thistle (*Cirisium crassicaule*)	May - August
Mt. Hamilton coreopsis (*Coreopsis hamiltonii*)	March - May
Hospital canyon larkspur (*Delphinium californicum* ssp. *interius*)	April - June
Recurved larkspur (*Delphinium recurvatum*)	March - May
Delta button celery/Delta coyote thistle (*Eryngium racemosum*)	June - October
Diamond-petaled poppy/Diamond-petaled California Poppy (*Eschscholzia rhombipetala*)	March - June
Bogg's lake hedge hyssop (*Gratiola heterosepala*)	April - June
California hibiscus (*Hibiscus lasiocarpus*)	August-September
Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)	March - May
Delta tule pea (*Lathyrus jeponsii* var. *jepsonii*)	May - September
Legenere (*Legenere limosa*)	May - June
Mason's lilaeopsis (*Lilaeopsis masonii*)	April - October
Delta mudwort (*Limosella subulata*)	May - August
Showy madia (*Madia radiata*)	March - May
Sanford's arrowhead (*Sagittaria sanfordii*)	May - October
Mad-dog skullcap (*Scutellaria lateriflora*)	May - September
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	May - September
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	March - April
Greene's tuctoria (*Tuctoria greenei*)	May - July

5.2.2.5 Preconstruction Survey Methodologies

A. Preconstruction survey methodologies, for preconstruction surveys undertaken in compliance with Section 5.2.2.1(A, Band D) and 5.2.2.2 through 5.2.2.4, and addressing all SJMSCP Covered Species, except as provided in paragraph B, below, shall be of sufficient scope, duration, and

intensity to determine the need (or lack of a need) for attaching Incidental Take Minimization Measures as conditions of project approval, obtain a gross determination of habitats present on the site, any species-specific information as may be readily obtained, and the relation of the site to surrounding land uses. Specific methodologies shall be formulated by the JPA with the concurrence of the Permitting Agencies' representatives on the JPA's Technical Advisory Committee (TAC) within one year of issuance of the SJMSCP's associated state and federal permits. Methodologies shall be consistent with the SJMSCP's budget for conducting preconstruction surveys. While qualified biologists shall routinely perform preconstruction surveys, methodologies should avoid approaches which may actually harm or harass individual species thereby requiring time-consuming acquisitions of Section 10(a)(1)(A) permits for those conducting surveys except as otherwise required in 5.2.2.5(F) for the riparian brush rabbit. Methodologies developed will include provisions for assuming the presence of certain SJMSCP Covered Species under circumstances where timing of preconstruction surveys to coincide with the presence of the SJMSCP Covered Species may be prohibitively expensive or result in project delays except as otherwise provided in 5.2.2.5 (B-G) for full avoidance species (large flowered fiddleneck, succulent owl's clover, Greene's tuctoria, Delta button celery, diamond petaled poppy, showy madia, slough thistle, legenere, Hospital Canyon larkspur, Sanford's arrowhead, riparian brush rabbit, riparian woodrat, longhorn fairy shrimp, Conservancy fairy shrimp).

To ensure consistency over time, development of survey methodologies by the JPA and TAC as specified above shall include development of a standardized form to be used in conducting pre-construction surveys. While specific information to be collected is not designated by the Plan, the following data types are recommended:

1. Size of the project site;

2. Site configuration;

3. Adjacent land uses;

4. Habitat types present and acreages of each;

5. Presence of Covered Species on the site as determined by the SJMSCP GIS Database and preconstruction surveys;

6. Overall habitat quality;

7. Presence of exotic, non-native, or invasive vegetation;

8. Presence of roads and other disturbances on or adjacent to the project site;

9. Presence and distance to the nearest permanent Open Space;

10. Presence of any pest or predatory animals on the site; and

11. Any special habitat features on the site (e.g., wetlands, nest trees, dens or burrows, intermittent or perennial streams, unique plants etc.). The JPA and/or the relevant participating jurisdiction shall be informed of any Incidental Take Minimization needs identified, and such requirements shall be made a part of any development permits issued by

that jurisdiction, as appropriate (see Section 5.2.1).

B. Preconstruction surveys for the large-flowered fiddleneck (*Amsinckia grandiflora*); succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) Greene's tuctoria (*Tuctoria greenei*), Delta button celery (*Eryngium racemosum*), Diamond-petaled California poppy (*Escholzia rhombipetala*), showy madia (*Madia radiata*), slough thistle (*Cirsium crassicaule*), legenere (*Legenere limosa*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), and Sanford's arrowhead (*Sagittaria sandfordii*) conducted pursuant to Section 5.2.2.1(D) shall, in addition to the requirements in paragraph A,:

i. Be conducted in coordination with a site visit to one of the local reference populations of the species, if available (i.e., permission is required for entry onto private lands), to assess the appearance of the species, its preferred habitat, and if the population is blooming in the vicinity during preconstruction surveys. As of the Effective Date of the SJMSCP, reference sites exist in San Joaquin County for large-flowered fiddleneck (public and private land), diamond-petaled poppy (public land) and succulent owl's clover (public land), legenere and Sanford's arrowhead. No known reference sites exist for Greene's tuctoria, Delta button celery, showy madia, slough thistle or Hospital Canyon larkspur in San Joaquin County as of the Effective Date of the SJMSCP. In the absence of reference sites, the JPA may rely upon species information provided orally either: 1) by species experts consulted from the TAC or, in the absence of such experts, species experts contacted outside of the TAC; or 2) By reports received from area biologists regarding the activities (i.e., blooming periods) of the nearest known locations of Greene's tuctoria, Delta button celery, showy madia, slough thistle or Hospital Canyon larkspur located outside of San Joaquin County.

ii. Except as otherwise provided in this paragraph, surveys shall be conducted during the optimum blooming period for the species as indicated in Table 5.2-1. Up to three site visits will be undertaken to confirm that preconstruction surveys have been undertaken during the blooming period for this species. However, if preconstruction surveys are conducted at the same time as reference populations of this species are known to be blooming in the vicinity for populations inhabiting similar habitats with similar microclimates and the species is not found to be present on the proposed project site, then additional preconstruction survey visits are unnecessary. If approved by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC, the timing of preconstruction surveys may be modified (i.e., the length of survey windows may be reduced) on a case-by-case based upon the TAC's assessment of the season's weather patterns (which may have affected blooming cycles) and the likelihood of species occurrences on a particular site given the specifics of the site's topography, existing land uses, aspect, slope, presence of competing vegetation, soils or other related factors which may have modified the blooming cycle for the species;

iii. If found, the surveyors shall prepare a detailed map indicating the location of the species; describe and photograph (color prints with negatives or color slides) the surrounding habitat including photo reference points, if available; describe adjacent hydrological conditions which may be affecting the population, if applicable; describe the species phenology and microhabitat; record an estimate of the number of individuals of the species per unit area; identify areas of high, medium and low density of the species; provide an estimate the acres of occupied habitat; describe potential threats to the population; and prepare and submit a California Native Species Field Survey Form and submit the form(s) to the Natural Diversity Database.

C. For all SJMSCP Covered Plants, if approved by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC, the timing of preconstruction surveys for SJMSCP Covered Plants may be modified (i.e., the length of survey windows may be reduced) on a case-by-case based upon the TAC's assessment of the season's weather patterns (which may have affected blooming cycles) and the likelihood of species occurrences on a particular site given the specifics of the site's topography, existing land uses, aspect, slope, presence of competing vegetation, soils or other related factors which may have modified the blooming cycle for the species.

D. As required in Section 5.2.4.25, preconstruction surveys for the San Joaquin kit fox shall be conducted two calendar weeks to thirty calendar days prior to commencement of ground disturbance for projects located within the *Southwest Zone* or *Southwest/Central Transition Zone*. Surveys shall be conducted by qualified biologists. When surveys identify potential dens (potential dens are defined as burrows at least four inches in diameter which open up within two feet), potential den entrances shall be dusted for three calendar days to register track of any San Joaquin kit fox present.

E. Preconstruction surveys for the longhorn fairy shrimp and Conservancy fairy shrimp (potentially occurring within the *Southwest Zone*) shall be conducted in compliance with USFWS published survey protocols in effect at the time of the surveys.

F. Preconstruction surveys for the riparian brush rabbit shall be conducted in compliance with *Survey Methods for Riparian Brush Rabbits* (D.F. Williams, P.A. Kelly-San Joaquin Endangered Species Recovery Program) until and unless the USFWS publishes revised survey protocols. These preconstruction surveys require a special 10(a)(1)(A) permit for the individuals undertaking the surveys.

G. For all SJMSCP Covered Species, preconstruction surveys may be waived based upon a review by the TAC and concurrence by the Permitting Agencies if all potential suitable habitat for SJMSCP Covered Species will be fully avoided pursuant to Section 5.5.9.

H. For projects that impact vernal pool grasslands, preconstruction surveys shall collect information, as described in Section 5.9.4.12 that will be used to evaluate future adjustments of the vernal pool caps (e.g., total acreage of permitted Conversion permitted by the Take permits, annual limits on Conversion of vernal pool grasslands). Specifically, these surveys shall incorporate items from Section 5.9.4.12 (A)(1-6) in preconstruction survey protocols.

5.2.3 INCIDENTAL TAKE MINIMIZATION - OVERVIEW OF PROCESS

Section 10(a)(1)(B) of the Federal Endangered Species Act and Section 2081(b) of the California Endangered Species Act allows the Incidental Take of Covered Species only if Incidental Take Minimization Measures are adopted to minimize the impacts to Covered Species and impacts to Covered Species are mitigated. The following addresses Incidental Take Minimization Measures for all SJMSCP Covered Species. SJMSCP Section 5.5 describes additional measures which may be undertaken in lieu of SJMSCP compensation requirements and in addition to these Incidental Take Minimization Measures. These additional measures have an objective of entirely eliminating impacts of Take to SJMSCP Covered Species (i.e., “full avoidance”).

5.2.3.1 Incidental Take Minimization Strategy and Expectations for All SJMSCP Covered Species

The success of the SJMSCP in minimizing impacts to SJMSCP Covered Species, through the implementation

APPENDIX C

Energy Consumption Analysis for the City of Manteca Central Trunk Sewer Project, ECORP Consulting, Inc. 2025.

Central Trunk Sewer Project
2025-144

Energy Consumption Analysis
Construction Off-Road Fuel Consumption

Phase Name	Off-Road Equipment	Quantity	Usage (hrs)	Horsepower (hp)	Load Factor	Fuel Consumption Rate (gallon/hr)[1]	Total Hours	Number of Days	Total Fuel Consumption (gallon)
Demolition	Concrete/Industrial Saws	1	8	33	0.73	1.39	8	20	222.4
Demolition	Rubber Tired Dozers	1	1	367	0.4	7.62	1	20	152.4
Demolition	Tractors/Loaders/Backhoes	2	8	84	0.37	1.79	16	20	573.9
Site Preparation	Graders	1	8	148	0.41	3.15	8	20	503.9
Site Preparation	Tractors/Loaders/Backhoes	1	8	84	0.37	1.79	8	20	286.9
Pipe Installation	Cranes	1	4	367	0.29	5.52	4	100	2,209.5
Pipe Installation	Forklifts	2	6	82	0.2	0.95	12	100	1,135.5
Pipe Installation	Tractors/Loaders/Backhoes	2	8	84	0.37	1.79	16	100	2,869.3
Pipe Installation	Generator Sets	1	8	14	0.74	0.60	8	100	478.2
Pipe Installation	Welders	3	8	46	0.45	1.19	24	100	2,866.5
Paving	Cement and Morter Mixers	4	6	10	0.56	0.32	24	20	155.1
Paving	Pavers	1	7	81	0.42	1.96	7	20	274.8
Paving	Rollers	1	7	36	0.38	0.79	7	20	110.5
Paving	Tractors/Loaders/Backhoes	1	7	84	0.37	1.79	7	20	251.1
Total Construction Off-Road Fuel (Diesel) Consumption (gallon)									***12,090***

Notes:

1. Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor

Fuel Consumption Factor: Brake Specific Fuel Capacity is converted from diesel lb/hp-hr to diesel gallon/hp-hr

Environmental Protection Agency, 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2*

Source: Refer to CalEEMod outputs for assumptions used in this analysis as well as equipment usage.

Pepper Development Project
2024-179.01

Energy Consumption Analysis
Construction On-Road Fuel Consumption

Worker Trips						
Phase Name	**Phase Length**	**# of Trips**	**Worker Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)**	**Total Fuel Consumption (gallon)**
Demolition	20.0	10.0	11.9	2,380.0	**21.16993544**	*112.4*
Site Preparation	20.0	5.0	11.9	1,190.0		*56.2*
Pipe Installation	100.0	0.0	0.0	0.0		*0.0*
Paving	20.0	17.5	11.9	4,165.0		*196.7*
						0.0
					Worker Trips Total (Gasoline)	*365*

Vendor Trips						
Phase	**Phase Length**	**# of Trips**	**Vendor Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)**	**Total Fuel Consumption (gallon)**
Demolition	20	0	0	0	**7.088330736**	*0.0*
Site Preparation	20	0	0	0		*0.0*
Pipe Installation	100	0	0	0		*0.0*
Paving	20	0	0	0		*0.0*
						0.0
					Vendor Trips Total (Diesel)	*0*

Hauling Trips						
Phase	**Phase Length**	**# of Trips**	**Hauling Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)**	**Total Fuel Consumption (gallon)**
Demolition	20	11	20	4320	**7.088330736**	*30,621.6*
Site Preparation	20	6	20	2460		*17,437.3*
Pipe Installation	100	0	0	0		*0.0*
Paving	20	0	0	0		*0.0*
						0.0
					Hauling Trips Total (Diesel)	*48,059*
					Construction On-Road Diesel Consumption	***48,059***
					Construction Off-Road Diesel Consumption	***12,090***

Total Construction Gasoline Consumption (gallon)	**Total Construction Diesel Consumption (gallon)**
365	60,149
Countywide Gasoline Consumption (2024)	**Countywide Diesel Consumption (2024)**
226,846,428	145,732,975
Percentage Increase Countywide	
Gasoline Consumption[1]	**Diesel Consumption[1,2]**
0.0002%	0.0413%

Notes:

1. Countywide fuel consumption rates, on-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB's EMFAC2025 (v2.0.0).
2. Countywide off-road fuel consumption is from CARB's OFFROAD2021 (v1.1.1) Emissions Inventory.

Source: Refer to CalEEMod outputs for assumptions used in this analysis.

APPENDIX D

Noise Analysis for the City of Manteca Central Trunk Sewer Project,
ECORP Consulting, Inc. 2025

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/14/2025
Case Description: Manteca Central Truck

Description	**Affected Land Use**
Demolition	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Saw	No	20		89.6	965	0
Dozer	No	40		81.7	965	0
Tractor	No	40	84		965	0
Tractor	No	40	84		965	0

Results

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		63.9	56.9
Dozer		56	52
Tractor		58.3	54.3
Tractor		58.3	54.3
	Total	63.9	**60.7**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/14/2025
Case Description: Manteca Central Trunk

Description	**Affected Land Use**
Site Preparation	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Grader	No	40	85		965	0
Tractor	No	40	84		965	0

Results

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Grader	59.3	55.3
Tractor	58.3	54.3
Total	59.3	**57.8**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/14/2025
Case Description: Manteca Central Trunk

Description	**Affected Land Use**
Pipe Installation	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Crane	No	16		80.6	965	0
Front End Loader	No	40		79.1	965	0
Front End Loader	No	40		79.1	965	0
Tractor	No	40	84		965	0
Tractor	No	40	84		965	0
Generator	No	50		80.6	965	0
Welder / Torch	No	40		74	965	0
Welder / Torch	No	40		74	965	0
Welder / Torch	No	40		74	965	0

Results

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Crane	54.8	46.9
Front End Loader	53.4	49.4
Front End Loader	53.4	49.4
Tractor	58.3	54.3
Tractor	58.3	54.3
Generator	54.9	51.9
Welder / Torch	48.3	44.3
Welder / Torch	48.3	44.3
Welder / Torch	48.3	44.3
Total	58.3	**60**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/14/2025
Case Description: Manteca Central Trunk

Description	**Affected Land Use**
Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Mixer Truck	No	40		78.8	965	0
Concrete Mixer Truck	No	40		78.8	965	0
Concrete Mixer Truck	No	40		78.8	965	0
Concrete Mixer Truck	No	40		78.8	965	0
Paver	No	50		77.2	965	0
Roller	No	20		80	965	0
Tractor	No	40	84		965	0

Results

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Mixer Truck		53.1	49.1
Concrete Mixer Truck		53.1	49.1
Concrete Mixer Truck		53.1	49.1
Concrete Mixer Truck		53.1	49.1
Paver		51.5	48.5
Roller		54.3	47.3
Tractor		58.3	54.3
	Total	58.3	**58.6**

*Calculated Lmax is the Loudest value.