

County of San Mateo

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

Initial Study/Mitigated Negative Declaration

Prepared for:

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Acronyms and Abbreviations

§	symbol
°F	degrees Fahrenheit
A	
AB	Assembly Bill
ATCM	airborne toxic control measure
B	
BAAQMD	Bay Area Air Quality Management District
Basin Plan	Water Quality Control Plan
BERD	Built Environment Resource Directory
bgs	below ground surface
BMP	best management practice
C	
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emission Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDMG	California Department of Conservation, Division of Mines and Geology
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
County	County of San Mateo Department of Public Works
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CY	cubic yard

D

dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DIA	diameter
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control

E

EIA	U.S. Energy Information Administration
ESA	Endangered Species Act

F

FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
FT	feet
FTA	Federal Transit Administration

G

GHG	greenhouse gas
GIS	geographic information system
GWP	global warming potential

H

HAP	hazardous air pollutant
HCP	habitat conservation plan
Hz	Hertz

I

In	inches
in/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration

K

L

Lxx	percentile-exceeded sound level
lb/day	pounds per day
LCP	Local Coastal Program
Ldn	Day-night sound level
Leq	equivalent sound level
Lmax	maximum sound level
Lmin	minimum sound level

LRA	local responsibility area
LSAA	Lake and Streambed Alteration Agreement

M

MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant

N

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NHTSA	National Highway Transportation Safety Administration
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center

O

O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Administration

P

PAD/CD	Planned Agriculture District/Coastal Development District
PM	particulate matter
PM2.5	particulate matter with aerodynamic radius of 2.5 micrometers or less
PM10	particulate matter with aerodynamic radius of 10 micrometers or less
ppm	parts per million
PPV	peak particle velocity
Project, Proposed Project	Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project
Pub. Res. Code	Public Resources Code

R

RCRA	Resource Conservation and Recovery Act
RMP	Routine Maintenance Program
Road Inventory	Pescadero-Butano Watershed County Road Inventory and Sediment Assessment
ROG	reactive organic gases
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board

S

SB	Senate Bill
sf	square feet
SFBAAB	San Francisco Bay Area Air Basin
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TAC	toxic air contaminant
TCP	traditional cultural property
TCR	tribal cultural resource
TMDL	total maximum daily load; Total Maximum Daily Load for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed
tpy	tons per year

U

UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. FISH AND WILDLIFE SERVICE

V

VdB	vibration velocity in decibels
V:H	vertical to horizontal ratio
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled

W

WDRs	waste discharge requirements
WQC	water quality certification

Y

YMCA	Young Men’s Christian Association

Chapter 1
INTRODUCTION

The County of San Mateo Department of Public Works (County) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Project or Proposed Project). The Proposed Project and its location are described in depth in Chapter 2, *Project Description*. This document was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000 *et seq.*).

1.1 Intent and Scope of this Document

This IS/MND has been prepared in accordance with CEQA, under which the potential environmental effects of the Proposed Project are evaluated at the project level of analysis (CEQA Guidelines Section 15378). The County, as the lead agency under CEQA, will consider the Proposed Project's potential environmental impacts when considering whether to approve the Project. The IS/MND does not recommend approval or denial of the Proposed Project but provides decision-makers and the public with information on which to base an informed decision.

The site plans for the Proposed Project used to support the analysis in this IS/MND are at the 65 percent level of design. The County anticipates that the final design for the Proposed Project would include some modifications to these plans, and the environmental analysis has been developed with conservative assumptions regarding potential project impacts to accommodate some level of modification.

This IS/MND describes the Proposed Project; its environmental setting, including existing conditions and regulatory setting, as necessary, and the potential environmental impacts of the Proposed Project on, or with regard to, the following topics:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

1.2 Public Involvement Process

Public disclosure and dialogue are priorities under CEQA. CEQA Guidelines Sections 15073 and 15105(b) require that the lead agency designate a period during the IS/MND process when the public and other agencies can provide comments on the potential impacts of the Proposed Project. Accordingly, the County is now circulating this document for a 30-day public and agency review period. The electronic version of this document is available online at:

https://www.smcgov.org/publicworks/wurr-roadpescadero-creek-roadcloverdale-road-culverts-repair-project

To provide input on this project, please send comments to the following contact:

County of San Mateo Department of Public Works
Attn: Julie Casagrande, Natural Resource Manager
555 County Center, 5th Floor
Redwood City, CA 94063
Phone: 650-599-1457
Email: jcasagrande@smcgov.org

During its deliberations on whether to approve the Proposed Project, the County will consider all comments received before 5:00 p.m. on the date identified in the Notice of Intent for closure of the public comment period.

1.3 Organization of this Document

This IS/MND contains the following components:

Chapter 1, *Introduction*, provides a brief description of the intent and scope of this IS/MND, the public involvement process under CEQA, and the organization of and terminology used in this IS/MND.

Chapter 2, *Project Description*, describes the Proposed Project including its purpose and objectives, the site where the Proposed Project would be constructed, the construction approach and activities, operation-related activities, and related permits and approvals.

Chapter 3, *Environmental Checklist*, presents the checklist used to assess the Proposed Project's potential environmental effects, which is based on the model provided in Appendix G of the CEQA Guidelines. This chapter also includes a brief environmental setting description for each resource topic and identifies the Proposed Project's anticipated environmental impacts, as well as any mitigation measures that would be required to reduce potentially significant impacts to a less-than-significant level.

Chapter 4, *Determination*. This chapter contains a determination on the Proposed Project based on conclusions and recommendations of the environmental evaluation.

Chapter 5, *Report Preparation*. This chapter provides a list of persons involved in preparing this IS/MND.

Chapter 6, *References*. This chapter provides a bibliography of printed references, web sites, and personal communications used in preparing this IS/MND.

Appendix A Regional and Local Laws, Regulations, and Policies

Appendix B Air Quality, Energy, and GHG Emissions Calculations

Appendix C Special-status Species Known to Occur in the Project Area

Appendix D Cultural Resources Assessment Report

Appendix E Biological Conditions Report

Appendix F Aquatic Resources Delineation Report

Appendix G Noise Calculations

Appendix H Mitigation Monitoring and Reporting Plan

1.4 Impact Terminology

This IS/MND uses the following terminology to describe the environmental effects of the Proposed Project:

- A finding of *no impact* is made when the analysis concludes that the Proposed Project would not affect a particular environmental resource or issue.
- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed.
- An impact is considered *significant* if it would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by using specific significance criteria as the basis of evaluation. Mitigation measures are identified to reduce otherwise significant impacts to a less-than-significant level.

This IS/MND identifies particular mitigation measures that are intended to lessen Proposed Project impacts. CEQA Guidelines Section 15370 defines mitigation as:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;

- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time of preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.

Chapter 2
PROJECT DESCRIPTION

2.1 Introduction and Project Location

The County of San Mateo Department of Public Works (County) is proposing a series of actions to repair culverts and construct site improvements to improve water quality and maintain proper roadway drainage conveyance along Wurr Road, Pescadero Creek Road, and Cloverdale Road near the communities of Pescadero and Loma Mar in unincorporated San Mateo County, California (**Figure 2-1**). The Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) includes installation of three new culverts, replacement of two culverts, upsizing five culverts, the addition of trash/debris racks at one location, and additional improvements such as new headwalls, rock inlet protection, and rock outfall energy dissipation. Additionally, the Project would remove sediment and enhance habitat at one location on Little Butano Creek at Cloverdale Road. The anticipated work at Cloverdale Road would include channel restoration, including the removal of accumulated sediments and obstructive vegetation as well as demolition of existing concrete weir structures adjacent to the double box crossing to provide unimpeded fish passage (**Figure 2-2**).

The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Road Inventory) (Waterways 2022) and the Project would help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load (TMDL) for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (California Regional Water Quality Control Board, San Francisco Bay Region 2018). As part of the Road Inventory and design of this Project, a conditions assessment of the existing roadway drainage infrastructure and a hydrologic conditions study include recommendations for improvements at each proposed site to address drainage infrastructure deficiencies, provide adequate conveyance capacity commensurate with the site hydrology, and to reduce the potential for future erosion.

2.2 Project Purpose

The Project's objectives include:

- **Maintaining and improving local flood protection**. The Project addresses deteriorated culvert conditions and ensures facilities are functioning by replacing deteriorated and/or undersized culverts with larger, adequately sized culverts to better convey storm flows; relocating or realigning culvert inlets/outlets to improve hydraulic function; and constructing new ditch relief culverts where existing infrastructure is inadequate to convey high flows.

- **Improving water quality**. The Project improves water quality by repairing failing culverts and stabilizing eroding outfall areas in a timely manner to prevent larger-scale failures, avoid emergencies, and minimize sedimentation to downstream waterbodies (including TMDL 303(d) listed impaired waterbodies, i.e., Pescadero Creek and Butano Creek).

- **Restoring anadromous fish passage**. The Project involves removal of two concrete weir structures on Little Butano Creek at the Cloverdale Road crossing that are likely partial barriers to upstream migration for federally endangered coho salmon (*Oncorhynchus kisutch*) and threatened steelhead (*Oncorhynchus mykiss*).

- **Enhancing aquatic habitat**. The Project removes the existing upstream concrete apron, weir structures, and sacked concrete bank protection at the Cloverdale Road culvert and restores riparian habitat within the Project footprint thereby improving aquatic habitat conditions for salmonids and other wildlife species such as the federally endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and threatened California red-legged frog (*Rana draytonii*).

Note that the fish passage improvements at Site 190 are directly related to other downstream fish passage projects currently (Summer 2025) being implemented by the San Mateo Resource Conservation District. The Little Butano Creek Fish Passage and Habitat Enhancement Project started construction in Summer 2025 to remove the bedrock chute, which will allow upstream movement of steelhead and Coho salmon in Little Butano Creek to Cloverdale Road site. It is anticipated that removal of existing barriers to fish passage by the Little Butano Creek Fish Passage and Habitat Enhancement Project would be completed prior to the planned start of the Project.

2.3 Project Components

The Project sites and proposed improvements at each site are shown below in **Table 2-1**. The Proposed Project facilities were assessed as part of the Road Inventory in accordance with the Total Maximum Daily Load for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed.

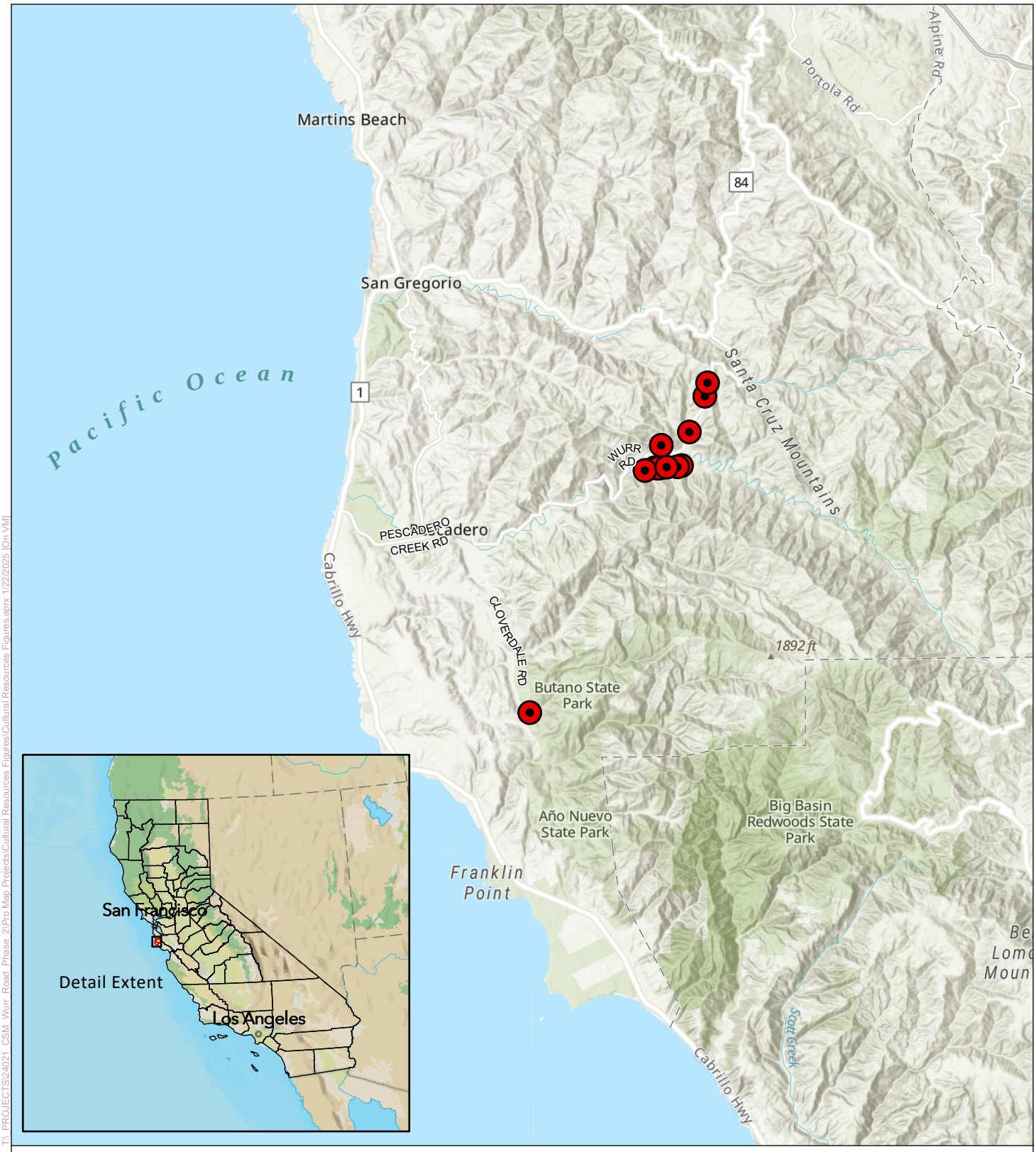


Figure 2-1
Project Vicinity

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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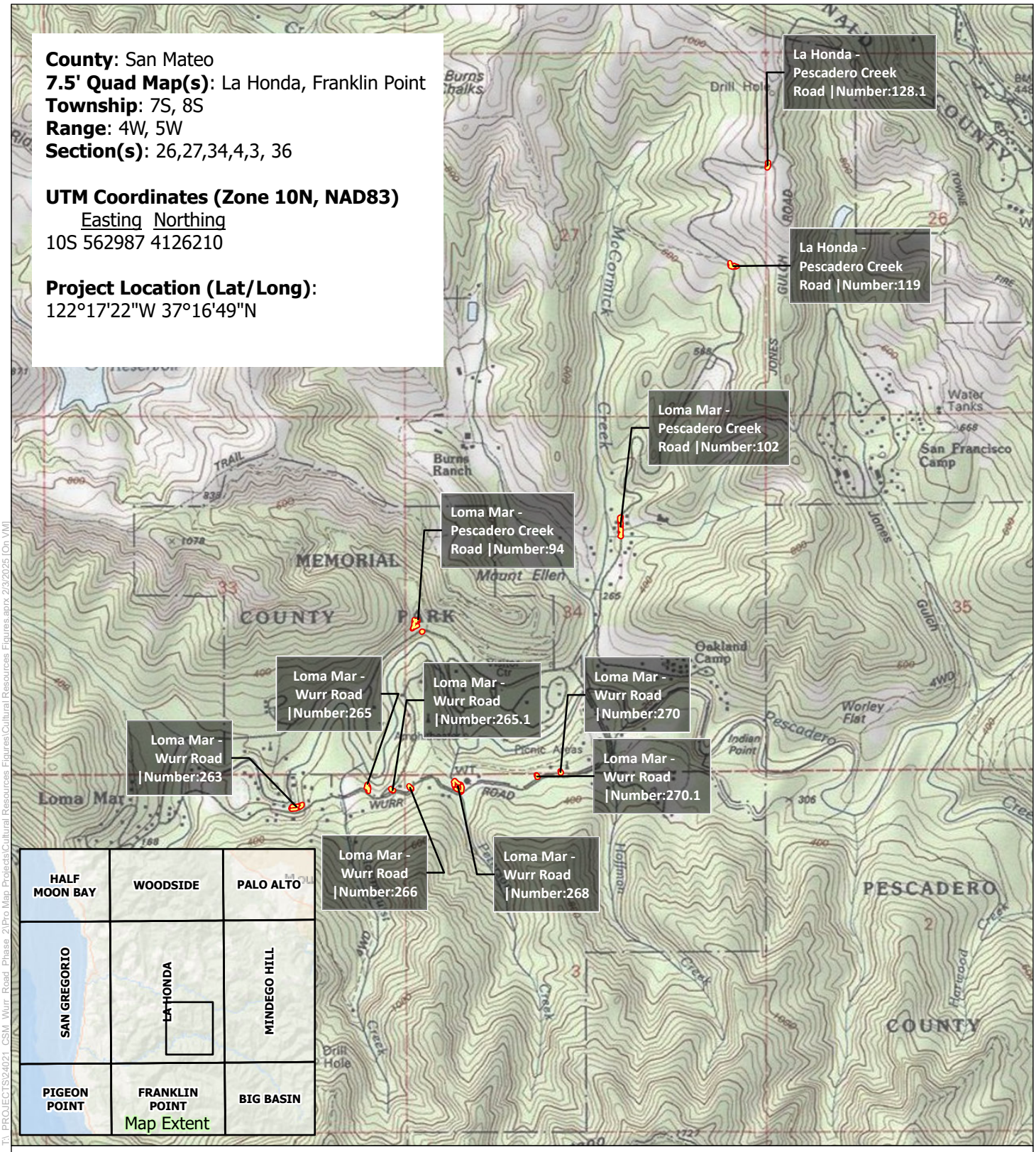


Figure 2-2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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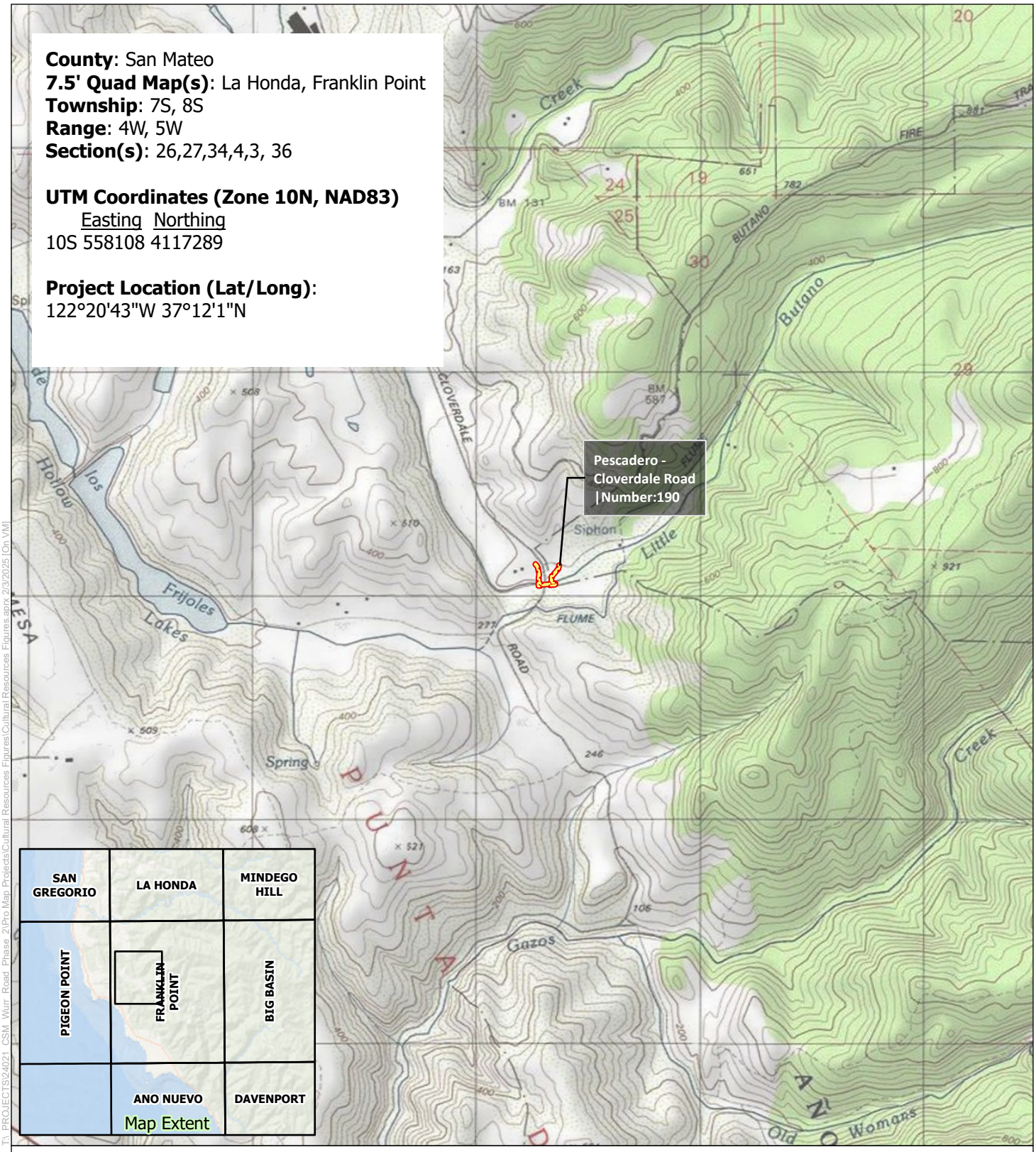


Figure 2-2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Table 2-1. Culvert Maintenance Locations

Site ID/ TMDL No.	Road	Resource Agency Jurisdictions	Existing Culvert Diameter (inches)	Proposed Site Improvements
Pescadero Creek Road Locations				
94	Pescadero Creek Road	CDFW, RWQCB, USACE	28	Install new debris reflector (trash rack); add new rock energy dissipator at outfall.
102	Pescadero Creek Road	CDFW, RWQCB, USACE	24	Demolish existing culverts and junction box and slurry fill trench; install/upsize replacement culvert in new alignment [24 inches (in) to 38 in high, by 57 in wide arch culvert); new headwall and rock inlet protection; new rock energy dissipator at outfall; install/upsize replacement roadside ditch culvert with new inlet catch basin near inlet of new culvert alignment [12 in to 18 in diameter (DIA)]; install new 15 in DIA roadside culvert with asphalt inlet apron.
119	Pescadero Creek Road	CDFW, RWQCB, USACE	36	Demolish existing culvert; install/upsize replacement culvert with new outfall alignment (36 in to 42 in); replace existing concrete headwall and add new rock inlet protection; new flume down drain with inlet apron from roadside ditch to culvert outlet; new rock energy dissipator at outfall; regrade inlet to conform to existing flow line; and regrade downstream roadside embankment.
128.1	Pescadero Creek Road	N/A	New	New 18 in DIA culvert, headwall at inlet, rock inlet and outlet protection.

Site ID/ TMDL No.	Road	Resource Agency Jurisdictions	Existing Culvert Diameter (inches)	Proposed Site Improvements
Wurr Road Locations				
263	Wurr Road MP 0.6A	CDFW, RWQCB, USACE	78	Replace 78 in DIA culvert; extend pipe length at inlet 12 feet (ft) and outlet 25 ft; reconstruct unstable embankment slopes; new rock inlet and outlet protection; install new 18 in pipe with headwall from roadside ditch to culvert inlet; relocation of one (1) existing log at inlet and approximately four (4) at outlet; revegetate embankment with native tree species and plants.
265	Wurr Road MP 0.7	CDFW, RWQCB, USACE	12	Demolish existing culvert; install/upsize replacement culvert with new outfall alignment (12 in to 30 in DIA); new headwall and rock inlet protection; extend outfall location 25 ft; new rock outfall energy dissipator; grade outfall swale to conform to existing flow line; demolish existing roadside ditch culvert.
265.1	Wurr Road MP 0.7	N/A	New	New 18 in DIA culvert; new headwall and inlet rock protection; and new rock energy dissipator at outfall.
266	Wurr Road MP 0.8	CDFW, RWQCB, USACE	16	Demolish existing culvert; install/upsize replacement culvert in new alignment (16 in to 30 in DIA); new headwall and rock inlet protection; and new rock energy dissipator at outfall.
268	Wurr Road MP 1.0	CDFW, RWQCB, USACE	84	Replace 84 in DIA culvert; extend pipe length at inlet 18 ft and outlet 21 ft; reconstruct unstable embankment slopes; remove existing concrete headwall; new rock inlet and outlet protection; install new 18 in slope down drain with rock lined ditch and concrete headwall from roadside to culvert inlet, install new 18 in slope down drain with concrete headwall from roadside to culvert outlet; relocate existing logs at inlet; revegetate embankment with native tree species and plants.

Site ID/ TMDL No.	Road	Resource Agency Jurisdictions	Existing Culvert Diameter (inches)	Proposed Site Improvements
270	Wurr Road MP 1.2	N/A	12	Demolish existing culvert; install/upsize replacement culvert with new outfall alignment (12 in to 24 in DIA); extend the culvert length by 10 ft; new headwall and rock inlet protection; and new rock energy dissipator at outfall.
270.1	Wurr Road MP 1.2	N/A	New	New 24 in DIA culvert; new headwall and rock inlet protection; new rock energy dissipator at outfall.
Cloverdale Road				
190	Cloverdale Road	CDFW, RWQCB, NMFS, USACE	8’ x 7’ double box	Remove upstream concrete apron, two (2) weir structures, and sacked concrete banks; reduce streambed slope using engineered streambed material (ESM); stabilize upstream and downstream banks with vegetated rock slope protection; remove accumulated sediment from culvert interior and the downstream concrete apron; install slope protection fabric; revegetate riparian corridor with native tree species and plants.

Notes: DIA = diameter; ESM = engineered streambed material; MP = milepost; TMDL = total maximum daily load; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; NMFS = National Marine Fisheries Service; USACE = U.S. Army Corps of Engineers.

2.3.1 Site Treatment Description

Culvert Replacement

Culverts would be replaced and upsized where they have been deemed damaged, deteriorated, and/or undersized. Culvert sizing determinations are based on hydraulic model results and hydrological conditions at each specific location. Culverts would be replaced in-kind where the existing pipe diameter adequately conveys stormflows. Additionally, new culverts would be installed at two (2) locations along Wurr Road and one (1) location along Pescadero Creek Road to provide roadway ditch drainage relief from larger flows that may result in roadway flooding. These new culverts would be ditch relief type culverts primarily conveying stormwater runoff from the roadway and adjacent upland areas and discharging to vegetated downslope areas.

Heavy equipment would be used to excavate a trench, remove the existing culvert pipe, and install the new culvert pipe. The roadway would be restored to previous conditions.

Pipe material would be selected by considering specific physical and hydrological conditions, site constraints, and fire risk. Recommended standard pipe materials and wall thickness for culvert replacement are based on California Department of Transportation (Caltrans) highway design standards and material suitability requirements.

Culvert inlets may be fitted with a trash or debris rack if located in area with significant debris flow and as hydraulic capacity allows. Trash racks help prevent large material from entering the pipe interior that may damage the pipe and/or reduce its conveyance capacity.

Bridges were considered to replace culverts are certain sites; however, after reviewing preliminary cost estimates for bridges, they were determined to be cost prohibitive. In addition, bridges at these locations are not imperative, as culverts are satisfactory for completing the work.

Rock Inlet Protection and Outfall Energy Dissipation

Where needed, rock inlet protection would be installed at culvert inlet areas to provide additional scour protection as flow transitions from open earthen channels to concrete headwalls and culverts openings. Rock would be keyed into the channel at appropriate depths based on appropriately sized rock required per the channel dimensions and hydraulic force. Similarly, rock outfall energy dissipation would be installed at culvert outfall areas to dissipate energy from discharged water and as protection against downstream erosion and pipe undermining. Rock inlet protection and rock outfall energy dissipation would be composed of large, angular, loose rock generally separated from underlying soils with a gravel filtration layer or other permeable layer. Rock inlet protection and rock outfall energy dissipation would typically be installed at slope angle up to 1.5 vertical to 1 horizontal (1.5V:1H).

Headwall

A headwall is a concrete structure installed at the inlet or outlet of a culvert. A headwall serves various purposes; it prevents erosion by providing a hard artificial platform within a high-velocity area; prevents roadway embankment seepage along a culvert by creating a barrier; prevents slope instability by providing a stable barrier to retain embankment fill; and prevents buoyancy failure by anchoring the culvert. Headwalls may also include concrete short wingwalls, aprons, or rock inlet protection that help direct flow into a culvert pipe and protect the channel banks from scouring on the culvert inlet and/or outlet.

Headwalls would be installed at sites where rock slope protection is not feasible due to channel slopes exceeding 1.5V:1H or where the roadway and/or right-of-way constrict the available footprint area to an insufficient width to install rock slope protection. Precast headwall structures would be installed over cast-in-place structures whenever possible.

Junction Box/Catch Basin

A junction box is a concrete structure that connects two or more culverts to combine flow and/or provide maintenance access. A catch basin is a type of junction box with the bottom lower than the connecting culvert to reduce incoming flow velocity and provide storage for debris settlement. A catch basin constructed at the inlet or upstream end of a culvert prevents debris from settling in the culvert and improves culvert conveyance. Debris accumulates at the bottom of the drop structure instead of settling within the culvert.

In-channel Concrete and Sediment Removal

The existing upstream concrete apron, sacked concrete banks, and two concrete weir structures at the Cloverdale Road site (TMDL 190) would be removed. Accumulated sediment and obstructive vegetation that is significantly reducing the culvert conveyance capacity would be removed. Sediment may also be removed from existing culverts interiors and inlet areas where the sediment is significantly impacting flow conveyance.

Rock Slope Protection (RSP)

Vegetated rock slope protection is proposed at Site 190 where steep bank slopes require additional embankment strength, typically installed at slope angle up to 1.5 vertical to 1 horizontal (1.5V:1H), as a means to provide a stable lining to resist erosion resulting from overland sheet erosion and high-velocity flood water and debris flowing through the channel.

Vegetated rock slope protection would be placed along the streambanks upstream and downstream of the Cloverdale Road box culvert. This vegetated rock slope protection replaces existing sacked concrete banks thereby providing the necessary bank stability as the channel approaches the box while also providing ecological uplift as compared to existing conditions.

Vegetated RSP is proposed to provide a stable lining to resist erosion resulting from high-velocity flood water and debris flowing through the channel while also enhancing habitat. Softer

methods such as vegetated soil lifts are not sufficient to withstand high flow and velocity and would increase the risk of future structural and functionality issues, including damage to the box culvert, potential failure of the roadway, and water quality issues if the softer structures were to erode or fail (e.g., if vegetated soil lifts or brush layering does not hold during high-velocity flood water events).

2.3.2 Project Construction

Construction Equipment and Work Crew

The typical work crew would include between 4 to 10 personnel. Construction equipment would depend on the type of treatment method and individual project site. The following presents a list of equipment types that would likely be used during Project construction:

- Boom truck/cherry picker
- Baker tanks
- Concrete truck and boom pump
- Concrete saw
- Dump trucks
- Drill
- Excavator (small and medium)
- Flatbed trucks
- Generators and air compressors
- Grader
- Jackhammer
- Loader
- Pickup trucks (small and large)
- Pumps
- Roller/Compactor
- Paver

Construction Staging and Access

Construction staging and stockpile areas would primarily be limited to areas within the County's right-of-way, including road shoulders and closed lanes designated as construction areas. Vegetation within the staging and stockpiling areas would be trimmed and removed as needed, and the limits of the work area would be clearly defined by the contractor per the approved plans. Project construction activities would result in short-term, temporary lane closures on along roadways within the Project sites during portions of Project construction.

Construction access to Wurr Road and Pescadero Creek Road sites is available directly from the roadway and shoulder. As mentioned above, construction of a temporary access path would be required at the Cloverdale Road site (TMDL 190) to access the upstream and downstream sides of the box culvert. The temporary access paths would avoid trees and sensitive areas to the maximum extent feasible but would require removing several trees and vegetation to allow for equipment access. Temporary access paths would be restored following Project construction.

Site Preparation

Site preparation for Project construction would involve mobilizing equipment and construction materials; setting up the construction staging area and access points; and setting up dewatering systems, where necessary. Staging would mostly be kept on the shoulder of the road but may require some clearing and grubbing activities of the road shoulder.

Tree removal would be required for site access, to replace existing culverts, and at Site 190, to facilitate concrete removal along the channel bed and banks and to clear the accumulated sediment and vegetation from the concrete apron downstream of the box culvert. Where feasible, trees removed at Site 190 would be transplanted to support site revegetation. Additionally, one a stump would be removed from site TMDL 270.

Channel Dewatering

Culvert replacement and improvement activities would be conducted during the dry season when drainage ditches and tributaries are dry, or flow is minimal. However, if Project activities are planned where water is present, dewatering activities including the use of pumps and cofferdams and installation of a clean water bypass may be necessary. As described in Best Management Practice (BMP) BIO-2 (see Table 3), pumps would be screened to prevent fish and wildlife entrainment. If cofferdams are used, they would be installed upstream and downstream of the work site, and flow would be diverted around the work site through a pipe. If a pump is necessary, the pump would operate at the rate of flow that passed through the site naturally and flow will be discharged back into the creek in a manner (e.g., a filtration and/or energy diffusion system) that would not significantly increase downstream turbidity. All temporary dewatering materials would be removed from the Project site upon construction completion, and normal flows would be restored immediately upon completion of work at that location.

With exception of Bloomquist, Peterson, and Little Butano Creek, there are no existing hydrology studies or other reports available documenting flow conditions for the proposed sites. Determination of whether a site was likely to required dewatering was based on the presence of flow during site visits throughout the year. Sites that are ephemeral or intermittent and likely to be dry throughout the planned construction period include Site 119, 128.1, 265, 265.1, 266, 270, and 270.1. These sites will not require dewatering. Sites that may require dewatering were observed to be perennial or intermittent with longer hydroperiods and include 263, 268, 190, and possibly 94 and 102.

Site Revegetation

After construction activities are complete, the Project sites including staging areas and access points will be restored to pre-construction conditions. Access routes and disturbed areas will be seeded with native plants, and channel banks will be revegetated with native riparian vegetation and tree plantings. Where hydrological and ecological conditions allow (Sites 190), RSP may be planted with live cuttings to increase bank stabilization and provide ecological uplift. Additionally, the reconstructed embankments Sites 263 and 268 would be revegetated following the completion of construction activities. Suitable plantings will be determined on a site-specific basis and consider potential impacts on stormwater conveyance and the likelihood of plant survivorship. Post-construction erosion control BMPs (i.e., wattles, erosion control blankets) would be installed to conserve soil resources and protect water quality.

2.3.3 Operation and Maintenance

Once constructed, Project maintenance would be consistent with existing practices, consisting of vegetation management, trash and debris removal, and culvert clearing to maintain flow conveyance through the culverts. Maintenance activities would occur as outlined in the County of San Mateo's Routine Maintenance Program Manual (2023). No new structures or equipment would require new operation-related maintenance or additional personnel.

2.3.4 Timing and Implementation

The County would implement the Proposed Project between June 15 and October 31 or as authorized by regulatory permits and conditions and is anticipated to take one (1) work season 2026; however, work may take place in 2027 if there are unforeseen delays. Additionally, the Proposed Project would further restrict construction at nine (9) sites (Sites 94, 102 263, 265, 265.1, 266, 268, 270, and 270.1) to between August 15 and October 31 to avoid potential conflicts with special status species. Construction at Site 268 would primarily occur outside the marbled murrelet nesting season; however, if construction sequencing requires work to extend beyond this window, BMP BIO-10 would be implemented to allow continuation of activities. Construction work would generally occur Monday through Friday, between 7:00 a.m. and 6:00 p.m., consistent with the County's Noise Ordinance. If weekend work is necessary, work would occur between 9:00 a.m. and 5:00 p.m. (per County Ordinance Code Chapter 4.88). No nighttime construction activities would occur as part of the proposed Project.

2.4 Summary of Anticipated Project Impact Area

Construction of the proposed Project would result in both temporary and permanent impacts, including vegetation clearing for channel access and around culvert inlets/outlets, installing new or replacing culverts, excavating the road and shoulder, temporary road/lane closures, temporary channel dewatering; adding rock inlet protection and rock outfall energy dissipation to protect against future erosion, and concrete installation for new culverts, headwalls, and catch basins.

The total construction footprint for the culvert maintenance sites is approximately 2.1 acres. The total footprint for the creek and riparian habitat restoration work at the Cloverdale site is approximately 0.79 acre. The cumulative project footprint is a total of approximately 2.1 acres (approximately 2,038 linear feet) which includes in-kind culvert replacement, installation of new culvert, RSP, inlet and outlet protection structures (i.e., headwalls, energy dissipation), channel dewatering, restoration site, temporary access routes, staging areas, and roadways.

The Proposed Project would require removing approximately 69 trees greater than six (6) inches diameter at breast height (dbh).

2.5 Permits and Approvals

Project implementation would occur in federal and state jurisdictional areas and would be required to comply with federal, state, and local environmental regulations. **Table 2-2** describes the anticipated permits and authorizations, along with the responsible permitting agency.

Table 2-2. Applicable Permit and Regulatory Requirements

Regulatory Agency	Law/Regulation	Purpose	Permit/ Authorization Type
Federal Agencies			
U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 404	Regulates the discharge of dredged or fill material into waters of the United States, including wetlands.	Clean Water Act Section 404, Nationwide Permits 3, 7, and 43.
National Marine Fisheries Service	Federal Endangered Species Act (FESA)	USACE must consult with NMFS if threatened or endangered fish species may be affected by the project.	Programmatic Biological Opinion (PBO) for Site 190.
U.S. Fish and Wildlife Service (USFWS)	Federal Endangered Species Act (FESA)	USACE must consult with USFWS if threatened or endangered species may be affected by the project.	Biological Opinion
State Historic Preservation Officer	National Historic Preservation Act Section 106	USACE must consult with State Historic Preservation Officer if historic properties or prehistoric archaeological sites may be affected by the project.	To be conducted in conjunction with USACE Section 404 compliance.
State Agencies			
San Francisco Bay Regional Water Quality Control Board (Region 2)	CWA Section 401	Regulates discharge to waters of the state.	Water Quality Certification
	Porter-Cologne Water Quality Control Act—Waste Discharge Requirements (WDR)	Regulates discharges of materials to land and protection of beneficial uses of waters of the State.	Water Quality Certification (WQC)/WDR
County of San Mateo Planning and Building Department	Local Coastal Program (California Coastal Act of 1976)	Regulates maintenance activities that occur in unincorporated areas of the County and within the Coastal Zone.	Coastal Development Permit for Site 190

Regulatory Agency	Law/Regulation	Purpose	Permit/ Authorization Type
California Department of Fish and Wildlife (CDFW) – Bay Delta Region	California Endangered Species Act (CESA), Fish and Game Code section 1602	Provides authorization for modifications to the bed and banks of waterways in CDFW jurisdiction.	Lake and Streambed Alteration Agreement (LSAA)
	Restoration Management Permit Act (Assembly Bill 1581)	CDFW consolidates five of the most common CDFW authorizations into a single approval for restoration projects that qualify.	Restoration Management Permit for Site 190

2.6 Best Management Practices

The Proposed Project would be implemented in accordance with applicable BMPs, from the County of San Mateo Routine Maintenance Program (RMP). The complete list of BMPs applicable to the Proposed Project are described in **Table 2-3**.

Table 2-3. RMP Best Management Practices

BMP Number	BMP Title	BMP Description
GEN-1	Staging and Access	▪ Staging, access, and parking areas will be located outside of sensitive habitats to the extent feasible. ▪ Staging areas will be located 30 feet from the top of bank (or as far as feasibly possible) or on the outboard side of levees. ▪ Vegetation removal shall be limited to the minimum amount necessary to provide access.
GEN-2	Minimize the Area of Disturbance and Site Maintenance	▪ Areas of disturbance will be limited to the smallest footprint necessary and a single access pathway, where feasible. For maintenance activities near waterways or other sensitive habitat, the designated work area shall be clearly identified in the field using highly visible material, and work will not be conducted outside this area. ▪ Keep excavated soil and materials on the site where they will not collect into the street or get transported to storm drains or nearby water bodies by rainfall or runoff in order to avoid deleterious effects to fish, wildlife, and beneficial uses. ▪ Transfer excavated materials to dump trucks on the site, not in the street.
GEN-3	Construction Entrances and Perimeter	▪ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site. ▪ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking. ▪ When in-channel work is required, where available use existing ingress or egress points or perform work from the top of the stream banks.
GEN-4	Salvage/Reuse of Plant and Woody Material	▪ Large wood or weed-free topsoil displaced by project activities may be stockpiled for use during site restoration. Native vegetation displaced by project activities will be stockpiled if it would be useful during site restoration. ▪ Stockpiled material shall not be placed over riparian or wetland vegetation. Stockpiled material shall not be placed in areas where it could enter the stream, riparian or wetland areas. ▪ To the extent feasible, all other woody material that is not re-usable should be disposed at a composting facility.
GEN-5	Non-Hazardous Materials	▪ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.

BMP Number	BMP Title	BMP Description
GEN-6	Hazardous Materials Storage/Disposal	▪ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations. ▪ Store hazardous materials and wastes in watertight containers, store in appropriate secondary containment, and cover them at the end of every workday or during wet weather or when rain is forecast. ▪ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours. ▪ Arrange for appropriate disposal of all hazardous wastes. ▪ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times. ▪ Inspect vehicles and equipment frequently for and repair leaks promptly. On-site monitor should insect beneath all vehicles that have been parked more than 15 minutes before they leave the work area. Use drip pans to catch leaks until repairs are made. ▪ Clean up spills or leaks immediately and dispose of cleanup materials properly. ▪ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags). ▪ Sweep up spilled dry materials immediately. Do not try to wash them away with water or bury them. If water must be used, the Contractor shall collect the water and spilled fluids and dispose of it as hazardous waste. ▪ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. Small spills (less than 18 inches in diameter) including small quantities of oil, gasoline, paint or other materials should be controlled by the first responder (maintenance staff) and do not necessarily require an emergency response team. Medium spills (greater than 18 inches but less than 6 feet in diameter) are typically controlled by the first responder (maintenance staff) but police or fire department HAZMAT teams may be called based on conditions. Report significant spills (larger than 6 feet in diameter and any "running" spill) immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, contact the San Mateo County Environmental Health Services Division, or other emergency office (e.g., local fire or police department) as warranted, immediately and document the spill using the spill documentation form. Alternatively, 1) dial 911, the local emergency response number, 2) the National Response Center at (800) 424-8802; or 2) call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours). As appropriate, contact other agencies including California

BMP Number	BMP Title	BMP Description
		Occupational Safety and Health Administration or the Regional Water Quality Control Board. All chemical spills shall be reported as soon as possible to the emergency site contact.
GEN-7	Spill Prevention and Control	▪ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times. ▪ Inspect vehicles and equipment frequently for and repair leaks promptly. On-site monitor should insect beneath all vehicles that have been parked more than 15 minutes before they leave the work area. Use drip pans to catch leaks until repairs are made. ▪ Clean up spills or leaks immediately and dispose of cleanup materials properly. ▪ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags). ▪ Sweep up spilled dry materials immediately. Do not try to wash them away with water or bury them. If water must be used, the Contractor shall collect the water and spilled fluids and dispose of it as hazardous waste. ▪ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. ▪ Small spills (less than 18 inches in diameter) including small quantities of oil, gasoline, paint or other materials should be controlled by the first responder (maintenance staff) and do not necessarily require an emergency response team. Medium spills (greater than 18 inches but less than 6 feet in diameter) are typically controlled by the first responder (maintenance staff) but police or fire department HAZMAT teams may be called based on conditions. Report significant spills (larger than 6 feet in diameter and any "running" spill) immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, contact the San Mateo County Environmental Health Services Division, or other emergency office (e.g., local fire or police department) as warranted, immediately and document the spill using the spill documentation form . Alternatively, 1) dial 911, the local emergency response number, 2) the National Response Center at (800) 424-8802; or 2) call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours). As appropriate, contact other agencies including California Occupational Safety and Health Administration or the Regional Water Quality Control Board. All chemical spills shall be reported as soon as possible to the emergency site contact.
GEN-8	Waste Management	▪ Cover waste disposal containers securely at the end of every workday and during wet weather. ▪ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site. ▪ Ensure that portable toilets have a secondary containment plan (e.g., a containment pan).

BMP Number	BMP Title	BMP Description
		▪ Clean or replace portable toilets and inspect them frequently for leaks and spills. ▪ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.) ▪ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
GEN-9	Vehicle Maintenance and Parking	▪ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage. ▪ Perform major maintenance, repair jobs, and vehicle and equipment washing off site. ▪ Conduct vehicle and equipment cleaning at contractor or County corporation yards and ensure that rinse water does not run into gutters, streets, storm drains, or surface waters. ▪ If refueling or vehicle maintenance must be done on-site, work in a bermed area (e.g., sandbags, gravel bags, compost socks, or other barrier material) at least 150 feet away from creek channels, away from storm drains and over a drip pan big enough to collect fluids. ▪ Refuel vehicles at least 150 feet away from the active stream channel. ▪ Keep an ample supply of spill clean-up materials near fueling, vehicle maintenance and hazardous materials/hazardous waste storage areas. Inventory clean-up materials monthly and restock as needed. ▪ Post proper fueling and spill clean-up instructions at fueling areas. Never leave the area while equipment is being filled. ▪ Recycle or dispose of fluids as hazardous waste. ▪ Do not clean vehicle or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc. ▪ Perform vehicle and mobile equipment steam cleaning, pressure washing or degreasing only over a containment designed to collect any generated wash water. Collect wash water and discharge to sewer via an oil water separator. ▪ Do not pour wash water down storm drains or sewers connected to septic systems.
GEN-10	Equipment Maintenance & Fueling	▪ A separate area should be designated for equipment maintenance and fueling, away from any slopes, watercourses, or drainage facilities. ▪ Equipment should not be stored in areas that will potentially drain to watercourses or drainage facilities. If equipment must be stored in areas with the potential to generate runoff, drip pans, berms, gravel bags, or absorbent booms should be employed to contain any leaks or spills. ▪ Equipment should be inspected daily for leaks or damage and promptly repaired.

BMP Number	BMP Title	BMP Description
		▪ Fueling and maintenance of vehicles should take place at least 65 feet away from waterways. ▪ In the event of a spill, follow procedures outlined in BMP GEN-7.
GEN-11	Paving and Asphalt Work	▪ Avoid paving and seal coating in wet weather or when rain is in the forecast, to prevent materials that have not cured from contacting stormwater runoff. ▪ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal or fog seal; and when saw cutting asphalt or concrete. ▪ Collect and recycle or appropriate dispose of excess abrasive gravel or sand. Do not sweep this material into gutters. ▪ Do not use water to wash down fresh asphalt concrete pavement. ▪ Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system. ▪ Shovel, absorb or vacuum saw-cut slurry and dispose of all waste as soon as work is complete in one location or at the end of the workday. ▪ If sawcut slurry enters a catch basin, clean it up immediately.
GEN-12	Concrete, Grout and Mortar Application	▪ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff and wind. ▪ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage. ▪ When washing exposed aggregate, prevent wash water from entering storm drains. Block any inlets and vacuum gutters, hose wash water onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.
GEN-13	Exclude Concrete from Channel	▪ For maintenance activities that involve concrete pouring, the County shall ensure that poured concrete be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete shall be kept moist, and runoff from the concrete shall not be allowed to enter a stream. Containment structures should be installed to control the placement of wet concrete and to prevent it from entering the channel outside of those structures. ▪ Commercial sealants may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is dry.

BMP Number	BMP Title	BMP Description
		▪ No dry concrete shall be placed on the banks or in a location where it could be carried into the channel by wind or runoff.
GEN-14	Concrete Washout Facilities	▪ Concrete washout facilities should be established for maintenance activities that require on-site preparation and use of Portland cement concrete, asphalt concrete or cement mortar, establish concrete washout facilities. These facilities capture wash water, concrete and aggregate flushed from concrete mixers, chutes, etc. Concrete washouts may be contained settling basins dug into the ground, raised and contained structures, trailers, etc. They are also applicable for projects that require equipment washouts. ▪ An appropriate area for the washout must be identified at least 50 feet away from watercourses and storm drains in case of accidental breaching. The storage capacity of the basin must be sized correctly for the job. <u>Construction Guidelines:</u> ▪ The location of the concrete washout should be clearly labeled and all employees should be educated about proper concrete disposal. ▪ Avoid mixing excess amounts of fresh concrete or cement mortar on-site. ▪ Wash out concrete mixers only in designated washout areas where the water will flow into temporary sealed basins or onto stockpiles of aggregate base or sand. Use as little water as possible to reduce hardening and evaporation time of waste products. ▪ Construct a basin large enough to contain all liquid and waste concrete materials generated during washout procedures. A minimum basin size is 9 feet x 9 feet and 2 feet deep. Plastic liner materials shall be a minimum of 60-mil polyethylene sheeting free of holes and defects. ▪ Recycle washout by pumping back into mixers for reuse when possible. ▪ BMP Maintenance: ▪ The concrete washout should be checked frequently to ensure proper use and effectiveness. ▪ At 75 percent capacity, the washout must be cleaned or new facilities must be constructed and ready for use. ▪ BMP Removal: ▪ The hardened concrete and materials related to the washout must be broken up, removed, and disposed of in accordance to local regulations. ▪ Area disturbed by the concrete washout must be repaired.

BMP Number	BMP Title	BMP Description
GEN-16	Timing of Work	▪ In general, routine maintenance and construction activities that take place in sensitive habitat and/or in channels below ordinary high water will be conducted during the dry season (June 15 through October 31[1]). Maintenance activities that are in upland areas and that would not affect streams may occur during low rainfall years at times when there is no predicted rainfall (chance of precipitation in less than 30 percent chance of rain). Activities that are subject to permit requirements will be conducted during the period authorized by the permits.
GEN-17	Maintain Traffic Flow	▪ To the extent feasible, work shall be staged and conducted in a manner that maintains two-way traffic flow on roadways in the vicinity of the work site. ▪ Heavy equipment and haul traffic shall be prohibited in residential areas to the greatest extent feasible. When no other route to and from the site is available, heavy equipment and haul traffic through residential areas shall be restricted to the hours of 8 a.m. to 5:30 p.m., Monday through Friday. ▪ If heavy equipment or hauling is required beyond the hours above, the County or their contractor would provide notice to adjacent property owners 48 hours in advance of such activities.
GEN-18	Traffic Control and Public Safety	▪ In the event that work activities require the temporary closure of any traffic lanes, the County shall implement measures to guide traffic (such as signage and flaggers), safeguard construction workers, provide safe passage of vehicles, and minimize traffic impacts through the duration of work activities. The County also shall notify local emergency service providers regarding any planned lane closures. ▪ For any other work within or near the roadway that could pose a hazard to the public, the County shall install/implement appropriate measures, such as fences, barriers, flagging, guards, and/or signs, to give adequate warning and provide protection from the potentially dangerous condition. ▪ For work activities along or near roadways with sidewalks and bike lanes, the County shall implement measures to ensure the safe passage of pedestrians and bicyclists around the work site. ▪ Where work is proposed at a recreational park or trail, warning signs will be posted several feet beyond the limits of work. Signs will also be posted if trails will be temporarily closed. ▪ Public transit access and routes will be maintained in the vicinity of the work site. If public transit will be affected by temporary road closures and require detours, affected transit authorities will be consulted and kept informed of project activities.

[1]Construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

BMP Number	BMP Title	BMP Description
GEN-19	Dust Management Controls	The County will implement the Bay Area Air Quality Management District (BAAQMD) Basic Dust Control Measures. Current measures stipulated by the BAAQMD Guidelines include the following: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
GEN-20	Firearms	▪ No firearms (except for federal, State, or local law enforcement officers and security personnel) will be permitted at the project site to avoid harassment, killing or injuring of wildlife.
GEN-21	Domestic Animals	▪ No animals (e.g., dogs or cats) can be brought to the project site to avoid harassment, killing or injuring of wildlife.
GEN-22	Site Stabilization	Earthwork will be completed as quickly as possible, and where practical, site restoration will occur immediately following maintenance. If site restoration involves planting, such activities may commence in late fall or early winter during the onset of rainy season. Bare soil surfaces resulting from maintenance and/or construction activities shall be covered with suitable erosion controls (seed or plant vegetation, fabrics, hydroseeding, mulch, etc.): ▪ Within 12 hours of any break in work unless project activities will resume within 7 days. ▪ No later than 3 days following the disturbance during the rainy season (approximately October through April).

BMP Number	BMP Title	BMP Description
		▪ No later than 7 days following the disturbance during the dry season (approximately May through September). Every effort shall be made to immediately cover bare soil surfaces resulting from maintenance and/or construction activities prior to storms. Revegetation activities will include only local plant materials native to the San Francisco Peninsula region.
GEN-23	Fire Prevention	1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will: ▪ Have appropriate fire suppression equipment available at the work site. ▪ Keep flammable materials, including flammable vegetation slash, at least 10 feet away from any equipment that could produce a spark, fire, or flame. ▪ Not use portable tools powered by gasoline-fueled internal combustion engines within 25 feet of any flammable materials unless a round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
GEN-26	Decontamination of Project Equipment and Vehicles	▪ Equipment, boots and waders used for in-water maintenance activities will be decontaminated prior to entering and exiting the maintenance site and/or between each use in different water bodies to avoid the introduction and transfer of organisms between water bodies. Methods to be employed may include: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. The County shall begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, the County shall allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, the County shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, the County shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment/clothing is removed from the site, used within a different waterbody, and returned to the project site.
EC-3	Live Staking	▪ Live staking involves the insertion of live, vegetative cuttings into the ground in a manner that allows the cutting (stake) to take root and grow. This BMP is used to reduce the potential for soil to become water borne, to reduce water velocity and erosive forces, and to aid in habitat protection. Poles used in willow walls and through rip rap may be a structural application. Sprigs may be used in individual planting spots along a streambank.

BMP Number	BMP Title	BMP Description
EC-5	Wattles/Fascines	▪ Wattles and fascines are live branch cuttings, usually willows, bound together into long, tubular bundles used to stabilize slopes and stream banks. Both wattles and live fascines are true biotechnical practices. The live branches and live stakes provide the biological element while the stems, rope ties and wedge-shaped wooden stakes all combine to provide the structural elements. Fascines differ from wattles in that the branch cuttings all point in the same direction in fascines, where they may point in either direction in wattles. Wattles are typically aligned on contour, where fascines are angled slightly upslope and thus tend to produce more vigorous growth.
EC-6	Hand Seeding	▪ Hand seeding is broadcasting grass seed on disturbed or bare soil areas by hand or a hand seeding device. This BMP is used to reduce the potential for soil to become water or air borne, reduce erosion after vegetation establishment, provide for vegetative buffers and aid in habitat protection. Seeding with appropriate seed mixes also helps discourage colonization by non-native and invasive plant species.
EC-7	Hydroseeding	▪ Hydroseeding is broadcasting grass seed, tackifier, wood fiber mulch and water on disturbed areas using a hydroseeding machine. This BMP is used to reduce the potential for soil becoming water or air borne, to reduce erosion after vegetation is established, provide vegetative buffers and to aid in habitat protection. Seeding with appropriate seed mixes will also help discourage colonization by non-native and invasive plant species. Hydroseeding may be used after soil disturbance is completed at construction/maintenance sites and/or on bare slopes.
EC-8	Mulching	▪ Mulching is the application of rice or sterile straw, wood chips, leaf litter, redwood duff, or other suitable materials on the soil surface applied manually or by machine. This BMP is used to reduce the potential for soil becoming water or air borne, and to encourage vegetation establishment. This BMP is used to protect the soil surface and to protect newly seeded areas.
EC-09	Vegetative Buffer	▪ A vegetative buffer is a strip of vegetation adjacent to sensitive areas, ditches, pavement and water bodies. This BMP prevents soil from becoming water borne and may help restore shallow slope failures by trapping soil and debris.
EC-10	Erosion Control Blankets & Mats	▪ Erosion control blankets and mats are installed to protect the prepared soil surface of a steep slope. This BMP may be used at maintenance sites to provide stabilization/protection on steep slopes or stream banks. Erosion control blankets and mats are available in a variety of materials including jute, excelsior, blanket material, straw, wood fiber blanket, coconut fiber blanket, coconut fiber mesh, and straw coconut fiber blanket. Material selection should be based on the size of area, slope, surface conditions, revegetation plans, and channel velocity. Coir fabric/netting is a geo-textile product made from coconut

BMP Number	BMP Title	BMP Description
		fibers loosely woven into a fabric usually packaged in roll form. This fabric can be used to provide a reduction in water velocity/erosive forces and/or habitat protection and topsoil stabilization. Erosion control blankets and mats may be used in combination with seeding and/or vegetation.
EC-11	Surface Roughening	▪ Surface roughening is a technique for roughening a bare soil surface with furrows running across the slope, stair stepping, or tracking with construction equipment. Surface roughening is intended to aid the establishment of vegetative cover from seed, to reduce runoff velocity and increase infiltration, and to reduce erosion and provide for sediment trapping. This BMP is typically applied on slopes steeper than 3:1.
EC-13	Slope or Bank Stabilization	▪ Where biotechnical methods are unsuitable for stabilizing streambanks due to site specific conditions such as steep slopes or limited right-of-way width, hardened engineered solutions such as rock slope protection, solider pile walls, retaining walls, or slope soil nailing may be utilized along a failed portion of slope to provide a buttress against additional failure. To the extent feasible, this BMP should be combined with biotechnical solutions through installation of vegetated rock slope protection.
EC-14	Energy Dissipator	▪ An energy dissipator is a structure designed to control erosion at the outlet of a channel or conduit by reducing the velocity of flow and dissipating the energy. This BMP is recommended at the outlet of any new or replacement drainage culvert, which are points of high erosion potential. Energy dissipators are effective in absorbing the impact of flow and reducing the velocity to non-erosive levels.
SC-1	Gravel Bags	▪ Gravel bags can be used to keep water away from work areas and unstable slopes or for constructing cofferdams and clean water bypasses.
SC-2	Silt Fence	▪ A silt fence is a temporary sediment barrier consisting of fabric stretched across and attached to supporting posts and entrenched into soil. This BMP is generally used for perimeter protection (around construction/maintenance sites, stockpile areas). It may also be installed perpendicular to the flow direction to slow or stop water and to allow perimeter filtration, settling of soil particles, and to reduce water velocity.
SC-3	Straw Log, Straw Roll, Coir Log	▪ Straw rolls/logs or coir logs may be used for temporary soil stockpile protection; protection of storm drains, gutters, and drainage courses; temporary check dams; bank or slope stabilization; and streambank toe protection. Alternatives to straw rolls/logs and coir logs include compostable filter socks/berms comprised of natural fibers and other bio-based materials.

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SC-7	Silt Curtain	▪ The County shall install silt curtains or other appropriate silt filtering devices around excavation sites to prevent heavily silted water from impacting areas around the work site. The silt curtain or silt filtering device shall be maintained throughout all phases of excavation.
DW-1	Channel Dewatering	▪ When in-water construction is unavoidable, streamflow shall be diverted around work areas by either installing cofferdams and/or clean water bypass systems. A cofferdam is a temporary structure built into a waterway to enclose a construction area and reduce sediment pollution from construction work in or adjacent to water. A clean water bypass is typically used for short-term diversion of small amounts of water over short distances to enable dewatering of a maintenance site. Depending on site conditions, these systems may be either gravity driven or require use of a pump to divert water around a construction area. ▪ No dewatering will be conducted at sites with recent document occurrences of coho salmon within the past 5 years.
CUL-4	Construction Monitoring	▪ The County will retain a qualified archaeologist to be present on-site during ground-disturbing activities within areas identified as highly sensitive for cultural areas in the Projects Cultural Resources Report. ▪ The qualified archaeologist will have the authority to stop work if cultural resources are discovered. ▪ If any cultural resources discovered during construction monitoring, BMP CUL-6 would be implemented as appropriate.
CUL-5	Conduct Pre-Maintenance Educational Training	▪ Prior to work beginning, and in concert with implementing BMP BIO-1, all crew personnel will participate in an educational training session conducted by a qualified cultural resources specialist. This training will include instruction on how to identify historic and prehistoric resources that may be encountered and will describe the appropriate protocol to be followed if resources are discovered during maintenance work.
CUL-6	Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately	Unanticipated discoveries of cultural and paleontological resources may occur during maintenance construction activities. Examples of cultural remains are obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or significant areas of tool-making debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period artifacts may include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Paleontological artifacts are fossilized remains of plants and animals. Work will be restricted or stopped in areas where remains or artifacts are found until proper protocols are met.

BMP Number	BMP Title	BMP Description
		<u>Protocol for Treatment of Prehistoric or Historic Cultural Resources:</u> 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County will retain the services of a consulting archaeologist, who will visit the discovery site as soon as practicable and perform minor hand excavation to describe the archaeological or paleontological resources present and assess the amount of disturbance. 3. The consulting archaeologist will provide to the County and USACE, at a minimum, written and digitalphotographic documentation of all observed materials, utilizing the CRHR and NRHP guidelines for evaluating archaeological resources. Based on the assessment, the County and USACE will identify the CEQA and Section 106 cultural resources compliance procedures to be implemented. 4. If the consulting archaeologist determines that the find appears not to meet the CRHR or NRHP criteria of significance, and a USACE archaeologist concurs with the consulting archaeologist's conclusions, construction may continue while monitored by the consulting archaeologist. The authorized maintenance work will resume at the discovery site only after the County has retained a consulting archaeologist to monitor and the Maintenance Manager has received notification from USACE allowing work to continue. 5. If the find appears significant, avoidance of additional impacts is the preferred alternative. The consulting archaeologist will determine if adverse impacts to the resources can be avoided. 6. Where avoidance is not practical (e.g., maintenance activities cannot be deferred or must be completed to satisfy the Maintenance Program objective), the County will develop an action plan (also known as a data recovery plan) and submit it to USACE within 48 hours of determining that maintenance activities cannot be deferred. The action plan will be submitted by email to the appropriate archeological/cultural resources contact at the USACE. The action plan is equivalent to a data recovery plan. It will be prepared in accordance with the current professional standards and state guidelines for reporting the results of the work, and will describe the services of a Native American consultant and a proposal for curation of cultural materials recovered from a non-grave context. 7. The recovery effort will be documented in a report prepared by the consulting archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository. 8. In the event of discovery of human remains (or if a find consists of bones suspected to be human), the field crew supervisor will take immediate steps to secure and protect such remains from vandalism during periods

BMP Number	BMP Title	BMP Description
		when work crews are absent.) 9. The maintenance crew supervisor will immediately notify the San Mateo County Coroner and provide any information that identifies the remains as Native American. If the remains are determined to be those of a prehistoric Native American or a Native American from the ethnographic period, the Coroner will contact NAHC within 24 hours of being notified about the remains. NAHC will designate and notify a Most Likely Descendant (MLD) within 24 hours. The MLD will have 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods. 10. Preservation in situ is the preferred option for human remains. Human remains will be preserved in situ if continuation of the maintenance work, as determined by the consulting archaeologist and MLD, will not cause further damage to the remains. The remains and artifacts will be documented, the find location carefully backfilled (withy protective geo-fabric if desirable). 11. If human remains or cultural items are exposed during maintenance that cannot be protected from further damage, they will be exhumed by the consulting archaeologist at the discretion of the MLD and reburied, with the concurrence of the MLD, in a place mutually agreed upon by all parties. <u>Protocol for Treatment of Paleontological Resources:</u> 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County shall retain the services of a consulting paleontologist. The consulting paleontologist will meet the Society for Vertebrate Paleontology's criteria for a qualified professional paleontologist (Society of Vertebrate Paleontology 2010). 3. The consulting paleontologist shall visit the discovery site as soon as practicable and perform minor hand excavation to describe the paleontological resources present and assess the amount of disturbance. The consulting paleontologist will follow the Society for Vertebrate Paleontology's guidelines (2010) for treatment of the artifact. Treatment may include preparation and recovery of fossil materials for an appropriate museum or university collection, and may include preparation of a report describing the finds. The County will be responsible for ensuring that the consulting paleontologist's recommendations for treatment are implemented.
BIO-1	Environmental Awareness Training	▪ Prior to commencing maintenance activities in a given year, all participating maintenance personnel will attend a worker environmental awareness training program. The training will include a brief review of

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		special-status species, sensitive habitats, and other sensitive resources that may exist in the project area, including field identification, habitat requirements, and the legal status and protection of each relevant species, as well as locations of sensitive biological resources. The training will include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training will cover the maintenance activity's conservation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologist(s). It will include printed material and an oral training session by a qualified biologist.
BIO-2	Minimize Injury or Mortality of Fish and Amphibian Species during Dewatering	▪ Prior to dewatering a construction site, all reasonable efforts shall be made to capture and relocate native fish and amphibian species if necessary to avoid direct mortality and minimize take. Streams that support a sensitive species (e.g., steelhead, California red-legged frog) will require a relocation effort led by a qualified biologist. The following measures are consistent with those defined as reasonable and prudent by NMFS for projects concerning several central California Evolutionarily Significant Units for coho salmon and steelhead trout. ▪ Fish relocation activities will be performed only by qualified fisheries biologists that have experience with fish capture and handling. ▪ Perform relocation activities during morning periods when air temperatures are coolest. ▪ Periodically measure air and water temperatures. Cease activities when water temperatures exceed temperatures allowed by CDFW and NMFS. ▪ Capture methods may include fish landing nets, dip nets, buckets and by hand. ▪ Exclude fish from re-entering work area by blocking the stream channel above and below the work area with fine meshed net or screens. Mesh will be no greater than 1/8 inch (3.1mm). The bottom edge of net or screen will be completely secured to the channel bed to prevent fish from re-entering work area. Exclusion screening will be placed in areas of low water velocity to minimize impingement of fish. Screens will be checked periodically and cleaned of debris to permit free flow of water. ▪ Prior to capturing fish, the qualified biologist will determine the most appropriate release location(s). Captured aquatic life shall be released immediately in the closest suitable body of water adjacent to the work site, taking into consideration the following when selecting release site(s): A. Similar water temperature as capture location B. Ample habitat for captured fish

BMP Number	BMP Title	BMP Description
		C. Low likelihood of fish re-entering work site or becoming impinged on exclusion net or screen. D. Avoid areas with large concentrations of potential predators in immediate vicinity. ▪ Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish. ▪ Temporarily hold fish in cool, shaded, aerated water in a container with a lid or in a live car (i.e., a net enclosure that can be placed in a pond to temporarily hold the fish). ▪ If fish are held in a container, provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release. ▪ Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish should be released, and rescue operations ceased. ▪ Avoid overcrowding in containers. Have at least two containers and segregate young-of-year fish from larger age classes to avoid predation. Place larger amphibians, such as Pacific giant salamanders, in container with larger fish. ▪ If fish are abundant, periodically cease capture, and release fish at predetermined locations. ▪ Visually identify species and estimate year-classes of fish at time of release. ▪ Count and record the number of fish captured. Avoid anesthetizing or measuring fish. ▪ Submit reports of fish relocation activities to CDFW and NMFS in a timely fashion. ▪ If feasible, plan on performing initial fish relocation efforts several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts. The biological monitor or qualified biologist shall check daily for stranded aquatic life as the water level in the dewatering area drops. ▪ If mortality during relocation exceeds the amount authorized by the applicable permits or, if no amount is specified, 5 percent, stop efforts and immediately contact the appropriate agencies (CDFW and NMFS).
BIO-3	California Red-legged Frog Protection Measures	▪ If suitable habitat for California red-legged frog is determined to exist in or around the work area where maintenance activities are planned to occur, the County will implement applicable protection measures as follows:

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		▪ No more than twenty-four (24) hours prior to the date of initial ground disturbance or mowing, a pre-activity survey for the California red-legged frog will be conducted by a qualified biologist at the work site. The survey will consist of walking the work area limits to ascertain the possible presence of the species. The qualified biologist will investigate all potential areas that could be used by the California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows, such as those of California ground squirrels (Spermophilus beecheyi) or gophers (*Thomomys bottae*). If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist will contact the USFWS to determine if moving any of the individuals is appropriate. If the USFWS approves moving animals, the biologist and USFWS will identify a suitable relocation site, and the County will ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists will capture, handle, and monitor the California red-legged frog. ▪ To minimize harassment, injury, death, and harm to individual California red-legged frogs, one of the following two measures will be implemented. 1. An approved, qualified biologist(s) will be on-site during all activities that may result in take of the California red- legged frog, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. Qualified biologists must be approved by the USFWS. or 2. Prior to pre-activity surveys, personnel will enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. The bottom of the fence will either be buried a minimum of six inches below ground or otherwise secured in a manner approved by the USFWS and will remain in place during all maintenance activities in order to prevent California red-legged frogs from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, will be provided in the exclusion fencing. A qualified biologist will conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and will be on-hand to monitor fence installation. The exclusion fencing will be inspected daily by maintenance personnel and maintained for the duration of maintenance implementation. ▪ The qualified biologist(s) will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with maintenance personnel, any other person(s) at the work

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		area, otherwise associated with the maintenance work, the USFWS, the CDFW, or their designated agents. The qualified biologist will have oversight over implementation of all the conservation measures in this programmatic biological opinion, and will have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within twenty-four (24) hours. The USFWS contact is the Coast Bay Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600. ▪ The County will minimize adverse impacts to the California red-legged frog by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating maintenance work that involve ground-disturbing activities, equipment staging areas, site access routes, sediment removal and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed will be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing will be inspected by the qualified biologist and maintained daily until the last day that equipment is at the site. ▪ To the extent practicable, ground-disturbing activities will be avoided from October through April because that is the time period when California red-legged frogs are most likely to be moving through upland areas. When ground- disturbing activities must take place between November 1 and March 31, the County will ensure that daily monitoring by the qualified biologist is completed for the California red-legged frog. ▪ If egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Staff will keep a record of any sites where egg masses are found and will conduct vegetation removal at these sites between June 15 and October 31[2]. Staff shall avoid entering the channel to avoid dislodging egg masses. Activities shall be performed from the banks. ▪ To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all maintenance- related vehicle traffic will be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas will be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Maintenance related vehicles will observe a 20-mile per hour speed limit

[2] Construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

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		within work areas, except on County roads, and State and Federal highways. Off-road traffic outside of designated and fenced work areas will be prohibited. ▪ When a California red-legged frog is encountered in the work area, all activities which have the potential to result in the harassment, injury, or death of the individual will be immediately halted. The qualified biologist will then assess the situation in order to select a course of action that will avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the frog will be avoided and the individual will be allowed to move out of the potentially hazardous situation to a secure location on its own volition. This procedure applies to situations where a California red-legged frog is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the individual move away from the hazardous location. ▪ California red-legged frogs that are in danger will be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., there are too many individuals observed per day), the biologist will relocate the animals to a USFWS preapproved location. Prior to the initial ground disturbance, the County will obtain approval of the relocation protocol from the USFWS in the event that a California red-legged frog is encountered and needs to be moved away from the work site. Under no circumstances will a California red-legged frog be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist will limit the duration of the handling and captivity of the California red-legged frog to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it will be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. ▪ The County will immediately notify the USFWS once the California red-legged frog and the site is secure. The USFWS contact for this situation is the Coast Bay Foothills Division Chief of the Endangered Species Program by email and at telephone (916) 414-6600. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day. ▪ The County will comply with all herbicide application requirements mandated by the USEPA and stipulated injunctions pertaining to California red-legged frog. For example, herbicides will be limited for controlling state-designated invasive species and noxious weeds, will not be used within 15 feet of aquatic breeding

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		critical habitat or non-breeding aquatic critical habitat areas or within 15 feet of aquatic features within non-critical habitat sections subject to the 2006 Court-ordered injunction; precipitation is not occurring or forecast to occur within 24 hours; herbicide is limited to localized spot treatment using hand-held devices; and herbicide will be applied by a certified applicator or person working under the direct supervision of a certified applicator. ▪ For on-site storage of pipes, conduits and other materials that could provide shelter for California red-legged frogs, materials will be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials. ▪ To the maximum extent practicable, no maintenance activities will occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist will inspect the work area and all equipment/materials for the presence of California red-legged frogs. The animals will be allowed to move away from the work site of their own volition or moved by the qualified biologist. ▪ To the maximum extent practicable, night-time construction activities will be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earthmoving and other project activities will cease no less than 30 minutes before sunset and will not begin again prior to 30 minutes after sunrise. Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a work site will be prohibited during the hours of darkness. ▪ Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form will not be used at the project site because California red-legged frogs can become entangled and trapped in them. Any such material found on site will be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials will not be used. ▪ Trenches or pits one (1) foot or deeper that are going to be left unfilled for more than forty-eight (48) hours will be securely covered with boards or other material to prevent the California red-legged frog from falling into them. If this is not possible, the County will ensure wooden ramps or other structures of suitable surface that provide adequate footing for the California red-legged frog are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.10 inch in diameter will be immediately filled or securely covered so they do not become pitfall traps for the California red-legged frog. The qualified biologist will inspect the trenches, pits, or holes prior to their being

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		filled to ensure there are no California red-legged frogs in them. The trench, pit, or hole also will be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist will remove and transport it to a safe location, or contact the USFWS for guidance.
BIO-5	San Francisco Garter Snake Protection Measures	In areas within one mile of a documented occurrence of the San Francisco garter snake, onsite habitat shall be evaluated by a qualified biologist or biological monitor for the potential to support this species. If suitable habitat for San Francisco garter snake is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the following measures will be followed: ▪ To the extent feasible, maintenance activities should be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. ▪ Prior to implementation of maintenance work, the County will submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologist(s) who will perform pre-activity surveys and on-site monitoring. ▪ To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of maintenance activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist will conduct daytime surveys throughout the project site. The approved biologist will be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 ft of the work area to monitor for individual garter snakes. The biologist will also be present during any other maintenance activities that could potentially result in take, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. If a San Francisco garter snake is observed within the maintenance work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual will cease and the USFWS and CDFW will be contacted immediately. Work will not re-commence without written approval from CDFW. The on-site biologist will be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake. The on-site biologist shall possess a working cellular telephone whose number shall be provided to the USFWS and CDFW. ▪ For vegetation removal on berms or other sites with suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no sensitive species are found in the area, removal of

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		vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. ▪ Maintenance-related vehicles will observe a 20 mile per hour speed limit while in the work area. ▪ San Francisco garter snakes may be attracted to structures that provide cavities such as pipes; therefore, all pipes, culverts, or similar structures that are stored at the site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the maintenance foreman/manager before the pipe is buried, capped, or otherwise used or moved. If a San Francisco garter snake is discovered inside a pipe, the biologist (or a member of the maintenance crew, if the biologist is not on-site) will watch the individual until it has moved out of the maintenance work area. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day.
BIO-6	Measures to Protect the Foothill Yellow-legged Frog, California Giant Salamander, Santa Cruz Black Salamander, and Western Pond Turtle	In areas within one mile of documented foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, or western pond turtle occurrences, or where suitable habitat for one or more of these species is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the County will implement applicable protection measures as follows: ▪ The qualified biologist will conduct a special-status species survey on each morning of and within 48 hours prior to the scheduled work commencing. 1. If no foothill yellow-legged frog, California giant Salamander, Santa Cruz black salamander, or western pond turtle is found, the work may proceed. 2. If eggs or larvae of the foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, are found, the qualified biologist will establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed, or the Permittee shall contact CDFW to develop site appropriate avoidance and minimization measures. 3. If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.

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		4. If adult or non-larval juvenile foothill yellow-legged frogs, California giant salamanders, Santa Cruz black salamanders, or western pond turtles are found, one of the following two procedures will be implemented: (a) If, in the opinion of the qualified biologist, capture and removal of the individual to a safe place outside of the work area is less likely to result in adverse effects than leaving the individual in place and rescheduling the work (e.g., if the species could potentially hide and be missed during a follow-up survey), the individual will be captured and relocated by a qualified biologist to suitable habitat at least 100 meters away and work may proceed. (b) If, in the opinion of the qualified biologist, the individual is likely to leave the work area on its own, and work can be feasibly rescheduled, a buffer will be established around the location of the individual(s) and work may proceed outside of the buffer zone. No work will occur within the buffer zone until the turtle has left the work area. Work within the buffer zone will be rescheduled if necessary.
BIO-7	Check for Wildlife in Pipes/Construction Materials	For maintenance activities that involve pipes or culverts, the County will visually check all sections of pipe for the presence of wildlife sheltering within them prior to moving any pipe or culvert sections that have been stored on the site overnight, or the pipes will have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe/culvert sections to one another, the exposed end(s) of the pipe/culvert will be capped at the end of each day during construction to prevent wildlife from entering and being trapped within the pipeline/culvert.
BIO-8	Minimize Impacts on Dusky-footed Woodrat Nests	If suitable habitat for San Francisco dusky-footed woodrat is determined to exist in the work area, the following measure will be followed: ▪ No more than two weeks prior to the beginning of ground disturbance or other routine maintenance activities that could disturb woodrat nests, a qualified biologist will survey the work areas scheduled for maintenance. If any dusky- footed woodrat nests are found, the nests shall be flagged and construction fencing or flagging that will not impede the movement of the San Francisco dusty-footed woodrat shall be placed around the nest to create a 10-foot buffer (where feasible). If the nest is located adjacent to a road or trail, the nest shall be clearly flagged so equipment/truck drivers accessing sites can see the nest. If a dusky-footed woodrat nest is identified in a work area, the following measure will be implemented by the County.

BMP Number	BMP Title	BMP Description
		▪ The County will avoid physical disturbance of the nest if feasible. Ideally, a minimum 10-foot buffer should be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of maintenance activities. ▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in urban or bayside areas where woodrat populations are small and isolated from larger populations, the County will consult with CDFW regarding the appropriate measures to minimize impacts. ▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in more rural or natural areas and/or where woodrat populations are large and have connectivity to large populations, one of the following two relocation measures will be implemented by the County: ▪ If the woodrat nest site and the proposed relocation area are connected by suitable dispersal habitat for the woodrat, as determined by a qualified biologist, the following relocation methodology will be used: Prior to the beginning of construction activities, a qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the maintenance activity area. Relocations efforts will avoid the nesting season (February-July) to the maximum extent feasible. Disturbance of the woodrat nest will be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist will dismantle and relocate the nest material by hand. All material from dismantled nests will be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original nest locations, to provide material for woodrats to construct new nests. During the deconstruction process, the biologist will attempt to assess if there are juveniles in the nest. If immobile juveniles are observed, the deconstruction process will be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot-wide no-disturbance buffer will be established around the nest until the juveniles are mobile. The nest may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to woodrat nests will be documented in a construction monitoring report and submitted to CDFW. ▪ If a qualified biologist determines that the woodrat relocation area is separated from the nest site by major impediments, or a complete barrier, to woodrat movement, trapping for woodrats will be conducted prior to relocation of nest material. Prior to the start of nest relocation activities, artificial pine box shelters will be placed at each of the sites selected for relocation of nest materials. The dimensions of the artificial shelters will be approximately 8” long x 8” wide x 6” high. Each shelter will include two interior chambers

BMP Number	BMP Title	BMP Description
		connected by an opening. At the relocation sites, the artificial pine box shelters will provide basement structures for the relocated woodrat nest materials, allowing woodrats to enter, use, and modify the relocated nests. ▪ A qualified biologist will set two traps around each of the woodrat nests to be relocated. Traps will be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples. Traps will also be equipped with cotton bedding and covered with cardboard. The traps will be checked the following morning, within one- and-a-half hours of sunrise. If a woodrat is captured it will be placed in a quiet area while its nest material is relocated; the animal will then be released at the relocated nest. If no woodrats are captured after the first night, the biologist will set the traps for one additional evening to increase the probability of capturing the animal and ensuring a safe relocation. If no woodrats are captured at a given house after two nights, it will be assumed that the house is not currently occupied. ▪ Trapping will only be conducted outside the breeding season, which for woodrats is from February through the end of July. If a litter of young is found or suspected while dismantling a nest for relocation, the nest material will be replaced, any trapped woodrats will be returned to the nest, and the nest will be left alone for 2 to 3 weeks, after which time the nest would be rechecked to verify that the young are capable of independent survival, as determined by the lead woodrat biologist, before proceeding with nest dismantling.
BIO-9	Measures to Protect Nesting Migratory Birds	▪ To the extent possible, conduct vegetation removal activities prior to nesting bird season (February 1 through August 31). ▪ For maintenance activities or tree removal that are scheduled to occur between February 1 and August 31, a qualified biologist will survey the work area and a minimum of 300 feet surrounding the work area for raptor nests and 100 feet for nests of non-raptors. This survey will occur no more than three days prior to starting work. If a lapse in maintenance-related work of 7 days or longer occurs, another focused survey will be conducted before maintenance work can be reinitiated. ▪ If nesting birds are found, a no-work buffer will be established around the nest and maintained until the young have fledged. A qualified biologist will identify an appropriate buffer based on a site-specific evaluation. Typical appropriate buffers are 300 feet for raptors, herons, and egrets (though larger for bald and golden eagles, as discussed in BIO-15); 100 feet for non-raptors nesting on trees, shrubs and structures, and 25 feet for ground-nesting non-raptors. ▪ The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone.

BMP Number	BMP Title	BMP Description
		▪ Install physical barriers to nesting where appropriate (e.g., install netting over entryways to cavities, bridge ledges, culverts) and check regularly for any trapped birds. Work will not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival. ▪ No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site). To avoid potential impacts to tree or shrub-nesting birds, any project-specific trimming or pruning of trees or shrubs shall be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist. No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project. ▪ Within areas subject to CDFW regulation under Section 1600 of the Fish and Game Code, nesting bird protection measures required as conditions of the Streambed Alteration Agreement will be implemented.
BIO-10	Measures to Protect Nesting Marbled Murrelet	▪ During marbled murrelet breeding/nesting season (March 24 to August 15[3]), if suitable marbled murrelet nesting trees are present within 300 feet of the project area or if a marbled murrelet nest is detected, Permittee shall consult with CDFW before proceeding. If habitat trees are present within ¼- mile of the project site but are greater than 300 feet from the work area, Permittee may proceed with the following conditions: – Work within the ¼-mile buffer shall be confined to the period of August 15 to October 31. – If activities cannot be performed during this window and would thus occur during the marbled murrelet breeding season (March 25 to August 15), seasonal disturbance minimization buffers as listed the USFWS document, Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (2006) shall be followed. Permittee shall measure ambient noise and estimate construction activity noise to calculate seasonal buffer widths using that reference.

[3] Allowable construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

BMP Number	BMP Title	BMP Description
		– Alternatively, if protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, seasonal and distance work restrictions may be lifted with written approval from CDFW. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf
BIO-14	Measures to Protect Bat Colonies	▪ If high-quality habitat for roosting bats (i.e., large trees with cavities of sufficient size to support roosting bats, or buildings providing suitable roost sites, as determined by a qualified bat biologist) is present within 100 feet of a maintenance site, a qualified bat biologist will conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if a bat colony is present and to identify the specific location of the bat colony. ▪ If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. ▪ If an active maternity colony or non-breeding bat roost is located, the project work will be redesigned to avoid disturbance of the roosts, if feasible. ▪ If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance will not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) will be observed during this period. ▪ If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individuals will be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined by a Memorandum of Understanding with CDFW). Bats may be evicted through exclusion after notifying CDFW. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.
BIO-16	Avoidance Special-Status Plant Species	For projects located in areas where special-status plants have been identified as potentially occurring, a qualified biologist will assess habitat suitability for the potential occurrence of special-status plant species within the work area. If determined to be warranted, a qualified botanist will conduct appropriately timed surveys for the focal plant species in accordance with CDFW's special-status plant survey methodology. If a special-status species is observed in or near the project site, the County will follow the measures below as well as any additional measures that might be contained in the forthcoming Biological Opinion issued by the USFWS

BMP Number	BMP Title	BMP Description
		for the Maintenance Program. ▪ If discovered, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population will be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species. ▪ Special-status plants to be avoided will be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing will be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing will be installed at least 50 feet from the edge of the population. The location of the fencing will be shown on the maintenance design drawings and marked in the field with stakes and/or flagging. The design specifications will contain clear language that prohibits maintenance-relate activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area. For non-ground disturbing vegetation management activities conducted using only hand-held equipment, the non-disturbance buffer may be reduced to a minimum of 3 feet and flagging of the population may be used in place of environmentally sensitive fencing.
BIO-17	Sudden Oak Death Controls	▪ Before entering maintenance sites located in areas infested with Phytophthora, field workers will receive training that includes information on Phytophthora pathogens and how to prevent the spread of these and other soil-borne organisms by following approved phytosanitary procedures. ▪ The exterior and interior of all vehicles, construction equipment, and tools should be clean and free of debris, soil and mud (including mud on tires, treads, wheel wells and undercarriage) prior to arrival at a new job site, especially during the wet season. ▪ Work shoes should be kept clean by inspecting shoe soles and removing mud, debris and soil off treads before moving to a new job site. ▪ Do not collect or transport host plants from an infested or quarantined area. ▪ Vehicles should stay on established roads whenever possible.

BMP Number	BMP Title	BMP Description
		▪ To minimize the potential for spreading potentially contaminated soil and time required for decontamination, if possible, avoid vehicle traffic and field work when soils are wet enough to stick readily to shoes, tools, equipment and tires. ▪ Delivered nursery plants that will be held before planting will be transferred to cleaned and sanitized raised benches and maintained in accordance with the "Guidelines to Minimize Phytophthora Pathogens for holding (non-production) nurseries at restoration sites, Section 3." ▪ A portion of purchased nursery plants will be tested for Phytophthora using the pear-baiting methodology in which pear baits are placed in soil samples, water samples and root samples of nursery purchased plants. Incubation temperatures with diurnal fluctuations from 21 degrees Celsius to 27 degrees Celsius are generally suitable for detecting Phytophthora species using pear baits. If dark lesions appear on pears, the sample likely has Phytophthora inoculum. For additional information for the pear-baiting methodology, see: phytosphere.com/BMPs nursery/test3_2bait.htm ▪ Nursery plants will be transported on or in vehicles or equipment that have been cleaned before loading the stock. ▪ Nursery stock will not be placed on the soil or other potentially contaminated surfaces until they are placed at their specific planting sites. ▪ Minimize unnecessary movement of soil and plant material within a planting area, especially from higher to lower risk areas. ▪ On-site or off-site collection of plant materials, including seed and cuttings for direct planting, will be conducted in a phytosanitary manner. ▪ Only uncontaminated water or water that has been effectively treated to remove or kill Phytophthora should be used for rinsing or irrigating plant material.
BIO-18	Invasive Plant Control	▪ In order to minimize the spread of invasive plants, all equipment (including personal gear) will be cleaned of soil, seeds, and plant material prior to arriving on the project site to prevent introduction of undesirable plant species. ▪ Prior to implementation of Program activities at a given site, the proposed staging area, as well as any areas to be graded, will be surveyed for the presence of invasive weed species. Invasive weed species occurring within locations of construction clearing and grubbing shall be flagged for removal by the biological monitor or qualified biologist. Any invasive weeds with a California Invasive Plant Council (Cal-IPC) rating of "moderate" or "high" found within the survey area will be removed and disposed of in a

BMP Number	BMP Title	BMP Description
		sanitary landfill, incinerated off-site, or disposed in a high-temperature composting facility that can compost using methods known to kill weed seeds, taking care to prevent any seed dispersal during the process by bagging material or covering trucks transporting such material from the site. ▪ Suitable onsite disposal areas should be identified to prevent the spread of weed seeds. Invasive plant material should be rendered nonviable (partially decomposed, very slimy or brittle) when being treated onsite. Maintenance staff shall desiccate or decompose invasive plant material until it is nonviable. Depending on the type of plant, disposed plant material can be left out in the open as long as roots are not in contact with moist soil, or can be covered with a tarp to prevent material from blowing or washing away. Permittee shall monitor all sites where invasive plant material is disposed onsite and treat any newly emerged invasive plants. Invasive plant material removed during work activities shall be bagged and appropriately incinerated or disposed of in a landfill or permitted composting facility. ▪ No invasive plants shall be planted at maintenance work areas. Prohibited exotic plant species include those identified in the Cal-IPC's Inventory Database, which is accessible at: https://www.cal-ipc.org/plants/inventory/.
BIO-19	Restore Channel Features	Following completion of bank stabilization activities, any temporary modifications to the low-flow channels will be reversed so that the channel is contoured to facilitate fish passage at least as well following the activity as it did prior to the stabilization activity.
BIO-21	General Wildlife Protection Measures	If any wildlife is encountered during project activities, said wildlife shall be allowed to leave the area unharmed and on their own volition, except in cases where relocation by a qualified biologist is permitted by conditions below.
BIO-24	Pathogen Control	▪ In order to minimize the spread of plant and animal pathogens, all equipment (including personal gear such as boots) will be cleaned of soil, seeds, and plant material prior to arriving on a maintenance site. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. ▪ Equipment, including maintenance equipment and field gear used to capture and relocate special-status species such as frogs, will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features).

BMP Number	BMP Title	BMP Description
		▪ Boots, nets, gloves, and any other equipment used to handle amphibians or aquatic organisms will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between maintenance sites. Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat. ▪ When working at sites with known or suspected disease problems, disposable gloves will be worn and changed between handling each animal. Gloves will be wetted with water from the site or distilled water prior to handling any amphibians. Gloves will be removed by turning inside out with hands cleaned using a hand cleaner and water rinse to minimize cross-contamination.

Notes: BAAQMD = Bay Area Air Quality Management District; Cal-IPC = California Invasive Plant Council; CCR = California Code of Regulations; CDFW = California Department of Fish and Wildlife; MLD = Most Likely Descendant; NMFS = National Marine Fisheries Service; USACE = U.S. Army Corps of Engineers

Chapter 3
ENVIRONMENTAL CHECKLIST

This chapter of the Initial Study/Mitigated Negative Declaration (IS/MND) assesses the environmental impacts of the County of San Mateo Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) based on the environmental checklist provided in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The environmental resources and potential environmental impacts of the Proposed Project are described in the individual subsections below. Each section (3.1 through 3.21) provides a brief overview of regulations and regulatory agencies that address the resource and describes the existing environmental conditions for that resource to help the reader understand the conditions that could be affected by the Proposed Project. Relevant regional and local laws, regulations, and policies are described in **Appendix A**. Each section includes a discussion of the rationale used to determine the significance level of the Proposed Project's environmental impact for each checklist question. For environmental impacts that have the potential to be significant, mitigation measures are identified that would reduce the severity of the impact to a less-than-significant level.

1.	**Project Title**	Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project
2.	**Lead Agency Name and Address**	County of San Mateo, Department of Public Works 555 County Center 5th Floor, Redwood City, CA 94063
3.	**Contact Person, Phone Number and Email**	Julie Casagrande (650) 363-4100, DPW_CEQA_Comments@smcgov.org
4.	**Project Location and Assessor's parcel number (APN)**	San Mateo County APNs: 084050230, 084050070, 084080030, 084021010, 084030010, 084091030, 083320070, 086290110, 086280270, 086290100
5.	**Property Owner(s)**	County of San Mateo
6.	**General Plan Designation**	Private recreation, public recreation, low-density residential, open space, and agricultural
7.	**Zoning**	Resource Management District (RM), Timber Land Preserve District (TPZ), and Planned Agriculture District/Coastal Development District (PAD/CD)
8.	**Description of Project**	See Chapter 2, *Project Description,* for more information.

9.	**Surrounding Land Uses and Setting**	Undeveloped, rural, recreational, and residential uses; see Chapter 2, *Project Description*, for more information.
10.	**Other Public Agencies whose Approval or Input May Be Needed**	▪ San Francisco Bay Regional Water Quality Control Board (RWQCB) ▪ California Department of Fish and Wildlife (CDFW), Bay-Delta Region ▪ State Historic Preservation Officer (SHPO) ▪ State Water Resources Control Board (SWRCB) ▪ U.S. Army Corps of Engineers (USACE) ▪ County of San Mateo/California Coastal Commission ▪ U.S. Fish and Wildlife Service (USFWS) ▪ National Marine Fisheries Service (NMFS)
11.	**Hazards or Hazardous Materials**	No hazardous materials release sites are known to occur in or near the Project area.
12.	**Native American Consultation**	The County sent consultation letters to 15 tribal contacts on October 28, 2024, in accordance with Assembly Bill (AB) 52.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by the Proposed Project, as indicated by the checklist on the following pages.

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

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3.1 AESTHETICS

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

3.1.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to aesthetics that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

National Scenic Byway Program

The National Scenic Byway Program is administered by the Federal Highway Administration and was established to preserve scenic but less-traveled roadways. A national scenic byway is a road recognized by the U.S. Department of Transportation for one or more of six intrinsic qualities. Intrinsic qualities include archeological, scenic, cultural, historic, natural, and recreational.

State Laws, Regulations, and Policies

California Scenic Highway Program

The California Scenic Highway Program was established through Senate Bill 1467 in 1963 to preserve and enhance the natural beauty of California (California Department of Transportation [Caltrans] 2008). This bill added sections 260 through 263 to the Streets and Highways Code, which places the Scenic Highways Program under the jurisdiction of Caltrans. The program is composed of a list of designated and eligible highways, a process by which designation may occur or be withdrawn, and coordinators who review and recommend eligible highways for designation to the Caltrans Director. Scenic highways are evaluated for inclusion based on whether a landscape demonstrates natural scenic or agricultural beauty, whether existing visual intrusions significantly impact the view, whether there is strong local support, and whether the length of the highway is longer than a mile.

3.1.2 Discussion of Checklist Responses

The following sections provide an analysis of impacts on aesthetics that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Substantial adverse effect on a scenic vistas

A scenic vista is generally considered a view of an area that has remarkable scenery or contains a natural or cultural resource that is indigenous to the area. Scenic vistas within the Project area include views of the Santa Cruz Mountains along Pescadero Creek Road. Heavy equipment associated with culvert repairs along the upper portions of Pescadero Creek Road may temporarily block scenic views/vistas from Pescadero Creek Road during working hours (e.g., Monday through Friday between 7:00 a.m. and 6:00 p.m.). However, these activities would be temporary at any one location. Therefore, the Proposed Project would have minimal and temporary adverse effects on a scenic vista and would result in a **less-than-significant impact**.

b. Damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

Highway 1, a state designated scenic highway, is the closest state scenic highway to the Project site and is located approximately two miles away (Caltrans 2024). Due to the distance and terrain, the Project site is not visible from Highway 1. However, the Project sites are located along Pescadero Creek Road and Cloverdale Road, which are designated as County Designated Scenic Routes. Heavy equipment would be visible along these roads during maintenance activities, potentially disrupting scenic views. However, such disruptions would be temporary. Scenic resources in the area include stands of redwood forests and other trees. Although redwood trees would not be trimmed or removed, other trees adjacent to repair sites may need to be trimmed or removed in order to conduct the repairs; however, these trees would be replaced on-site where feasible, with an equal or greater number of trees, and would not result in a significant visual change in the area. Therefore, the Proposed Project would not substantially damage scenic resources within a state scenic highway and impacts would be **less than significant**.

c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings in non-urbanized areas

The Project sites are located within a rural area of San Mateo County along natural riparian and forested areas. However, the Project repairs existing drainage infrastructure built under and adjacent to existing roadways. In addition, the three new culverts proposed under the Project would be similar in function and design as existing facilities built adjacent to and under the roadway with a low visual profile largely unnoticeable from passing vehicles. Therefore, impacts would be **less than significant**.

d. New sources of substantial light or glare

The Proposed Project would not include the installation of lighting or construction of buildings that would be a source of substantial light or glare. Construction activities would take place between the hours of 7:00 a.m. and 6:00 p.m. during the week with potential weekend work occurring between the hours of 9:00 a.m. and 5:00 p.m.; therefore, no nighttime lighting would be required. Finally, it is expected that potential sources of glare from metal or glass construction equipment components during daylight hours would be largely screened from view by topography and existing vegetation. Therefore, **no impact** would occur.

3.2 AGRICULTURE AND FORESTRY RESOURCES

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

3.2.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to agricultural and forestry resources that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies regarding agriculture and forestry resources are applicable to the Proposed Project.

State Laws, Regulations, and Policies

California Department of Conservation – Farmland Mapping and Monitoring Program

Developed by the California Department of Conservation (DOC), the Farmland Mapping and Monitoring Program (FMMP) provides consistent, timely, and accurate data for use in assessing agricultural land resource status in California. The program utilizes a combination of geographic information systems (GIS), aerial imagery, local agency comments, and other relevant information to combine soil quality data and current land use information to produce Important Farmland maps.

The FMMP maps out five different farmland categories as well as urban and other land as described below (DOC 2024):

Prime Farmland – lands with the best combination of physical and chemical features able to sustain long-term production of crops. The land must be cropped and supported by a developed irrigation water supply that is dependable and of adequate quality during the grow season. It must also have been used for production during the previous four years.

Farmland of Statewide Importance – lands similar to Prime Farmland but with minor shortcomings such as greater slope or less ability to store moisture.

Unique Farmland – soils of lower quality that are used for producing California's leading agricultural crops. These lands are usually irrigated but may include non-irrigated orchards or vineyards.

Farmland of Local Importance – lands such as dryland grains and irrigated pastures that are not considered Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Grazing Land – land on which the existing vegetation is suited to the grazing of livestock.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) allows local governments to enter into contracts with private landowners for the purpose of preventing conversion of agricultural land to non-agricultural uses (DOC 2022a). In exchange for restricting their property to agricultural or related open space use, landowners who enroll in Williamson Act contracts receive property tax assessments that are substantially lower than the market rate.

3.2.2 Discussion of Checklist Responses

The following sections provide an analysis of impacts on agricultural and forestry resources that would result from project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Convert farmland to non-agriculture use

According to the DOC California Important Farmland Finder, the 12 culvert repairs along Wurr Road and Pescadero Creek Road and the removal of the drop structures and sacked concrete at Cloverdale Road are located on either unmarked, grazing, or urban and built-up land (DOC 2022b). No prime farmland, unique farmland, farmland of local importance, or farmland of statewide importance

would be converted by, or conflict with Proposed Project activities. Therefore, the Project would have **no impact** on the conversion of prime farmland, unique farmland, or farmland of statewide importance to a non-agricultural use.

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

The culvert repair sites in the Project area are located on lands zoned for private recreation, public recreation, low-density residential, timber production, or open space. However, the project on Little Butano Creek at Cloverdale Road (Site 190) is located on land zoned for agricultural use (County of San Mateo 2017). Activities associated with the Project would be limited to the footprint of Cloverdale Road within County right-of-way and Little Butano Creek. Temporary construction access roads may be created across farmland to reach Little Butano Creek; however, the access road would be used only for construction access, would be returned to previous conditions following construction, and would not change land use type. Project activities at this location would involve clearing interior sediment from the existing culvert, removing concrete drop structures and sacked concrete, installing vegetated rock-slope protection (RSP) and engineered streambed material, and removing trees and sediment located near the existing culvert outlet. Because these activities would not involve changing the existing land use or zoning designation or impacting agricultural activities within the area, the Proposed Project would have a less than significant impact with regards to conflicting with existing zoning for agriculture use. Additionally, none of the Project locations are located within any Williamson Act contract lands (DOC 2022a). Therefore, the Project would result in a **less-than-significant impact** related to conflicting with existing zoning for agricultural use or Williamson Act contract.

c, d, e. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland; result in the loss of forest land or conversion of forest land to non-forest use; or involve other changes in the existing environment which could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use

Only one Project site (Site 263) is located within designated on land zoned as a Timber Land Preserve District (TPZ) (County of San Mateo 2024). None of the remaining Project sites are located on land that is designated or zoned as forest land/ timber production land. Furthermore, the Proposed Project would not involve any activities that would result in the loss of forest land or convert forest land to non-forest uses. As a result, the Project would not result in the conversion of agricultural or forest land to non-agricultural or non-forest uses. The Proposed Project would result in **no impact**.

3.3 AIR QUALITY

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to air quality that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Clean Air Act

The Clean Air Act (CAA) is implemented by the U.S. Environmental Protection Agency (USEPA) and sets ambient air limits, known as the National Ambient Air Quality Standards (NAAQS), for seven criteria pollutants: particulate matter of aerodynamic radius of 10 micrometers or less (PM10), particulate matter of aerodynamic radius of 2.5 micrometers or less (PM2.5), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ground-level ozone (O_3), and lead. Of these criteria pollutants, particulate matter and ground-level ozone pose the greatest threats to human health.

Corporate Average Fuel Economy Standards

The National Highway Transportation Safety Administration (NHTSA) and the USEPA updated the Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emissions standards for

passenger cars and light trucks. In March 2022, CAFE standards were finalized for model years 2024 through 2026. The final rule establishes standards that require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks. In June 2024, CAFE standards were finalized for model years 2027 through 2031. The final rule establishes standards that require an industry-wide fleet average of approximately 50.4 mpg for passenger cars and light trucks, and an industry-wide fleet average for heavy-duty pickup trucks and vans of approximately 2.851 gallons per 100 miles in model year 2035. Similarly, fuel economy standards have been issued for medium- and heavy-duty vehicles of model years 2014-2018, including large pickup trucks and vans, semi-trucks, and all types and sizes of work trucks and buses (NHTSA 2024).

State Laws, Regulations, and Policies

California Air Resources Board

The California Air Resources Board (CARB) sets standards for criteria pollutants in California that are more stringent than the NAAQS and includes the following additional contaminants: visibility-reducing particles, hydrogen sulfide, sulfates, and vinyl chloride. CARB has enacted numerous regulations regulating mobile sources, such as off-road construction equipment and on-road vehicles, that are more stringent than the federal regulations.

Toxic Air Pollutants

The USEPA and CARB regulate various stationary, area, and mobile sources of criteria air pollutants and toxic air pollutants. The USEPA has regulations involving performance standards for specific sources that may release toxic air contaminants (TACs), also known as hazardous air pollutants (HAPs), at the federal level. In addition, the USEPA has regulations involving emission criteria for off-road sources such as emergency generators, construction equipment, and vehicles.

In-Use Off-road Diesel Vehicle Regulation

CARB has several regulations that regulate offroad vehicles emissions and limits to fleets of equipment and vehicles as well as other mobile sources. This includes recent regulatory updates to the In-use Off-Road Diesel-Fueled Regulation, Small Off-Road Engine Regulation, Portable Equipment Registration Program, Advanced Clean Fleets Regulation, Advanced Clean Trucks Regulation, and Advanced Clean Cars II Regulation. The latest revisions to the regulations for construction equipment require starting in 2024 the use of renewable diesel and verification by the lead agency that equipment used for their projects are in compliance with the applicable fleet regulations.

Airborne Toxic Control Measures

CARB regulates TACs by requiring implementation of various airborne toxic control measures (ATCMs), which are intended to reduce emissions associated with toxic substances. The following ATCMS may be relevant to the Proposed Project.

- ATCM to Limit Diesel-fueled Commercial Motor Vehicle Idling
- ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- ATCM for Stationary Compression Ignition Engines

- ATCM to Reduce Particulate Emissions from Diesel-Fueled Engines – Standards for nonvehicular Diesel Fuel.
- Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations
- Asbestos ATCM for Surfacing Applications

Regional Laws, Regulations and Policies

Bay Area Air Quality Management District

The Proposed Project is located in San Mateo County, which is within the San Francisco Bay Area Air Basin (SFBAAB) which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD manages air quality in the basin for attainment and permitting purposes and has established thresholds of significance for project emissions of criteria air pollutants. **Table 3.3-1** provides recommended significance criteria for analysis of air quality impacts, including cumulative impacts. The BAAQMD recommends implementing best management practices (BMP) for all projects to reduce fugitive dust emissions. With implementation of fugitive dust BMPs, BAAQMD considers the impact of fugitive dust emissions to be less than significant.

Table 3.3-1. BAAQMD Air Quality Thresholds of Significance (Project Level)

Criteria Air Pollutants and Precursors (Regional)	Construction-Related Thresholds – Average Daily Emissions (lb/day)	Operational Thresholds – Average Daily Emissions (lb/day)	Operational Thresholds – Maximum Annual Emissions (tpy)
Reactive Organic Gases (ROG)	54	54	10
Nitrogen Oxides (NO_X)	54	54	10
Particulate Matter (PM10)	82 (exhaust)	82	15
Particulate Matter (PM2.5)	54 (exhaust)	54	10
PM10/PM2.5 (fugitive dust)	Best Management Practices	None	
Local Carbon Monoxide (CO)	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Odors	None	Five confirmed complaints per year averaged over 3 years	

Source: BAAQMD 2023

Note: BAAQMD = Bay Area Air Quality Management District; BMP = Best Management Practice; CO = carbon; lb/day = pounds per day; NO_x = nitrogen oxides; PM2.5 = particulate matter 2.5 microns in size or smaller; PM10 = particulate matter 10 microns in size or smaller; ppm = parts per million; ROG = reactive organic gas; tpy = tons per year

The SFBAAB is currently in non-attainment of the state and federal ozone standards, state PM10 standards, and state and federal PM2.5 standards. The SFBAAB is in attainment or unclassified for all other pollutants. The CAA and the California Clean Air Act require areas that are designated nonattainment to reduce emissions until federal and state standards are met.

The BAAQMD has also established screening criteria that specify an acceptable distance between sensitive receptors and common sources of odors, such as landfills and wastewater treatment plants. The Proposed Project is not on BAAQMD's list of odor sources with minimum distance recommendations. BAAQMD specifies that an odor source with five or more confirmed complaints per year averaged over three years would be considered to have a significant impact on receptors within the screening distance. BAAQMD acknowledges that a lead agency has discretion under CEQA to use other established odor detection thresholds or other significance thresholds for CEQA review.

3.3.2 Environmental Setting

The Project site is located in San Mateo County, near the communities of Loma Mar and Pescadero, Butano State Park, and Memorial County Park. The maximum temperatures range (in degrees Fahrenheit [°F]) from the high 50s to the mid-70s, while the minimum temperatures are from the mid-40s to the high 50s. The mean annual precipitation is between 20 and 25 inches, and the winds are typically mild.

Ozone and fine particle pollution, or PM2.5, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution is a problem in the winter. In San Mateo County, ozone rarely exceeds health standards set forth by the BAAQMD, and PM2.5 exceeds the standard approximately one day per year, as the County regularly gets an influx of fresh marine air from the nearby Pacific Ocean.

The surrounding area primarily consists of forest with a few scattered rural residences, a YMCA camp, and Butano State Park and Memorial County Park which have several campgrounds and recreational trails.

3.3.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on air quality that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Conflict with or obstruct implementation of the applicable air quality plan

A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan, which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. Therefore, projects need to be evaluated to determine whether they would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air quality plans. The Proposed Project involves repairing culverts and removing concrete drops structures and would not involve the construction of any population-generating land uses (i.e., residential, commercial, etc.).

Additionally, BAAQMD CEQA Guidelines state that if a project is above any of its significance thresholds than it is in conflict with their air quality plans. As discussed in thresholds (b) and (c)

below, the Project is below these significance thresholds and therefore the Project does not conflict or obstruct implementation of the 2017 Clean Air Plan.

As described above, the Project site is located within the SFBAAB and is under the jurisdiction of the BAAQMD. The SFBAAB is a state and federal non-attainment area for O_3 and PM2.5 and a state non-attainment area for PM10. BAAQMD's Final 2017 Clean Air Plan (CAP), titled *Spare the Air, Cool the Climate*, describes how BAAQMD will reduce emissions of TACs and continue to make progress toward attaining state and federal air quality standards (BAAQMD 2023). These proposed measures include controlling PM emissions from paving operations, fugitive dust, trackout during construction, and bulk material handling and transport. The Proposed Project would comply with BAAQMD Regulation 6 Rule 6: Prohibition of Trackout by implementing BMP GEN-3 (Construction Entrances and Perimeter), which requires stabilized construction site entrances and exits, perimeter control, and immediate sweeping of any street tracking and BMP GEN-19 (Dust Controls), which would implement fugitive dust measures recommended by BAAQMD. The contractor would also comply with CARB's updated fleet rules that require the use of renewable diesel for offroad vehicle use, as well as the ATCMs that are outlined above. For the reasons stated above, the Proposed Project would not obstruct or conflict with the implementation of any applicable air quality plan and would not create long-term growth that could affect the existing emissions budget. Therefore, the Proposed Project would have a **less than significant impact** with respect to conflicts with existing air quality plans.

b. Cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area

Construction activities associated with the Proposed Project would result in emissions of criteria air pollutants due to exhaust from operating construction equipment, sediment and material hauling, and worker trips, as well as from grading and excavation. In order to evaluate the net increase of criteria pollutants from the Proposed Project, emission estimates were calculated using the California Emission Estimator Model (CalEEMod), version 2022.1.1.26**,** as well as from information provided in Chapter 2, *Project Description*. Modeling was completed using conservative assumptions for equipment, scheduling, and haul routes and compares the calculated average daily emissions for the Proposed Project to the threshold limits set by the BAAQMD. For the purpose of this analysis, the modelling input phases would occur sequentially to provide a conservative emissions estimate. The associated modeling calculations are detailed in **Appendix B, Air Quality, Energy, and GHG Emission Calculations.** Modeled emissions are shown in **Table 3.3-2.**

Table 3.3-2. Estimated Criteria Pollutant Emissions for the Proposed Project

Unmitigated Construction Emissions (lb/day)	ROG	NO_X	CO	PM10 Exhaust	PM10 Fugitive	PM2.5 Exhaust	PM2.5 Fugitive
Average Total Daily Emissions	0.66	4.54	4.80	0.18	0.13	016	0.03
BAAQMD Daily Emissions Threshold (lb/day)	54	54	None	82	BMPs*	54	BMPs*
Exceeds Threshold?	No	No	No	No	No	No	No

Note: lb/day = pounds per day.

* "BMPs" indicates that no calculation is required because compliance with BMPs is considered by BAAQMD to reduce the emission to below the threshold.

As shown in **Table 3.3-2** above, the estimated unmitigated average daily emissions for the Proposed Project associated with construction activities are less than the BAAQMD threshold for all evaluated criteria pollutants. Criteria pollutants PM2.5 and PM10 from fugitive dust would be minimized with the implementation of BMPs GEN-3, which requires stabilized construction site entrances and exits, perimeter control, and immediate sweeping of any street tracking and GEN-19 which implements BAAQMD dust control management measures. These emissions would also fall under the threshold limit set forth by the BAAQMD. Since the modeled emissions from the Proposed Project do not exceed the BAAQMD quality emission thresholds, the Project's emissions would not be cumulatively considerable. Maintenance activities associated with the Proposed Project would be consistent with existing County practices under the County of San Mateo Routine Maintenance Program and would be implemented only on an as-needed basis with a negligible effect on air quality. As a result, implementation of the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutants, resulting in a **less-than-significant impact**.

c. Expose sensitive receptors to substantial pollutant concentrations

Construction activities associated with the Proposed Project may generate TACs from the use of off-road equipment which could produce diesel particulate matter (DPM) as a result of exhaust emissions. DPM can result in chronic health effects and cancer from chronic long-term exposure to DPM. As discussed above, construction activities would be temporary; accordingly, the production of TACs would also be short-term and would only occur during the construction period.

Sensitive receptors adjacent to the Project site include the communities of Loma Mar and Pescadero and nearby residences along Pescadero Creek Road, Wurr Road, and Cloverdale Road, recreationalists at Memorial County Park and Butano State Park, and campers at the YMCA camp. Due to the short-term nature of Project construction and maintenance activities, the generation and exposure of TAC emissions would be temporary, especially considering the short amount of time such equipment is typically operating within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. However, chronic and cancer-related health effects estimated over short periods are uncertain. Cancer potency factors are based on animal lifetime studies or worker studies with long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from exposure that would last only a small fraction of a lifetime. Some studies indicate that the dose rate may change the potency of a given dose of a carcinogenic chemical. In other words, a dose delivered over a short period may have a different potency than the same dose delivered over a lifetime (California Office of Environmental Health Hazard Assessment [OEHHA] 2015). Furthermore, construction related impacts are most severe immediately adjacent to the Project site and decrease rapidly with increasing distance. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005). Any exposure of a specific sensitive receptor in the vicinity of the Project site to TAC during construction or maintenance activities would be temporary.

Despite the presence of multiple sensitive receptors within close proximity to the Project area, all criteria air pollutants generated by the Project would fall well below the BAAQMD allowable threshold as discussed under criterion (b) above. The Air Quality Thresholds of Significance at the project level were developed by the BAAQMD in order to "ensure that no individual project (or

source) creates a significant adverse impact, and that no sensitive receptor endures a significant adverse impact" (BAAQMD 2023). Because all generated pollutants would occur temporarily and are not considered a significant risk to sensitive receptors based on the allowable levels set by the BAAQMD, there would be no substantial effects as a result of emissions generated by the Proposed Project. Furthermore, implementation of BMP GEN-19, which focuses on the reduction of fugitive dust and equipment exhaust, would further reduce any negative effects to sensitive receptors to a **less-than-significant** level.

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

Diesel exhaust from construction activities may generate temporary odors during construction of the Proposed Project. In addition, excavated and recently exposed vegetation, soil, or sediment may contain decaying organic material that may create objectionable odors. The intensity of the odor perceived by a receptor depends on the distance of the receptor from the odor source and the amount and quality of the exposed soil or sediment material. Project-related odors due to exposure of organic material are expected to be minimal because of the nature of the alluvial soils in the Project area. Following the completion of construction activities, exposed sediment and soil in the Project area would be revegetated. Furthermore, once construction activities have been completed, all odors would cease. Maintenance activities may also generate temporary odors, but the odors would be short-lived and would occur intermittently throughout the Project area. Lastly, the Proposed Project is not listed as a known source of odor which recommended distances from sensitive odor receptors. Impacts related to the potential generation of objectionable odors would be temporary and **less than significant**.

3.4 BIOLOGICAL RESOURCES

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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 CDFW or USFWS?	☐	☐	☒	☐
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 DFG or USFWS?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state HCP?	☐	☐	☐	☒

3.4.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to biological resources that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S. Code [USC] § 1531 *et seq*.; 50 Code of Federal Regulations [CFR] Parts 17 and 222) provides for conservation of species that are endangered or threatened throughout all or a substantial portion of their range, as well as protection of the habitats on which they depend. The USFWS and the NMFS share responsibility for implementing the ESA. In general, USFWS manages terrestrial and freshwater species, whereas NMFS manages marine and anadromous species.

Section 9 of the ESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC § 1532). Section 7 of the ESA (16 USC § 1531 *et seq*.) and outlines the procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Section 10(a)(1)(B) of the ESA provides a process by which non-federal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in "take" of endangered or threatened species, subject to specific conditions. A Habitat Conservation Plan (HCP) must accompany an application for an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC, Chapter 7, Subchapter II) protects migratory birds. Most actions that result in the taking of, or the permanent or temporary possession of, a migratory bird constitute violations of the MBTA. The MBTA also prohibits the destruction of occupied nests. The USFWS is responsible for overseeing compliance with the MBTA.

The Migratory Bird Treaty Reform Act amends the MBTA so that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the MBTA.

Clean Water Act

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 CFR § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 CFR Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of USACE under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of State water quality certification pursuant to Section 401 of CWA.

Section 401 of the CWA requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U.S. In California, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards

(RWQCBs) issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in discharge to waters of the U.S. (including wetlands or vernal pools) must also obtain a Section 401 water quality certification to ensure that any such discharge will comply with the applicable provisions of the CWA.

State Laws, Regulations, and Policies

California Fish and Game Code

The California Fish and Game Code includes various statutes that protect biological resources, including the Native Plant Protection Act of 1977 (NPPA) and the California Endangered Species Act (CESA). The NPPA (California Fish and Game Code §§ 1900–1913) authorizes CDFW to designate plants as endangered or rare and prohibits the taking of any such plants except as authorized in limited circumstances.

CESA (California Fish and Game Code §§ 2050–2098) prohibits State agencies from approving a project that would jeopardize the continued existence of a species listed under CESA as endangered or threatened. Section 2080 of the California Fish and Game Code prohibits the take of any species that is State listed as endangered, threatened, or designated as a candidate for such listing. CDFW may issue an incidental take permit authorizing the take of listed and candidate species if that take is incidental to an otherwise lawful activity, subject to specified conditions.

California Fish and Game Code § 3503 and §3513 protect native and migratory birds, including their active or inactive nests and eggs, from all forms of take. In addition, § 3511, §4700, §5050, and §5515 identify species that are fully protected from all forms of take. Furthermore, § 3511 lists fully protected birds; § 5515 lists fully protected fish; §4700 lists fully protected mammals; and §5050 lists fully protected amphibians.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (known as the Porter-Cologne Act), passed in 1969, dovetails with CWA (refer to discussion of the CWA above). It established SWRCB and divided the State into nine regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface water and groundwater supplies; however, much of the SWRCB's daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 401, 402, and 303[d]. In general, the SWRCB manages water rights and regulates Statewide water quality, whereas RWQCBs focus on water quality within their respective regions.

The Porter-Cologne Act requires RWQCBs to develop water quality control plans (also known as Basin Plans) that designate beneficial uses of California's major surface-water bodies and groundwater basins and establish specific narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a waterbody (i.e., the reasons that the waterbody is considered valuable). Water quality objectives reflect the standards necessary to protect and support those beneficial uses. Basin Plan standards are primarily implemented by regulating waste discharges so that water quality objectives are met.

3.4.2 Environmental Setting

Land Cover Types in the Project Area

Riverine Habitat

Riverine habitat in the Project area includes streams and intermittent drainages. Streams and drainages on steep slopes convey water in narrow channels at fast flow rates, typically have rocky bottoms, and can be episodic with higher flows responding to more intensive precipitation events. These channels are typically situated at higher elevations in the Santa Cruz Mountains. Streams and drainages on more gradual slopes tend to exhibit wider channels with slower moving water, have fine substrate bottoms, and generally convey longer to continuous, perennial flows. Perennial and intermittent streams may support a variety of aquatic species depending on hydrological conditions and habitat structure, including California, rough-skinned and hybridized newts (*Taricha* spp.), California giant salamander (*Dicamptodon ensatus*), California red-legged frog (*Rana draytonii*), Pacific chorus frog (*Pseudacris regilla*), and garter snake (*Thamnophis* spp.). Perennial waters may also support western pond turtle (*Actinemys marmorata*) and a variety of fish species.

Downstream receiving waterbodies, Pescadero Creek and/or Butano Creek, support Central California Coast Steelhead (*Oncorhynchus mykiss*) and Coho Salmon (*Oncorhynchus kisutc*h). Bloomquist Creek and Peterson Creek are not identified as steelhead bearing streams (CEMAR 2008) and are not accessible to anadromous fish migration due to steep channels with large drops over bedrock and large woody debris jams observed downstream of the Project sites along Wurr Road. Fish passage to upstream reaches of Little Butano Creek is currently impeded by several barriers – two drop structures immediately upstream of the Cloverdale Road box culvert (likely a partial barrier), which will be addressed by this project, and a bedrock chute (full barrier and current limit to anadromy) located downstream between the Cloverdale Road box culvert and confluence with Butano Creek[1]. The San Mateo Resource Conservation District (RCD) is currently (Summer 2025) implementing the Little Butano Fish Passage and Enhancement Project to remove the bedrock chute, which will allow upstream movement of steelhead and Coho salmon in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.

The Project area includes riverine habitat located near Pescadero Creek (Site 94), Bloomquist Creek (Site 263), Peterson Creek (Site 268), and in Little Butano Creek (Site 190). Other riverine features within the Project area may include intermittent or ephemeral drainages along Wurr Road and Pescadero Creek Road.

Riparian Woodland

Riparian woodland is a tree-dominated community, with typical species including white alder (*Alnus rhombifolia*), Pacific willow (*Salix lasiandra*), bigleaf maple (*Acer macrophyllum*), California bay laurel (*Umbellularia californic*a), coast live oak (*Quercus agrifolia*), Oregon ash (*Fraxinus latifolia*), and

[1] CEQA net lists that the San Mateo Resource Conservation District plans to implement the Little Butano Creek Fish Passage and Habitat Enhancement Project in Summer 2025. The Little Butano Creek Fish Passage and Habitat Enhancement Project will remove the existing bedrock chute, which would allow upstream movement of steelhead and Coho salmon in Little Butano Creek to Site 190 at Cloverdale Road.

American dogwood (*Cornus sericea*). The understory is variable in composition, including a shrub or vine layer that includes California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), spreading gooseberry (*Ribes divaricatum*), western thimbleberry (*Rubus parviflorus*), red elderberry (*Sambucus racemosa* var. *racemosa*), and young willows. Other understory species present include native species such as great horse tail (*Equisetum telmateia*), California mugwort (*Artemisia douglasiana*), field horsetail (*Equisetum arvense*), California bee plant (*Scrophularia californica*), stinging nettle (*Urtica dioica*), and western dock (*Rumex occidentalis*). Non-native species present include poison hemlock (*Conium maculatum*), and grasses such as Harding grass (*Phalaris aquatica*), Italian ryegrass (*Festuca perennis*), slender oat (*Avena barbata*).

Riparian woodlands typically support a diverse assemblage of wildlife. Typical bird species include California western scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), downy woodpecker (*Picoides pubescens*), American robin (*Turdus migratorius*), black phoebe (*Sayornis nigricans*), acorn woodpecker (*Melanerpes formicivorus*), Steller's jay (*Cyanocitta stelleri*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thyromanes bewickii*), ruby-crowned kinglet (*Corthylio calendula*), bushtit (*Psaltriparus minimus*), and dark-eyed junco (*Junco hyemalis*). An adult, red-shouldered hawk (*Buteo lineatus*) was observed during the field survey and other raptors, such as red-tailed hawk (*B. jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and great horned owl (*Bubo virginianus*) may also occur. Amphibians and reptiles such as California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), Southern alligator lizard (*Elgaria multicarinata*), Pacific gopher snake *(Pituophis catenifer*), ring-necked snake (*Diadophis punctatus*), and Pacific chorus frogs may be found in this land cover. Small mammals common to riparian woodlands include dusky-footed woodrat (*Neotoma fuscipes*) and western gray squirrel (*Sciurus griseus*). Bats may also use trees within this riparian habitat for foraging and roosting as several dead snags with cavities and exfoliating bark were observed in the direct the vicinity of the study area.

Riparian woodland is present along the Little Butano Creek (Site 190) and tributaries to Pescadero Creek. Riparian woodland is considered sensitive by CDFW.

Redwood Forest

Redwood forest is a composite habitat name for a variety of conifer species that grow in the coastal influence zone. Redwood forest habitats are largely restricted to areas of coastal influence with relatively stable temperatures and summer coastal fog. The tree composition includes redwood (*Sequoia sempervirens*) as the dominant or co-dominant species with a mixture of other conifer species, including Douglas fir (*Pseudotsuga menziesii*), and mixed with coastal oak woodland. San Mateo County is located near the southern end of the distribution of the redwood community, and therefore the associates can also include California bay and Oregon ash. The understory contains species such as sword fern (*Polystichum californicum*), thimbleberry, wood sorrel (*Oxalis corniculata*), tanoak (*Notholithocarpus densiflorus*), and bee plant.

Redwood Forest support a variety of bird species including American robin, Steller's jay, orange-crowned warbler (*Leiothlypis celata*), dark-eyed junco, brown creeper (*Certhia americana*), American crow, and common raven (*Corvus corax*). Old growth redwood forest is habitat for marbled murrelet (*Brachyramphus marmoratus*). Amphibians found in this habitat include California slender salamander, arboreal salamander, rough-skinned and California newts, ensatina (*Ensatina*

eschscholtzii), and California giant salamander. Mammals common to redwood forest areas include dusky-footed woodrat, western gray squirrel, brush rabbit (*Sylvilagus bachman*i), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), mule deer (*Odocoileus hemionus*), and mountain lion (*Puma concolor*). Bats may also use trees within this habitat for foraging and roosting as several dead snags with cavities and exfoliating bark.

In the Project area, this habitat occurs at the Pescadero Creek Road (Site 94 and Site 102) and the Wurr Road sites (Sites 263 through Site 270.1). Redwood forest is considered a sensitive habitat by CDFW.

Mixed Conifer-Harwood Forest

This habitat type contains both hardwoods and conifers in a closed canopy forest setting. Characteristically, this habitat contains a mixture of small stands, either pure conifer stands or small pure broadleaf tree stands. Common trees are Douglas fir, tanoak, Pacific madrone (*Arbutus menziesii*), coast live oak, big leaf maple, and redwood. This habitat represents a transition between conifer forests and montane hardwood. It may also occur as a transition zone between other habitats, including chaparral and other open woodlands. Mixed conifer-hardwood forest occurs in the outer coast range in inland portions of the range, often at redwood forest margins. Mixed conifer-hardwood also supports a diverse assemblage of wildlife that is also found within the redwood forest study area. In the Project area, this habitat occurs along many of the Wurr Road and Pescadero Creek Road sites.

Upland Chapparal

Upland chapparal communities are characterized by woody shrub-dominated landscapes, with few to no trees. Common dominant species associated with this land cover type within the Project area include coyote brush and poison oak. Upland chapparal habitat is present along the Pescadero Creek Road sites (Site 119 and Site 128.1). Non-native grasses and herbaceous species are often prevalent in this community, such as ripgut brome (*Bromus diandrus*), rattlesnake brome (*Bromus briziformus*), hairy vetch (*Vicia villosa*), Italian thistle (*Carduus pychocephalus*), bristly oxtongue (*Helminthotheca echioides*), and Italian ryegrass.

Ruderal & Developed/Landscape

Ruderal vegetation is characterized by non-native forbs and grasses in a disturbed habitat typically along the edges of developed/landscaped cover or areas with frequent disturbance. Dominant ruderal species include Harding grass, rattlesnake brome, Italian thistle, Italian ryegrass, ripgut brome, soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum jubatum*), and other opportunistic weedy species. Ruderal cover in the study area was observed along Wurr Road, Pescadero Creek Road, and Cloverdale Road.

Developed/landscaped land cover is found throughout the Project area. This land cover includes roads, structures, paved surfaces, landscaped vegetation, and other anthropogenic features. Vegetation in these areas, if present at all, is usually sparse, dominated by opportunistic weedy herbaceous species found in the neighboring ruderal community.

Special-Status Species

For the purpose of this report, special-status plant and wildlife species refer to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants, 50 CFR Section 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under ESA (76 Federal Register [FR] Section 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.);
- California Rare Plant Rank (CRPR) List 1 and 2 species; and
- Animals fully protected in California (Fish and Game Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]) or species designated as "Species of Special Concern" by CDFW.

The following sources were consulted to identify special-status species with the potential to occur in the vicinity of the Project:

- U.S. Fish and Wildlife Service (USFWS), Information for Planning and Conservation (IPaC) list of federally endangered and threatened species (USFWS 2025a);
- USFWS's Critical Habitat Portal (USFWS 2025b);
- National Marine Fisheries Service (NMFS) California Species List (NMFS 2025); and
- California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB) queries for the USGS 7.5-minute quadrangles encompassing and surrounding the study area: Half Moon Bay, Woodside, Palo Alto, San Gregorio, La Honda, Mindego Hill, Pigeon Point, Franklin Point, Big Basin (CDFW 2025).

These data sources were reviewed to develop the list of special-status species and their potential to occur within the Project area. The potential for special-status species to occur in areas affected by the Proposed Project was evaluated according to the following criteria:

- **None**: indicates that the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
- **Not Expected**: indicates situations where suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities.
- **Possible:** indicates the presence of suitable habitat or key habitat elements that potentially support the species.

- **Present**: indicates that either the target species was observed directly, or its presence was confirmed by diagnostic signs during field investigations or in previous studies in the area.

Most special-status species identified during the database queries were determined to be absent from the Project area because of a lack of suitable habitat and/or isolation from known populations by barriers to dispersal. Therefore, there is no potential for Project related impacts on these species, and these species are not discussed further. A complete list from the results from the database queries are provided in **Appendix C, Special-status Species Known to Occur in the Project Area**. Maps of CNDDB occurrence records within 5 miles of the Project areas for shown for special-status plants (**Figure 3.4-1**) and special-status wildlife (**Figure 3.4-2**). These special-status species are discussed below.

Number	Common Name
1	Anderson's manzanita
2	arcuate bushmallow
3	Blasdale's bent grass
4	Butano Ridge cypress
5	Choris' popcornflower
6	coastal marsh milk-vetch
7	Dudley's lousewort
8	fragrant fritillary
9	marsh microseris
10	minute pocket moss
11	perennial goldfields
12	Point Reyes meadowfoam
13	Robbins' broomrape
14	San Francisco popcornflower
15	San Mateo woolly sunflower
16	Santa Cruz microseris
17	Scouler's catchfly
18	western leatherwood
19	white-flowered rein orchid
20	woodland woollythreads

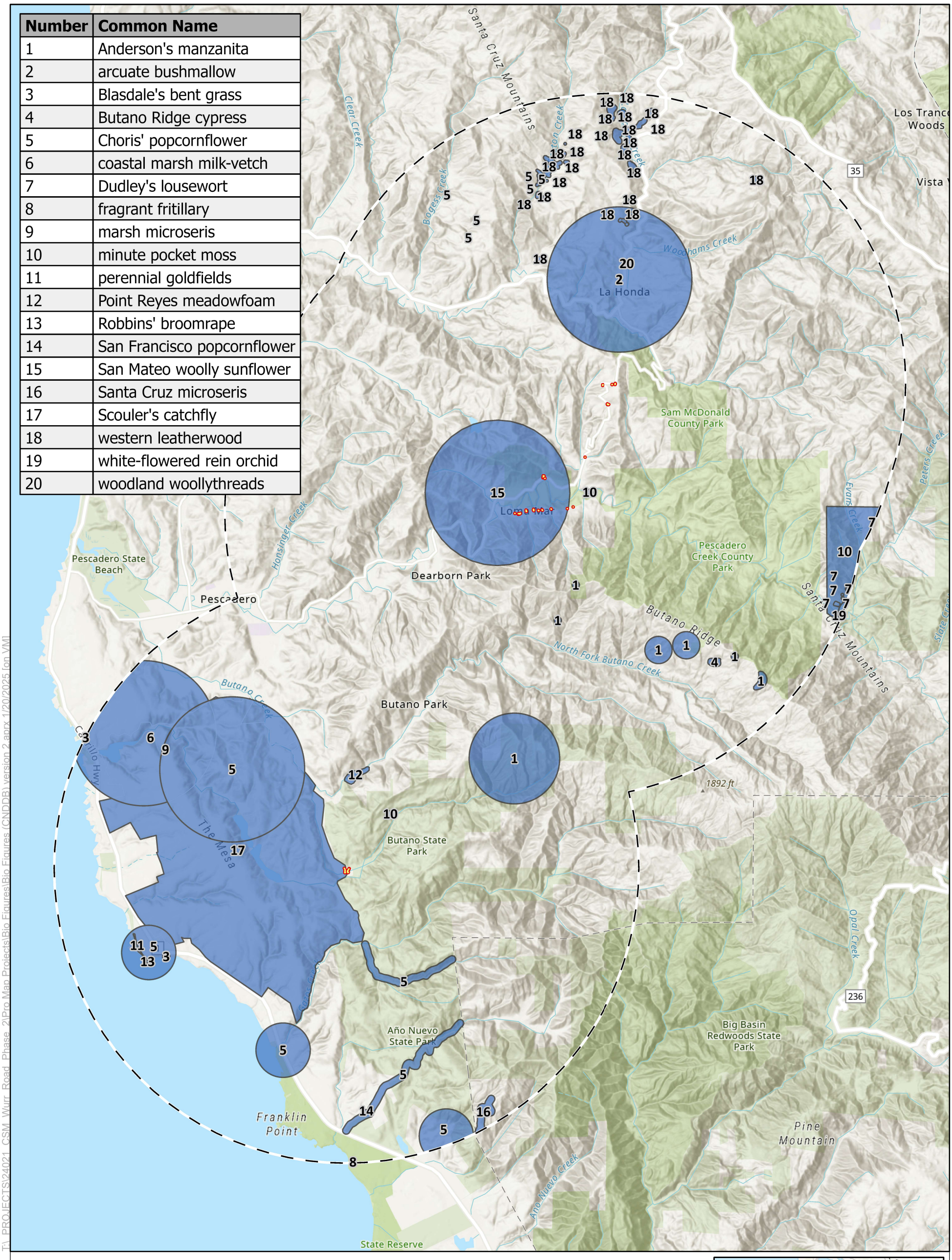


Figure 3.4-1
Special-Status Plant Species within 5 Mile Radius of Project Area

Wurr Road Culvert Repair

MONTROSE ENVIRONMENTAL

Data Source: CNDDB June 2024, CDFW

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Number	Common Name
1	American badger
2	American peregrine falcon
3	burrowing owl
4	California giant salamander
5	California red-legged frog
6	foothill yellow-legged frog - central coast DPS
7	hoary bat
8	longfin smelt
9	marbled murrelet
10	monarch - California overwintering population
11	Myrtle's silverspot butterfly
12	obscure bumble bee
13	pallid bat
14	San Francisco gartersnake
15	Santa Cruz black salamander
16	steelhead - central California coast DPS
17	tidewater goby
18	Townsend's big-eared bat
19	western bumble bee
20	western pond turtle
21	western snowy plover

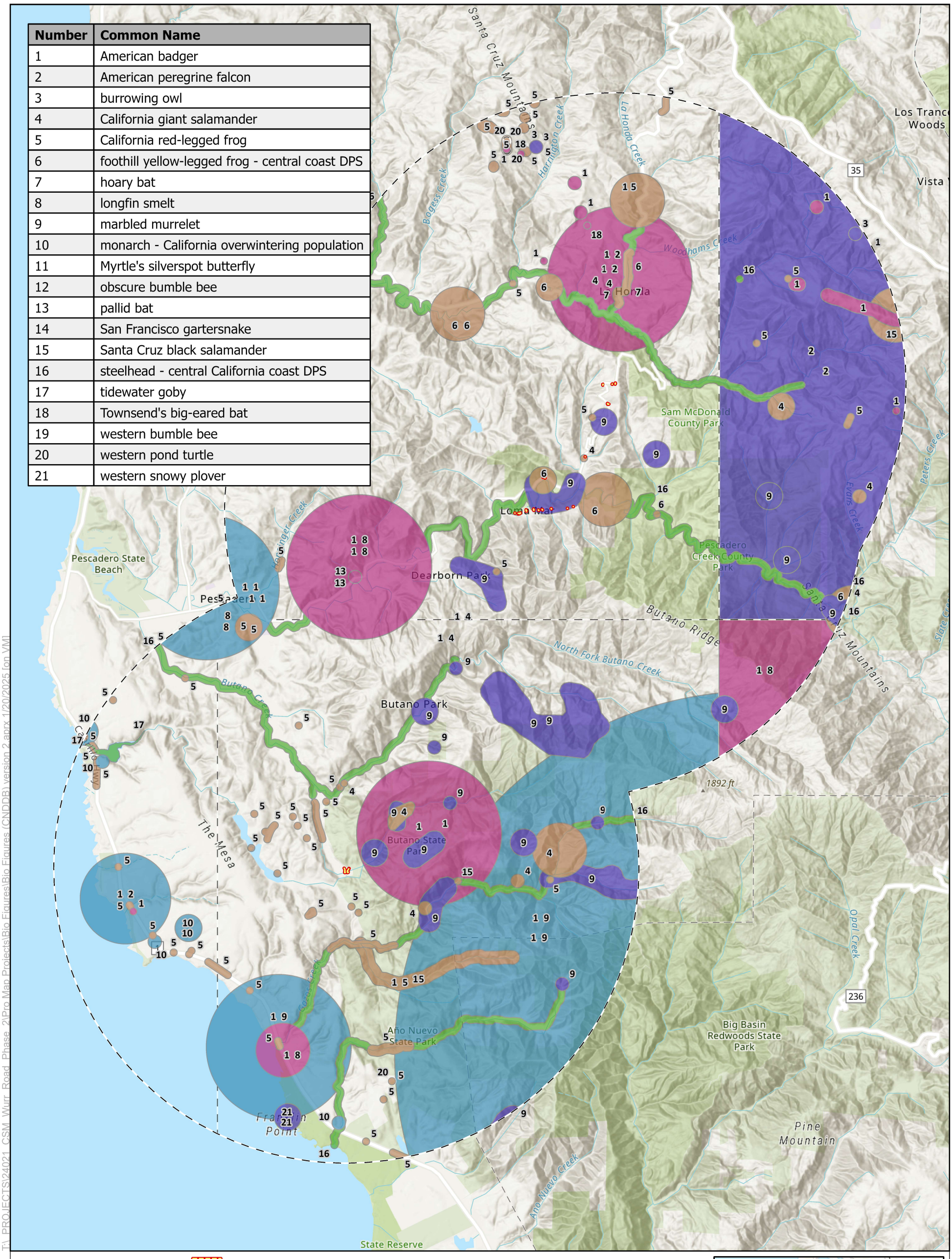


Figure 3.4-2
Special-Status Animal Species within 5 Mile Radius of Project Area

Wurr Road Culvert Repair

MONTROSE ENVIRONMENTAL

Data Source: CNDDB June 2024, CDFW

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Special-Status Plants

Based on the special-status plant species search described above, six (6) special-status plant species were identified to occur in the vicinity of the Project (CDFW 2025). Five of these plant species were determined to potentially occur within the Project area and include western leatherwood (*Dirca occidentalis*), minute pocket moss (*Fissidens pauperculus*), arcuate bushmallow (*Malocathamnus arcuatus*), woodland woollythreads (*Monolopia gracilens*), and white-flowered rein orchid (*Piperia candida).* Although there is potentially suitable habitat present for the Anderson's manzanita (*Arctostaphylos* andersonii) within the vicinity of the Project area, it has not been observed in the Project area during reconnaissance level surveys and is not expected to occur.

Special-Status Wildlife

Based on the special-status wildlife species search described above, fourteen (14) special-status wildlife species were identified to potentially occur within the Project area (CDFW 2024, USFWS 2024a) and include:

- Santa Cruz black salamander (*Aneides niger*); state species of special concern
- California giant salamander (*Dicamptodon ensatus*); state species of special concern
- foothill yellow-legged frog (*Rana boylii*); federally threatened, state endangered
- California red-legged frog (*Rana draytonii*); federally threatened, state species of special concern
- western pond turtle (*Actinemys marmorata*); federal candidate, state species of special concern
- San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*); federally endangered, state endangered, state fully protected
- Coho salmon – central California coast ESU *(Oncorhynchus kisutch*); federally endangered; state endangered
- Steelhead – central California coast DPS (*Oncorhynchus mykiss irideus*); federally threatened
- marbled murrelet (*Brachyramphus marmoratus*); federally threatened, state endangered
- long-eared owl (*Asio otus*); state species of special concern
- Pallid Bat (*Antrozous pallidus*); state species of special concern
- Townsend's big-eared bat (*Corynorhinus townsendii*); state species of special concern
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*); state species of special concern
- American badger (*Taxidea taxus*); state species of special concern

Critical Habitat

All Project sites are within designated Critical Habitat for California red-legged frog (SNM-2) (75 FR 12816-12959).

Critical Habitat for Marbled Murrelet is present at or near Project sites along Wurr Road and Pescadero Creek Road and occurs within Butano State Park in the vicinity of Cloverdale Road (81 FR 51348-51370).

Pescadero Creek and Butano Creek are designated as Critical Habitat for *Oncorhynchus mykiss irideus* pop. 8 steelhead - Central California Coast DPS and *Oncorhynchus kisutch* pop. 4 coho salmon - Central California Coast ESU (USFWS 2024b). While current mapping identifies fish passage to upstream reaches of Little Butano Creek being fully blocked by an existing bedrock chute (full barrier and current limit to anadromy) located downstream of Site 190 at Cloverdale Road, it is assumed that this barrier to fish passage will be removed by the Little Butano Creek Fish Passage and Habitat Enhancement Project in Summer 2025, prior to the commencement of the Proposed Project. Therefore, it is assumed that the portions of Little Butano Creek within the Project area at Site 190 would classify as critical habitat for these species at the commencement of Project construction. Under these assumptions, the Proposed Project includes plans to restore and enhance aquatic and riparian habitat along Little Butano Creek at Cloverdale Road (Site 190) through the removal of accumulated sediment and obstructive vegetation, demolition of existing concrete structures that impede fish passage near the double box culvert, and restoration of streambed habitat both upstream and downstream of the crossing. Additionally, no other critical habitat is present in the Project area, since the remaining Project sites are not accessible to anadromous fish due to downstream migration barriers. Furthermore, Bloomquist and Peterson Creek at Wurr Road are deemed non-fish bearing stream reaches due to steep slopes and bedrock drop offs (USFWS 2024b; CEMAR 2008; CALFish 2025).

3.4.3 Discussion of Checklist Responses

The following sections provide an analysis of the impacts of the resources discussed above that may result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines. Where applicable, the text prescribes mitigation that would reduce an impact to less than significant with mitigation.

a. Create a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species?

Special-Status Plant Species

As described above, there is potential for six (6) special-status plant species to occur within the Project area. If any of these special-status plants listed above are determined to be present within the Project area, Project construction could result in the removal, trampling, or crushing of individual special-status plants. Indirect impacts are those that are not observable immediately but is reasonably due to the Proposed Project. Improperly controlled runoff, sediment, or hazardous materials could enter potential special-status plant habitat or invasive species could be introduced into special-status plant populations.

The Project would adhere to BMPs listed in **Table 2-3**, including BMP GEN-1 (Staging and Access); BMP GEN-2 (Minimize the Area of Disturbance and Site Maintenance); BMP GEN-5 (Non-Hazardous Materials); BMP GEN-6: (Hazardous Materials Storage/Disposal); BMP GEN-7 (Spill Prevention and

Control); BMP GEN-16 (Timing of Work); BMP GEN-22 (Site Stabilization); BMP EC-5 (Wattles/Fascines); and BMP EC-10 (Erosion Control Blankets & Mats). These BMPs would reduce indirect impacts associated with increased erosion/sedimentation, and potential contaminations. BMP GEN-2 would minimize disturbance area reducing overall impact to the work area.

Direct impact on special-status plants would be avoided and minimized with implementation of BMP BIO-16 (Avoidance Special-Status Plant Species). BMP BIO-16 requires surveys for rare plants that may reasonably occur in the Project area by a qualified botanist. The survey(s) would occur during the blooming/identification period for the focal species and use CDFW's survey protocols for rare plants. If rare plants were discovered during the survey, the species population would be mapped, flagged, and photographed. Exclusionary fencing (or similar) would be installed around the rare plants to clear mark and avoid Project impacts to the extent feasible.

Implementation of Project BMPs would ensure that direct and indirect impacts to special-status plant species were less than significant.

Special-Status Wildlife Species

As described above, there is potential for fourteen (14) special-status wildlife species to occur within the Project area. Potential Project impacts on those species is discussed below.

Salmonids

Although not known to currently occur in the Project footprint, coho salmon and steelhead are known to spawn in Pescadero Creek and Butano Creek. However, no work occurs on Pescadero Creek nor Butano Creek. Bloomquist Creek and Peterson Creek do not support anadromous fish due to steep channels with several bedrock drops downstream of Wurr Road. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish.

Salmonids are known to occur in the lower reaches of Little Butano Creek, but the presence of a bedrock chute downstream of the Cloverdale Road site (Site 190) has historically served as a total fish barrier which impeded anadromous fish from accessing Little Butano Creek within the Project footprint. However, it is assumed that this existing barrier to fish passage will be removed by the Little Butano Creek Fish Passage and Habitat Enhancement Project in Summer 2025, prior to the comments of the Proposed Project. Therefore, it is assumed that salmonid species would be able to access portions of Little Butano Creek within the Project area at Site 190 at the commencement of Project construction. Under these assumptions, the Proposed Project includes plans to restore and enhance aquatic and riparian habitat along Little Butano Creek at Cloverdale Road (Site 190) through the removal of accumulated sediment and obstructive vegetation, demolition of existing concrete structures that impede fish passage near the double box culvert, and restoration of streambed habitat both upstream and downstream of the crossing.

Direct impact on special-status salmonid species would be avoided and minimized with implementation of BMP BIO-2 (Minimize Injury or Mortality of Fish and Amphibian Species during Dewatering). BMP BIO-2 provides detailed measures to be implemented during dewatering activities to rescue and relocation ay aquatic species that may be present. These measures have been designed to avoid direct mortality and minimize take in streams that may potentially support a sensitive species (e.g., steelhead, California red-legged frog). Additionally, these measures are

consistent with those defined as reasonable and prudent by NMFS for projects concerning several central California Evolutionarily Significant Units for coho salmon and steelhead trout.

Implementation of Project BMPs would ensure that direct and indirect impacts to special-status plant species were less than significant.

Additionally, Project BMPs and adherence to regulatory permit conditions would avoid and minimize indirect impacts to downstream receiving waterbodies by requiring instream work be completed during the dry season when streamflow is lowest, by requiring stream diversion and dewatering systems when flow is present, and by implementing erosion control measures to limit any sediment generated onsite from entering receiving waterbodies. Additionally, the Proposed Project includes plans to restore and enhance aquatic and riparian habitat along Little Butano Creek at Cloverdale Road (Site 190) through the removal of accumulated sediment and obstructive vegetation, demolition of two existing concrete structures that impede fish passage near the double box culvert, and restoration of streambed habitat both upstream and downstream of the crossing. Therefore, with the implementation of Project BMPs Proposed Project would have a less-than-significant impact on special-status fish species.

Reptiles and Amphibians

Several special-status reptiles (San Francisco garter snake and western pond turtle) have a low potential to occur at the Cloverdale Road site (Site 190) while amphibians (Santa Cruz black salamander, Californian giant salamander, foothill yellow-legged frog and California red-legged frog) have varying potential to occur at the Pescadero Creek (Site 94), Bloomquist Creek (Site 263), Peterson Creek (Site 268), and Cloverdale Road (Site 190) as these sites support perennial aquatic features such as pools or sustained streamflow.

Project sites along Wurr Road (Sites 265.1, 270, and270.1) and Pescadero Creek Road (Site 128.1) do not have suitable habitat to support special-status reptiles and amphibians as these sites can be described as roadside stormwater drainage ditches and channels that only convey water intermittently, during and immediately following storm events. These stormwater features often lack vegetation or other cover needed for wildlife inhabitation. Riparian and hydrophytic vegetation is limited at Sites 94, 263, and 268, but other refugia, such as rock slope protection, large woody debris, and overhanging banks, are generally present. California giant salamander were observed in Peterson Creek (268) during Project planning surveys.

At the Cloverdale Road site (Site 190), dense riparian habitat and canopy cover currently exists along the upper bank areas and adjacent stream corridor. Instream habitat within the portion of the Project footprint downstream of the Cloverdale Road double box culvert is characterized by accumulated sediment and obstructive vegetation, while the portions of instream habitat at and immediately upstream of the existing culvert are currently limited due to existing concrete bed and banks. These existing conditions present a reduced potential for special-status species to occur within a portion of the Project area.

Table 2, “Special-status Animal Species,” in **Appendix C** provides further information describing the potential for each species to occur in the Project area. In addition, the Project area is within designated Critical Habitat for California red-legged frog and it is assumed that the portions of Little Butano Creek within the Project area at Site 190 would classify as critical Habitat for steelhead and

coho at the commencement of Project construction, as discussed under the Critical Habitat subheading under Section 3.4.2, above.

While Project implementation would temporarily disturb aquatic and riparian habitats that may support amphibians, most Project impacts would be considered temporary during construction. Overall, temporary impacts to aquatic and riparian habitat areas are minimal and would not result in significant loss, degradation, or modification of these habitats. Project activities at Cloverdale Road would be beneficial to common and special-status reptile and amphibian habitat by removing the concrete from the channel bed and installing engineered streambed material (ESM) that replicates natural streambed conditions and by removing concrete banks and restoring with vegetated rock slope protection planted with live willow staking. However, if any special-status reptile or amphibian species were present within the Project area, Project construction activities, such as instream grading, culvert replacement, or boulder placement, could result in the harm of individuals and/or temporary impacts to their habitat during construction.

Implementation of Project BMPs before and during construction activities would avoid and minimize potential direct and indirect impacts on special-status species, if present. Erosion control measures and other general maintenance practices would limit the potential for indirect impacts on aquatic habitat while direct impacts to special-status reptiles and amphibians would be avoided and reduced through the following BMPs, as described in Chapter 2:

- BMP GEN-1 (Staging and Access);
- BMP GEN-2 (Minimize Area of Disturbance and Site Maintenance);
- BMP GEN-16 (Timing of Work);
- BMP BIO-1 (Environmental Awareness Training);
- BMP BIO-2 (Minimize Injury or Mortality to Fish and Amphibian Species during Dewatering);
- BMP BIO-3 (California Red-legged Frog Protection Measures);
- BMP BIO-6 (Measures to Protect the Foothill Yellow-legged Frog, California Giant Salamander, Santa Cruz Black Salamander, and Western Pond Turtle);
- BMP BIO-7 (Check for Wildlife in Pipes/Construction Materials); and
- BMP BIO-21 (General Wildlife Protection Measures).

Compliance with the BMPs listed in Chapter 2 during Project implementation would ensure that direct and indirect impacts to special-status reptiles and amphibians would be less than significant.

Birds

Special-status birds with the potential to occur in the Project area includes marbled murrelet and long-eared owl, as well as nesting birds protected under the MBTA and CDFW F&G Code §§ 3503 and 3513, which prohibits the take of migratory birds as well as disturbance of the active nests of most native birds.

Marbled murrelet are found in old growth coniferous and redwood forest habitats. They feed near shore, and nest in old-growth redwood dominated forests, often in Douglas-fir trees. Marbled Murrelet Critical Habitat unit CA-14a overlaps within San Mateo County in Memorial Park and is

present at Pescadero Creek Road (Sites 94), and is adjacent to Project areas along Wurr Road (Sites 263, 265, 265.1, 266, 268, and 270) and Pescadero Creek Road (Site 102). Additionally, the Marbled Murrelet Critical Habitat unit CA-14a occurs within Butano State Park within the vicinity of Cloverdale Project area. In Memorial County Park, known marbled murrelet occupied sites have been documented at the Huckleberry Flat and occupied behavior has been confirmed at Homestead Flat, Sequia Flat. Based on proximity to 2010 CNDDB occurrence at Memorial County Park (CNDDB#38) and suitable nesting tree surveys completed in August 2025, it is assumed marbled murrelet has the potential to occur at Project sites at Sites 94, 102, 263, 265, 265.1, 268, 270, 270.1 (CNDDB 2025). Additionally, the survey completed in August 2025 found that potential MAMU nesting trees are present within 300 feet sites 94, 263, 265, 270, 270.1. Potentially suitable marbled murrelet nesting trees consist of large diameter tree with large (≥4 inch) horizontal branches (platform location with moss and access and good canopy cover, complex understory, good access points for landing). No suitable nesting trees were observed within 300 ft at Sites 102, 265.1, 266, and 268.

Based on suitable habitat, proximity to designated critical habitat, known occupied sites, confirmed occupied behavior, CNDDB occurrences and presence of potential nesting trees (within 300ft of Project site) within the vicinity of the Project area, nine (9) sites (Sites 94, 102, 263, 265, 265.1, 266, 268, 270, and 270.1) are considered to be sensitive for marbled murrelet, due to the presence of suitable nesting trees with ¼-mile. If present, these birds may be impacted indirectly through construction noise if nesting near the Project area at the time of construction. Project BMP BIO-10 (Measures to Protect Nesting Marbled Murrelet) prohibits construction activities during marbled murrelet breeding/nesting season (March 24 to August 15) without prior consent from the regulatory agencies, if suitable marbled murrelet nesting trees are present within 300 feet of the project area or if a marbled murrelet nest is detected. If habitat trees are present within ¼- mile of the project site but are greater than 300 feet from the work area, Permittee may proceed with the following conditions:

- Work within the ¼-mile buffer shall be confined to the period of August 15 to October 31[2].
- If activities cannot be performed during this window and would thus occur during the marbled murrelet breeding season (March 25 to August 15), seasonal disturbance minimization buffers as listed the USFWS document, *Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (2006) shall be followed. Permittee shall measure ambient noise and estimate construction activity noise to calculate seasonal buffer widths using that reference.
- Alternatively, if protocol-level surveys are conducted and do not indicate that habitat is occupied by marbled murrelet, seasonal and distance work restrictions may be lifted with written approval from CDFW. Protocol level survey procedures and information can be found at: https://pacificseabirdgroup.org/wp-content/uploads/2025/04/A-Revised-Protocol-for-Surveying-MAMU-in-Forests-2024-1.pdf

[2] Allowable construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

In order to avoid potential impacts to MAMU, the Project would restrict construction at nine (9) sites (Sites 94, 102, 263, 265, 265.1, 266, 268, 270, and 270.1) to outside of nesting season (August 15 to October 31). This construction period was identified based on data for local MAMU populations within the Butano State Park. This reduced Project construction window would be applicable for sites with potentially suitable nesting trees within ¼ mile of the Project. Construction at Site 268 would primarily occur outside the marbled murrelet nesting season; however, if construction sequencing requires work to extend beyond this window, BMP BIO-10 would be implemented to allow continuation of activities. The implementation of BIO-10 was deemed feasible at Site 268 as potential nesting trees were not identified with 300 feet of this site during the August 2025 surveys, and the nearest observed potential nesting tree to the site is located more than 1,000 feet from construction activities. Therefore, if required, construction at Site 268 should be allowable prior to end the of MAMU nesting season through the implementation of *Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (2025) guidance, as identified in BMP BIO-10. By restricting construction at marbled murrelet sensitive sites to outside of the nesting season, significant impacts to this species would be avoided and the Project would result in less than significant impacts.

Furthermore, habitats within the vicinity of Project sites could support nests of a variety of migratory bird species, including raptors. Construction-related vegetation clearing, tree removal, noise, or other activities could disrupt active nest sites and/or result in the abandonment of an active nest. Project BMPs BMP BIO-1 (Environmental Awareness Training) and BIO-9 (Measures to Protect Nesting Migratory Birds) would ensure Project impacts on nesting birds remain less than significant. Specifically, BMP BIO-9 recommends vegetation removal activities are conducted prior to nesting bird season (February 1 through August 31), to the extent feasible. If vegetation removal is not able to occur outside of the nesting season, then a qualified biologist will survey the work area and a minimum of 300 feet surrounding the work area for raptor nests and 100 feet for nests of non-raptors. This survey will occur no more than three days prior to starting work. If a lapse in Project-related work of 7 days or longer occurs, another focused survey will be conducted before work can be reinitiated. If nesting birds are found, a no-work buffer will be marked with fencing, flagging, or other easily identifiable marking around the nest and maintained until the young have fledged. No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site). BMP BIO-1 further reduces potential impacts to nesting birds by informing all project personnel on actions to take in the event if a bird nest is detected.

Following implementation of Project BMPs BIO-1, BIO-9, and BIO-10, impacts to special-status bird species would be less than significant.

Mammals

Special-status mammals that may occur in the Project area include pallid bat, Townsend's big-eared bat, San Francisco dusky-footed woodrat, and American badger.

Suitable bat roosting habitat in the Project area includes exfoliating bark on large trees, tree cavities, hollows, and cracks, and built structures such as bridges, large culverts, buildings and other structures with overhangs, crevasses, and hollows. If special-status bats are present within the Project area, construction-related noise and activity may indirectly disturb roost sites. Direct impacts to individual bat species and potential maternity colony may occur if bat roosts are present in trees

removed during Project implementation. However, BMP BIO-14 (Measures to Protect Bat Colonies) requires pre-activity surveys for bat roost habitat and bat presence prior to trees to be removed, thereby limiting direct impacts on roosting bats and maternity roosts to a less than significant level.

Similarly, San Francisco dusky-footed woodrat and American badger have potential to occur throughout the Project area. Although locations can be shrouded by dense vegetation, woodrat houses are readily identifiable. BMPs BIO-1 (Environmental Awareness Training) and BIO-8 (Minimize Impacts on Dusky-footed Woodrat Nests), and BIO-21 (General Wildlife Protection Measures) would effectively locate, avoid, and reduce Project impacts on woodrats, to the extent feasible. American badger have less potential to occur in Project areas due to Project sites being located along roadways and near human, rural development. No potential burrows or other suitable den structures were observed in or near the Project sites during Project planning and surveying activities.

Therefore, potential Project impacts on special-status mammals would be considered less than significant.

Conclusion

The Project would have potential for significant direct and indirect impacts to special-status plant and wildlife species, as described above. With implementation of Project BMPs and regulatory permit conditions, these impacts would be **less than significant**.

b. Substantial adverse effect on any riparian habitat or other sensitive natural community

The Proposed Project repairs and replaces existing stormwater infrastructure along Wurr Road and Pescadero Creek Road. This infrastructure primarily consists of roadside drainage ditches and minor tributary channels that only convey water during and immediately following storm events. The culvert inlet/outfall areas and associated drainage ditches at many of these facilities lack vegetation or may generally support weedy herbaceous species associated with ruderal, upland habitat and would not adversely affect riparian or other sensitive natural communities.

Riverine and riparian woodland habitat is present at several Project sites located along perennial creeks, i.e., Bloomquist, Peterson, and Little Butano creeks. Project construction would result in temporary and permanent impacts to riparian habitats at these Project site locations. Temporary impacts would include channel dewatering, vegetation removal, and grading activities. Permanent impacts would occur where the existing culverts are replaced with larger diameter and/or slightly longer culverts. In addition, boulders will be placed for culvert inlet protection and culvert outfall energy dissipation. However, Project improvements at Bloomquist and Peterson creeks replace deteriorating culverts while rock placed at inlet/outfall areas addresses existing channel scour and bank erosion. These activities would not substantially adversely affect riparian habitat that is found at these locations.

At the Cloverdale Road Site 190, Project construction would temporarily impact riparian habitat along the creek corridor by removing riparian vegetation for site access, sediment removal, and bank and bed excavation and regrading activities. However, the Project removes existing concrete banks and bed upstream of Cloverdale Road, reduces streambed slope using engineered streambed material (ESM), and stabilizes the banks with vegetated rock slope protection planted with live

willow stakes thereby improving riparian habitat conditions at this site. Riparian areas temporarily impacted by construction activities would be replanted with native riparian plant species.

Implementation of BMPs during construction would further minimize potential impacts to sensitive natural communities by requiring staging areas be located outside of sensitive habitat areas (GEN-1), minimizing the work footprint area (GEN-2), conducting work during the dry season (GEN-16), and implementing erosion and sediment control measures.

Therefore, Project-related impacts on sensitive riparian habitat would be **less than significant**.

c. Substantial adverse effects on state or federally protected wetlands

As discussed in criterion 3.4.3.b. above, most of the Project sites lack vegetation and/or hydrophytic plant species. Dense riparian habitat is present at the Cloverdale Road site (Site 190), but portions of the lower banks and streambed within the Project site are characterized by concrete and lack hydric soils. Aquatic resources affected by the Project are assumed to be other waters of the U.S. and not classified as jurisdictional wetlands. The Project would have **no impact** on federally protected wetlands.

d. Substantial interference with wildlife movement, established wildlife corridors, or the use of native wildlife nursery sites

The Proposed Project repairs and replaces existing stormwater infrastructure and constructs new pass-through type road culverts that would not create new barriers to wildlife movement nor significantly alter the environment that may affect established wildlife corridors or the use of native wildlife nursery sites. Any construction related impacts to wildlife movement and patterns would be localized to a nominal footprint and short term. Additionally, the Proposed Project removes impediments to fish passage through the Cloverdale Road culvert by eliminating two concrete weir structures upstream of the culvert and reducing the channel slope through the project reach. Therefore, impacts on wildlife movement and use of native wildlife nursery sites would be **less than significant**.

e. Conflict with local policies or ordinances protecting biological resources

Project implementation may require removal of approximately 69 trees. The County of San Mateo's 'Protected Tree Ordinance' (Ordinance No. 4895) requires County review and issuance of a tree removal permit for any tree greater than 12.1 inches in diameter at breast height and for other indigenous species. There are exemptions to the ordinance, including tree removal carried out by the County Public Works Department in County right-of-way or other County property. Therefore, the Proposed Project would not conflict with local policies or ordinance protecting biological resources and Project impacts would be **less than significant**.

f. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP

The Proposed Project is outside any HCP, Natural Community Conservation Plan or other approved local, regional or state HCP. Therefore, there would be **no impact**.

3.5 CULTURAL RESOURCES

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

The term "cultural resources" refers to sites, objects, buildings, structures, burials, and cultural landscapes. Cultural resources can also be classified as built-environment resources, archaeological resources, and human remains. Built-environment resources generally refer to above-ground designed, constructed, and landscape features and include buildings, structures, objects, and districts. Archaeological resources generally refer to deposits, structural features, and objects below ground. Human remains are also addressed in this section.

The following discussion regarding cultural resources is adapted from the Cultural Resources Inventory Report, Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, provided as **Appendix D** of this IS/MND.

3.5.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to cultural resources that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

This Project is required to comply with Section 404 of the Clean Water Act and, as such, will be required to comply with the following federal regulations:

National Historic Preservation Act and Section 106

The NHPA of 1966 establishes the role and responsibilities of the federal government in historic preservation. Toward this end, the National Historic Preservation Act (NHPA) directs agencies to (1) identify and manage historic properties under their control; (2) undertake actions that will advance

the act's provisions; and avoid actions contrary to its purposes; (3) consult with others while carrying out historic preservation activities; and (4) consider the effects of their actions on historic properties.

Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on potential effects. The regulations that implement Section 106 and an outline of the historic preservation review process are provided at 36 CFR Part 800.

Some degree of review under Section 106 must be conducted for all federal projects, including federally assisted, federally licensed, or federally funded projects. If a project is subject to federal jurisdiction and the project is an "undertaking," as defined at 36 CFR Part 800.16(y), with the potential to cause effects on historic properties (36 CFR Part 800.3[a]), Section 106 of the NHPA must be addressed to consider the effect of the undertaking on any district, site, building, structure, or object included in or eligible for inclusion in the NRHP (i.e., historic properties).

National Historic Preservation Act and National Register of Historic Places

The National Register of Historic Places (NRHP or National Register) was authorized by Section 101 of the NHPA as the nation's official list of cultural resources worthy of preservation. Properties listed in the NRHP consist of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Properties listed in or eligible for listing in the National Register are considered in planning and environmental review; the effects of such properties are primarily addressed under Section 106.

The criteria for determining a resource's eligibility for a National Register listing are defined in 36 CFR Part 60.4 and are as follows:

> ...the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. That are associated with the lives of significant people in our past; or
>
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. That have yielded, or may be likely to yield, important information in prehistory or history.

Under Criteria A, B, and C, the National Register places an emphasis on a resource appearing as it did during its period of significance to convey historical significance; under Criterion D, properties convey significance through the information they contain.

National Register Bulletin How to Apply the National Register Criteria for Evaluation states that in order for a property to qualify for listing in the National Register, it must meet at least one of the National Register criteria by (1) being associated with an important historic context and (2) retaining historic integrity of those features necessary to convey its significance (National Park Service 1997).

The historic context of a resource will define the theme(s), geographical limits, and period of significance by which to evaluate a resource's significance (National Park Service 1997).

Generally, cultural properties must be 50 years of age or older to be eligible for listing on the National Register. According to the National Park Service (National Park Service 1997), "properties that have achieved significance within the past 50 years shall not be considered eligible" unless such properties are "of exceptional importance."

State Laws, Regulations, and Policies

CEQA and CEQA Guidelines

CEQA Guidelines § 21083.2 requires that the lead agency determine whether a project may have a significant effect on unique archaeological resources. A unique archaeological resource is defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it:

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

Although not specifically inclusive of paleontological resources, these criteria may also help define "a unique paleontological resource or site" which is discussion in Section 3.7, Geology, Soils, and Seismicity of this IS/MND.

Measures to avoid, conserve, preserve, or mitigate significant effects on these resources are also provided under CEQA § 21083.2.

CEQA Guidelines § 15064.5 notes that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Substantial adverse changes include physical changes to the historic resource or to its immediate surroundings, such that the significance of the historic resource would be materially impaired. Lead agencies are expected to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historic resource before they approve such projects. Historical resources are those that are:

- Listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Public Resources Code [Pub. Res. Code] § 5024.1(I));
- Included in a local register of historic resources (Pub. Res. Code § 5020.1(k)) or identified as significant in an historic resource survey meeting the requirements of Pub. Res. Code § 5024.1(g); or
- Determined by a lead agency to be historically significant.

CEQA Guidelines § 15064.5 also prescribe the processes and procedures found under Health and Safety Code § 7050.5 and Pub. Res. Code § 5097.95 for addressing the existence of, or probable

likelihood of, Native American human remains, as well as the unexpected discovery of any human remains within a project site. This includes consultation with the appropriate Native American tribes.

CEQA Guidelines § 15126.4 provides further guidance about minimizing effects to historical resources through the application of mitigation measures. Mitigation measures must be legally binding and fully enforceable.

California Register of Historical Resources

Pub. Res. Code § 5024.1 establishes the CRHR. The register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed as or determined to be eligible for listing in the NRHP, including properties evaluated under Section 106 of the NHPA. The criteria for listing are similar to those of the NRHP. Criteria for listing in the CRHR include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Are associated with the lives of important people in our past;

3. Embody the distinctive characteristics of a type, period, region, or method of construction; represent the work of an important creative individual; or possess high artistic values; or

4. Have yielded, or may be likely to yield, information important in prehistory or history.

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

Unique Archaeological Resources

CEQA guidelines § 15064.5 also applies to unique archaeological resources as defined in Pub. Res. Code § 21084.1. As defined in Pub. Res. Code § 21083.2, a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

The CEQA Guidelines note that if an archaeological resource is not a unique archaeological resource, historical resource, or tribal cultural resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (CCR § 15064.5[c][4]).

3.5.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on cultural resources. The information provided here is taken from the Cultural Resources Assessment Report for the Proposed Project, provided as **Appendix D** of this IS/MND.

Pre-Contact Setting

The pre-contact period reflects information known about the indigenous population from the time the region was first populated with humans until the arrival of the first Europeans, who recorded their journeys. The pre-contact record is derived from over a century of archaeological research, and while much has been gleaned from these studies, large gaps in the data record remain. The following pre-contact culture sequence, derived from Milliken et al. (2010:114-118), briefly outlines the prehistory of the San Francisco Bay region.

The Early Holocene (Lower Archaic; 8000 to 3500 B.C.) is considered a time when populations continued to be very mobile as they practiced a foraging subsistence pattern around the region. Artifacts that characterize this period include the milling slab and handstone to process seeds, as well as large wide-stemmed and leaf-shaped projectile points.

The Early Period (Middle Archaic; 3500 to 500 B.C.) is marked by the appearance of cut shell beads in the archaeological record, as well as the presence of the mortar and pestle for processing acorns. House floors with postholes indicate substantial living structures, which suggests a move toward establishing a more sedentary lifestyle and an increasing population.

The Middle Period, which includes the Lower Middle Period (Initial Upper Archaic; 500 B.C. to A.D. 430) and Upper Middle Period (Late Upper Archaic; A.D. 430 to 1050), appears to be a time when geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the Upper Middle Period, mobility was being replaced by the development of numerous small villages. Around A.D. 430 a “dramatic cultural disruption” occurred, as evidenced by the sudden collapse of the Olivella saucer bead trade network.

The Initial Late Period (Lower Emergent; A.D. 1050 to 1550) reflects a social complexity that had developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

The Terminal Late Period (Upper Emergent; A.D. 1550 to circa 1750) generally represents the indigenous cultures that were encountered by the Spanish when they first arrived in San Francisco Bay.

Ethnography

The population indigenous to the Project area spoke a language referred to as Costanoan, a derivative from a Spanish term for “coast people.” Costanoan, which consisted of six known languages and various dialects within those languages, was spoken over a broad territory that included all of the San Francisco Peninsula, along the east and south of San Francisco Bay, and south

to Monterey Bay, Salinas Valley, and the area around Hollister. Those residing in San Francisco Peninsula and the Project area spoke the Ramaytush dialect of San Francisco Bay Costanoan (Milliken et al. 2009:33-35).

The Costanoan peoples, also referred to as the Ohlone, Mutsun, or Rumsen, depending on geography, were not a united cultural or political entity (Milliken et al. 2009:2-4). Rather, there were strong differences not only in language, but also in culture, between the San Francisco and Monterey Bay occupants. Political affinity was based on the tribelet, which was comprised of one or more villages within a specific geographic territory (Levy 1978:487).

The tribelet territory was 10 to 12 miles in diameter and contained a population of 200 to 400 people living among four or five villages (Milliken et al. 2009:99). Those living in the Project area resided in large villages along permanent streams in locations that allowed access to the diverse resources found in the tidal marshlands, the valley floor, and the hills (Milliken et al. 2010:106; Moratto 2004:225).

Several Costanoan tribes lived entirely within modern-day San Mateo County. Along the bay were the Urebure of San Bruno, the Ssalson in San Mateo, and the Lamchin at Redwood City. Other tribes were partially in San Mateo County but also spilled over into more southern counties. These included, but not limited to, the Puichun who were on the bay front at San Francisquito Creek, and the Olpen who lived in the mountains above the Puichun at the headwaters of San Francisquito Creek. Another group, the Quiroste, lived on the coast in the area of Point Ano Nuevo (Milliken et al. 2009:87-89). Numerous village locations throughout San Mateo County have been identified for some of these groups, including villages in proximity to the Project areas (Milliken et al. 2009:4-5).

History

The historic era began in the San Francisco Bay area when Spanish explorers arrived in the late 1760s and the 1770s. Members of the Portola expedition were the first to arrive in present-day San Mateo County. On October 23, 1769, the party entered the Quiroste village of Mitenne, where they were graciously welcomed. Portola's group continued northward, encountering, and staying at villages of all the peninsula tribes as they crossed to the bay-side of the peninsula via Sweeny Ridge and camped near Palo Alto by the middle of November. The party retraced their route back to Monterey. Following Portola's exploration, the Rivera-Palou expedition followed Portola's exploration 5 years later, in 1774. Instead of coming up the coast, the Rivera-Palou party arrived through Santa Clara Valley, and followed along the bay shore to San Francisquito Creek. The team made their way to the north end of the peninsula before returning to Monterey via the coastal route. Early exploration was conducted near Woodside Valley in 1769, when the first Portola expedition camped in the valley. By 1793, the area encompassing the northern and central peninsula was no longer inhabited by tribal villages and the local San Francisco Bay Costanoan-speaking local tribes of the area had been absorbed into Mission Dolores (Milliken et al. 2009). In August 1840, the Governor of Spanish California granted the 12,545-acre Rancho Canada de Raymundo to John Coppinger, an Irishman who had become a naturalized Mexican citizen. This rancho consisted of most of the eastern slopes and valleys in the Woodside area, including today's Wunderlich Park.

Mexico, which included California, became independent from Spain in 1822, and after that time, the government began issuing grants of land to favored citizens. First granted only to Mexican nationals, these tracts of land were soon bestowed upon those outsiders (largely Americans) who agreed to

become citizens (Kyle et al. 2002:xiii-xiv). During Mexican rule, at least 20 tracts of land, or ranchos, were granted within what was to become San Mateo County (California State Lands Commission 1982). Nine of the ranchos (one of which overlaps into San Francisco County, and one into Santa Cruz County) stretched out along the Pacific coast, three were entirely within the interior mountains, and the remainder bordered San Francisco Bay. These properties were largely used for cattle grazing, agriculture, or timber harvesting, though the operations also attracted settlers who would purchase small tracts of land in order to establish their own livelihoods. Central settlements eventually became established on many of the ranchos, particularly on the bay side, that are the sites of modern-day communities (Kyle et al. 2002).

Archival Research and Results

A record search was requested at the Northwest Information Center (NWIC) to determine whether any portions of the Project area had been previously surveyed for cultural resources and to identify the presence of any previously recorded cultural resources within the Project area, as well as a 0.25-mile buffer (the search radius).

Other sources of information reviewed included, but were not limited to, the current listings of properties on the NRHP, California Historical Landmarks, CRHR, California Points of Historical Interest, as listed in the Office of Historic Preservation's (OHP's) Historic Property Directory, and the Built Environment Resource Directory (BERD) for San Mateo County (OHP 2020).

No resources were previously recorded within the Project area. Four resources were previously recorded within the 0.25-mile search radius; however, none were identified as CRHR or NRHP listed historical resources or properties. Additionally, these resources will not be affected by the Proposed Project as they are located outside of the Project area boundary.

According to the record search results, the boundaries of three previous studies intersect the Project area, specifically the locations along the Loma Mar – Wurr Road section. All of these previous investigations were negative for cultural resources or archaeological deposits.

Native American Communication

An email request was made to the Native American Heritage Commission (NAHC) on August 1, 2023, to review its files for the presence of recorded sacred sites on the Project area. The NAHC responded on August 12, 2023. The results of the Sacred Lands database review were negative for any sacred sites within the Project area.

The County contacted 15 Native American tribe members about the Proposed Project. Details about Native American consultation efforts are described in Section **Error! Reference source not found.**, **Error! Reference source not found.**.

Archaeological and Architectural Resource Surveys and Results

A pedestrian survey was conducted by Montrose archaeologist on June 8, 2024, for each proposed repair location. Each location was surveyed, to the extent feasible, as well as a 100-foot buffer surrounding each side of culvert footprint and the surrounding area. **Table 3.5-1** lists the locations and the conditions encountered, as well as the results.

Table 3.5-1. Survey Methods and Results for Each Project Site

Project Culverts by Road Name Section	Site IDs/ TMDL Nos.	Methods	Comments	Results
Pescadero Creek Road	262, 263, 265, 265.1, 266, 268, 270, 270.1	Intensive (10-meter transects)	Soil is a dark brown clay silt; high levels of organic vegetation; some root disturbance observed	Negative for cultural deposits
Wurr Road	94, 102, 119, 128.1	Intensive (10-meter transects)	Soil includes brown and black clay, brown clay-loam, and brown-dark brown loam; high levels of organic vegetation; some root disturbance observed	Negative for cultural deposits
Cloverdale Road	190	Intensive (10-meter transects)	Limited native surface visibility due to dense vegetation and presence of sacked concrete	Negative for cultural deposits

Source: Appendix D.

Due to the heavy vegetation and grass cover, as well as substantial roadway hardscaping, the overall visibility of the native surface was limited from 0 to 30 percent. In addition, most of the culvert locations are located within very steeply sloped locations that also presented difficulties in inspecting the ground surface. However, all areas of existing native surface exposure, as well as areas exposed using a shovel or trowel to view the native surface, were inspected. A total of 5 shovel test pits or trowel scrapes were conducted. A total of about 26-acres were surveyed. No evidence of archaeological deposits was identified throughout the surveys as summarized in **Table 3.5-1**.

3.5.3 Discussion of Checklist Responses

The following sections provide an analysis of the potential impacts to cultural resources that may result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines. Where applicable, the text prescribes mitigation that would reduce an impact to less than significant with mitigation.

a. Adverse change in the significance of a historical resource

A cultural resource review was conducted to address the responsibilities of CEQA, as codified in Pub. Res. Code § 5097 and its implementing guidelines § 21082 and § 21083.2. As described above, no historical resources were identified within the Project area. Four resources were identified within the 0.25-mile search radius; however, none were identified as CRHR or NRHP listed historical resources or properties. Therefore, **no impact** to historic resources (built environment) would result from implementation of the Proposed Project.

However, historical resources that are archaeological in nature may be accidentally discovered during Project construction; archaeological resources are discussed further in Section 3.5.3(b) below.

b. Adverse change in the significance of an archaeological resource

As discussed above, no archaeological resources as defined in § 15064.5 of the CEQA Guidelines have been identified within the Project area. Although no significant impacts to known archaeological resources are expected to result from Project activities, if archaeological resources are accidentally discovered, Proposed Project activities could affect these resources in a way that would render them ineligible for such listing, a significant impact would result. Specifically, proposed work at the location along Cloverdale Road, Site 190, would have the highest potential for archaeological deposits to be present due to its proximity to a stream and relatively flat, alluvial terrain. Although the survey of this location was negative, due to the higher sensitivity of this location for both surface and buried archaeological deposits and limited native surface visibility due to dense vegetation and presence of sacked concrete, it is recommended that a qualified archaeologist monitor ground disturbing activities during Project construction at this location, as specified in **Mitigation Measure CUL-1 (A Qualified Archaeologist Shall Monitor Project Activities on Cloverdale Road (Site No. 190))**. Additionally, BMP CUL-6 (Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately) would further reduce potential impacts to unknown archaeological resources by requiring work to stop immediately in the event of an archaeological discovery at any of the Proposed Project locations within 50 feet of the find. Implementation of Mitigation Measure CUL-1 and BMP CUL-6 would reduce impacts related to currently unknown archaeological resources to a **less-than-significant level with mitigation.**

Mitigation Measure CUL-1: A Qualified Archaeologist Shall Monitor Project Activities on Cloverdale Road (Site No. 190)

Prior to the onset of construction activities, the County shall retain a qualified archaeologist, per the Secretary of Interior's Standards (36 CFR § 800.2(a)(1)), to monitor all ground disturbing activity during construction at the Project site located on Cloverdale Road (Site No. 190). The consulting archaeologist will determine the most suitable levels of monitoring (e.g., full time or spot checking) based on the proposed types of construction activities. In addition, the consulting archaeologist shall have the authority, with the County's approval, to discontinue monitoring if the project activities will no longer have the potential to cause adverse effects to archaeological deposits (e.g., activities occurring directly in the streambed).

In the event that cultural resources are exposed during construction, the monitor shall temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance and communicate with the County regarding the find. The resource shall be evaluated as a unique cultural resource based on the criteria set forth in § 21083.2 of CEQA and as necessary, the County will seek Native American input and consultation. If the resource is determined to not be considered "unique" then no further mitigation would be required. However, if the archeologist determines that the cultural resources exposed are unique archeological resources, and construction cannot avoid the location, then the archeologist shall follow CEQA Guidelines § 15126.4 (b)(3) to determine the most suitable mitigation, which may require full data recovery of the site(s), in consultation with the County and any consulting Tribal representatives as needed.

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

Given that most of the Proposed Project locations are substantially altered by roadway hardscaping, channelization, and are located along road cuts and steep slopes within very difficult terrain, the discovery of human remains is not anticipated during construction of the Proposed Project. However, due to the higher potential for archaeological deposits at Site No. 190, there is the possibility that human remains could be discovered during excavation activities. Should any such remains be discovered during construction, BMP CUL-6 (Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately) would be implemented and would require work to halt, the San Mateo County coroner and MLD to be contacted, and the remains to be properly evaluated. Implementation of BMP CUL-6 would reduce any potential impacts on human remains to a level that is **less than significant.**

3.6 ENERGY

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

3.6.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to energy that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Energy Policy Act of 2005

At the federal level, the USEPA and NHTSA set standards for passenger cars and light trucks to meet CAFE and GHG emissions standards. The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provides incentives to reduce current demand on these resources. This act included establishing energy-related tax incentives for energy efficiency and conservation; renewable energy; oil and gas production; and electricity generation and transmission. The act also increased the amounts of renewable fuel (e.g., ethanol or biodiesel) to be used in gasoline sold in the U.S., increased oil and natural gas production on federally owned lands and established federal reliability standards regulating the electrical grid.

State Laws, Regulations, and Policies

Energy resource-related regulations, policies, and plans at the State level require the regular analysis of energy data, the development of recommendations to reduce Statewide energy use, and setting of requirements on the use of renewable energy sources. Senate Bill (SB) 1389, passed in 2002, requires the California Energy Commission (CEC) to prepare an *Integrated Energy Policy Report* for the Governor and legislature every two years. The report contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the State's economy, and protect public health and safety. The *2023 Integrated Energy Policy Report* discusses the need to accelerate the pace of

clean energy resource deployment including handling flexible loads like EV charging as well as grid-scale renewables and storage connected at the transmission level. There are projected significant gaps in the number of EV charges and renewable generation and storage. The report discussed the California Energy Demand Forecast and potential growth of hydrogen in California as a replacement for transportation fossil fuels. The report discusses decarbonization of natural gas systems. The report also provides information on emerging topics related to energy efficiency with updated building codes and benefits of clean transportation programs (CEC 2023).

Since 2002, California has established a Renewables Portfolio Standard program through multiple Senate Bills (SB 1078, SB 107, SB 2 (IX), SB 350, and SB 100) and Executive Orders (S-14-08, B-55-18) that requires that increasingly higher targets of electricity retail sales be served by eligible renewable resources. The established eligible renewable source targets include 33 percent of electricity retail sales by 2020, 60 percent by 2030, and 100 percent zero-carbon electricity for the State and Statewide carbon neutrality by 2045.

Section 3.8, Greenhouse Gas Emissions, provides additional details on the *2022 Scoping Plan for Achieving Carbon Neutrality*, which detail the State's strategy for achieving its GHG targets, including energy-related goals and policies. They contain measures and actions that may pertain to the proposed Project relating to vehicle efficiency and transitioning to alternatively powered vehicles (CARB 2022).

3.6.2 Environmental Setting

The following discussion describes the environmental setting that is relevant to energy impacts that could result from Project implementation.

California is second in the nation in electricity generation from renewable resources (solar, geothermal, and biomass resources) and is the seventh largest producer of crude oil among the 50 states (U.S. Energy Information Administration [EIA] 2024). California has the second highest total energy consumption in the U.S. but one of the lowest energy consumption rates per capita due to its mild climate and energy efficiency programs (EIA 2024). A comparison of California's energy-consuming end-use sectors indicates that the transportation sector is the greatest energy consumer, followed by commercial, residential, and industrial (EIA 2024). California is also the largest consumer of jet fuel in the U.S. and the second largest consumer of motor gasoline (EIA 2024).

3.6.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on energy that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a., b. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources; or conflict with or obstruct a state or local plan for renewable energy or energy efficiency

The Proposed Project would require the consumption of energy (fossil fuels) for construction equipment, worker vehicles, and truck trips. **Table 3.6-1** shows the estimated total fuel use from construction equipment, worker vehicles, and truck trips. The calculations used to develop these estimates are presented in **Appendix B**.

Table 3.6-1. Project Fossil Fuel and Energy Use

Source Type	Gasoline Fuel Use (Gallons)	Diesel Fuel Use (Gallons)	Electricity Use (kWh)
Construction On-Road Vehicles	1,507	3,168	136
Construction Off-Road Equipment	n/a	26,900	n/a
Total for Construction	**1,507**	**30,069**	**136**

Source: Appendix B

Energy consumed during construction activities would not result in a wasteful, inefficient, or unnecessary consumption of energy, a substantial increase in energy demand, or the need for additional energy resources.

In addition, Proposed Project activities would not conflict with any of the goals, policies, or implementation actions identified in the applicable plans, such as BAAQMD's 2017 Clean Air Plan, because as a repair project, the Proposed Project would not create any additional future energy demands over current conditions and would be completed as efficiently as possible. In addition, there is adequate supply of fossil fuels in the region and the Proposed Project would not result in any peak demand issues. Further, the Project would not require any substantial amounts of electricity and would not impact the amount or peak demand of electricity supply needed from the region. While the Proposed Project would not reduce fossil fuel reliance or specifically increase or encourage renewable energy generation, it also would not impede future use of renewable energy sources. As such, the Proposed Project would not impede progress toward renewable portfolio goals or implementation of energy efficiency programs. Thus, implementation of the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy or conflict with any plans relating to renewable energy or energy efficiency. Impacts would be considered **less than significant**.

3.7 GEOLOGY, SOILS, AND SEISMICITY

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

3.7.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to geology, soils, and seismicity that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) has a specific standard dedicated to trenching and excavation safety, 1926 Subpart P – Excavations (29 CFR 1926.650-652). This standard provides regulations and requirements for ensuring the safety of workers involved in excavation operations, including design by a registered professional engineer, limits on slope angles, and soil types.

State Laws, Regulations, and Policies

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Pub. Res. Code § 2621 et seq.), also known as the Alquist-Priolo Act, was passed in 1972 to mitigate the hazard of surface faulting to structures intended for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps depicting those zones. The maps are distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renovated construction. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is identified, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet) (DOC 2024). Under the Alquist-Priolo Act, an active fault is one that has ruptured in the last 11,000 years.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Pub. Res. Code §§ 2690-2699.6) is intended to reduce the threat to public safety resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The Seismic Hazards Mapping Act highlights the need to identify and map seismic hazard zones to allow cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations that reduce and mitigate those hazards to protect public health and safety. The County is required to regulate development within mapped Seismic Hazard Zones (County of San Mateo 2013).

California Building Standards Code

CCR Title 24, also known as the California Building Standards Code (CBC), specifies standards for geologic and seismic hazards. These codes are administered and updated by the California Building Standards Commission. CBC specifies criteria for open excavation directly related to construction in California.

Public Resources Code Section 5097.5

Pub. Res. Code § 5097.5 defines a misdemeanor as any unauthorized disturbance or removal of a historic or pre-contact ruin, burial ground, or archaeological or vertebrate paleontological site on public lands,[3] without the express permission of the public agency having jurisdiction over the lands. This protection includes fossilized footprints, inscriptions, or other archaeological, paleontological, or historical features on public land.

3.7.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on geology, soils, and seismicity.

Geology

Specific geologic units underlying Site 190 on Cloverdale Road include the Purisima Formation (from the upper Miocene and Pilocene age) consisting of gray and greenish-gray fine grained sandstone, siltstone, and mudstone. There are also surficial deposits of colluvium (e.g., mix of sand, silt, clay, gravel, etc.) north of this site. Specific geologic units underlying the Project sites along Pescadero Creek Road and Wurr Road include Tahana Member (from the upper Miocene and Pilocene age) consisting of medium to very fine grained sandstone and siltstone with dak-gray porcelaneous mudstone and pebble conglomerate and colluvium (from the Holocene age) east of Memorial Park; coarse- grained older alluvial fan and stream terrace deposits in Memorial County Park (from the Pleistocene age); and Santa Cruz mudstone (from the upper Miocene age) consisting of porcelaneous shale and mudstone south of Memorial Park along Wurr Road (USGS 1983).

Soils

A variety of soil types underlie the Project area. **Table 3.7-1** shows the soil types mapped by the Natural Resources Conservation Service (NRCS) within the Project area.

[3] As used in this section, “public lands” means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

Table 3.7-1. Soil Types in the Project Area

Map Unit Symbol	Map Unit Name	Map Unit Details
LID2	Lobitos loam, sloping, eroded	16 to 30 percent slopes
LIE2	Lobitos loam, steep, eroded	20 to 41 percent slopes
HuF	Hugo and Josephine loams, very steep	45 to 75 percent slopes
HuD2	Hugo and Josephine loams, moderately steep, eroded	15 to 30 percent slopes
BeC2	Botella loam, sloping, eroded	7 to 15 percent slopes
MA	Mixed alluvial land	0 to 5 percent slopes
HuD	Hugo and Josephine loams, moderately steep	15 to 30 percent slopes
HvC	Hugo and Josephine loams, very deep, sloping	6 to 15 percent slopes
HyF	Hugo and Josephine sandy loams, very deep	40 to 75 percent slopes
HzD	Hugo and Josephine sandy loams, very deep, moderately sloping	11 to 20 percent slopes
LmB	Lockwood loam, gently sloping	2 to 6 percent slopes
LoA	Lockwood loam, nearly level, imperfectly drained	0 to 2 percent slopes

Source: NRCS 2024

Seismicity

Faults

The Project area is located within a seismically active area. Cloverdale Road (Site 190) is located in the San Gregorio Fault Zone. Other active earthquake faults in the vicinity of the Project include the San Andreas Fault and the Butano Fault. The San Andreas Fault is located approximately 6 miles to the east of the closest Project site along Pescadero Creek Road. Both the San Andreas Fault Zone and the San Gregorio Fault Zone are designated Alquist-Priolo Fault Zones and have ruptured in the historic period (i.e., 200 years to today) (DOC 2024). The Butano Fault traverses through the Project area and crosses near the Project sites located on Wurr Road; however, it is an undifferentiated quaternary fault that last ruptured more than 1,600,000 years ago (USGS 2017).

Ground Shaking

The Project area is located in a region known to be seismically active, with the potential for large earthquakes to create strong seismic ground shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and

intensity of the earthquake, distance from the epicenter, and local geologic conditions. Soils can amplify ground motion in certain frequency ranges and can dampen ground motion within other frequency ranges.

Given the proximity of the San Gregorio Fault Zone, the Project area could experience significant ground shaking if a rupture along that fault zone were to occur. A rupture could generate a magnitude 7.8 earthquake, although there is not enough available data to determine if such a large earthquake has previously occurred on the fault. The largest historical earthquake on this fault was in 1926 with a magnitude of 6.3 (Coastal and Marine Hazards and Resources Program 2018). The San Andreas Fault is also located in close proximity to the Project area and has been predicted to have a major earthquake within a 50- to 100-year interval. The San Andreas Fault is the most likely fault to experience a major earthquake (City of Scotts Valley 2008).

Liquefaction and Differential Settlement

Soil liquefaction results from loss of strength that could occur due to seismic ground shaking during an earthquake event. Soils most susceptible to liquefaction are clean, loose, saturated, poorly graded sands and silts. The Project sites are not mapped in areas that are susceptible to liquefaction (County of San Mateo 2024).

Landslide, Slope Failure, and Lateral Spreading

Many of the Project sites are located on steep, rural roads that may be susceptible to landslides. The Project area is located in a mountainous region of San Mateo County identified as having a high susceptibility of landslides (County of San Mateo 2025). The DOC analysis did not consider landslide triggering events, such as rainstorms or earthquake shaking, nor did it address susceptibility to shallow landslides such as debris flows.

Paleontological Resources

Paleontological resources are the fossil remains of prehistoric flora and fauna, or traces of evidence of the existence of prehistoric flora and fauna. These include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. In California, paleontological resources are generally observed in sedimentary and metasedimentary deposits.

3.7.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on geology and soils that would result from Project implementation based on the CEQA checklist in Appendix G of the CEQA Guidelines.

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

i. Seismic-related rupture of a known earthquake fault as delineated by the most recent Alquist- Priolo Earthquake Fault Zoning Map

Due to its tectonic setting, the San Francisco Bay Area (Bay Area), including San Mateo County, is prone to a high level of seismic activity. The risk of loss, injury, or death involving the rupture of an

earthquake fault is greatest in dense population areas. As described above, the San Gregorio Fault Zone and San Andreas Fault Zone are delineated as Alquist-Priolo Fault Zones. However, as a culvert repair and fish passage improvement project, the Proposed Project would not involve the construction of habitable structures or exacerbate seismic conditions or fault stability. Therefore, the Project would not expose people or structures to adverse effects including the risk of loss, injury, or death involving the rupture of a known earthquake fault delineated as an Alquist-Priolo zone within the Project area. **No impact** would occur.

ii. Strong seismic ground shaking

As described above, the Project area is located in close proximity to the San Gregorio and San Andreas Fault Zones which during a large earthquake, could create strong seismic shaking within the Project area. Given the short duration of construction activities (generally no more than a few weeks at each site), it is unlikely that such ground shaking would occur during the construction period. Strong seismic ground shaking could potentially damage culverts and/or cause slope failure along the Project road segments. Implementation of the Proposed Project would improve the resilience of these existing drainage structures and features to ground shaking by improving deteriorated culvert conditions and stabilizing eroding outfalls.

The Proposed Project would not include activities that could cause or exacerbate seismic ground shaking. Additionally, the Proposed Project would not create or establish new structures or land uses that could be susceptible to strong seismic ground shaking, such as to expose people or structures to substantial adverse effects. As a result, this impact would be **less than significant**.

iii. Seismic-related ground failure, including liquefaction

As described above, the Project sites are not located in area susceptible to liquefaction. Additionally, the Proposed Project would not involve activities that could induce or cause seismic-related ground failure. Likewise, the Proposed Project would not create or establish new structures or land uses that could exacerbate effects to structures or people in the event of a seismic-related ground failure. Rather, the Proposed Project would repair or replace existing culverts along the roadway, thereby increasing the integrity/resilience of these facilities with respect to geologic movements or other stressors. As a result, **no impact** would occur.

iv. Landslides

Similar to the discussions above, the Project area may be susceptible to landslides; however, the Proposed Project would not cause or contribute to landslides and would not exacerbate the effects of landslides in the area if they were to occur. As described above, mapping indicates that the Project area, along with much of San Mateo County, is susceptible to landslides. Additionally, many of the Project sites are located along steep, mountainous roads that could be subject to more surface-level (i.e., not deep-seated) slope failure.

If such landslides/slope failures were to occur, this could adversely affect the Project sites, and roadways. Due to the short duration of construction activities at any given site (i.e., generally no more than a few weeks at a site), it would be unlikely for a landslide or slope failure to occur during the construction period that could impact workers on-site. In addition, Project construction activities

would occur during the dry season to avoid high streamflows as well as precipitation and saturated soils that can increase the potential for slope failures. The Proposed Project would not include any new structures that could potentially expose people to hazards associated with landslides or otherwise exacerbate the effects of landslides that may occur in the Project area. As a result, this impact would be **less than significant**.

b. Substantial soil erosion or the loss of topsoil

Project construction activities, including replacing existing culverts, upsizing culverts, installing new culverts, and enhancing habitat, would involve the removal of minimal vegetation, excavation and grading of bank slopes, placement of excavated soils as fill on the bank slopes to achieve the desired final slope. All of these activities involve disturbing soil which could result in increased erosion without adequate precautions. In addition, stockpiling excavated soils before they are placed in their permanent locations could result in increased erosion of the stockpiles.

Implementation of BMPs GEN-2 (Minimize the Area of Disturbance and Site Maintenance) which minimizes the area of disturbance, BMP GEN-16 (Timing of Work) which requires the Project to be constructed during the dry season, BMP GEN-3 (Construction Entrances and Perimeter) which ensures construction entrances and exits are stabilized to control erosion, BMP GEN-22 (Site Stabilization) which requires bare soil surfaces to be covered with erosion controls, and BMP EC-10 (Erosion Control Blankets & Mats) which requires erosion control blankets to protect surface of steep slopes, would reduce potential impacts associated with erosion and loss of top soil.

Implementation of the Proposed Project would reduce the potential for erosion relative to existing conditions by stabilizing eroding culvert outfalls (e.g., with rock energy dissipaters at outfall) and improving deteriorated culvert conditions (e.g., installing properly sized culverts or repairing damaged culverts). Properly sized culverts would be less likely to back up during large storms, potentially contributing to erosion and sedimentation. As a result, this impact would be **less than significant**.

c. Location on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

Geologic units underlying the Project area include sandstone, siltstone, and mudstone primarily from the upper Miocene and Pilocene age. Additionally, there are surficial deposits of alluvium associated with Little Butano Creek, Pescadero Creek, and in Memorial County Park. These geologic units would not be expected to be unstable.

As discussed above, the Proposed Project would not include activities that would cause or induce substantial geologic or soil instability. Furthermore, culverts alignments would be over excavated and backfilled with engineered soils that meet engineering specifications for compression strength specific for the pipe diameter size, pipe depth below the ground surface, and other site-specific conditions. Additionally, ground compaction would be conducted in accordance with engineering specifications.

Thus, the Proposed Project would not exacerbate a scenario where geologic units or soil could become unstable by placing people or structures in the affected area. Implementation of the

Proposed Project would result in a long-term benefit to the facilities and roadways in the County through the improvement of deteriorated culvert conditions and stabilization of eroding outfalls. For the reasons stated above, potential impacts related to unstable soil or geologic units would be **less than significant**.

d. Location on expansive soil, creating substantial direct or indirect risks to life or property

Expansive soils are predominantly composed of clays and can undergo substantial volume changes in response to changes in moisture content. During wetting and drying cycles, expansive soils may shrink and swell, creating differential ground movements. This uneven movement can result in potential damage or failure of infrastructure.

The Proposed Project would not include any habitable structures and would be limited to repair/replacement of existing facilities (i.e., culverts). Many of the soils in the Project area are loams that may overlie clay or gravel or alluvium within stream channels.

While it is possible that expansive soils could be present in the Project area, the Proposed Project only involves the repair, replacement or installation of a ditch within existing roadway and ditch footprint and would not include the construction of any new habitable structures or facilities; thus, the Proposed Project would not create any new substantial risks associated with expansive soils. Therefore, this impact would be **less than significant**.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater

The Project does not involve the installation or use of septic tanks or alternative wastewater disposal systems. **No impact** would occur as a result of implementation of the Project.

f. Destruction of a unique paleontological resource, site, or unique geological feature

Paleontological resources are the preserved remains or traces of remains of ancient organisms. Geologic units that contain paleontological resources in one geographic location are likely to contain paleontological resources in another geographic location. Therefore, the likelihood of finding paleontological resources at a site depends on the geologic unit(s) underlying the site and depth of excavation.

Generally, most recorded paleontological resources in San Mateo County are located near the coastline (University of California Museum of Paleontology [UCMP] 2024). Although the geologic units underlying the Project area could bear fossils, Project activities would be limited to the repair/replacement of existing facilities in previously disturbed soils associated with the original construction of the roadways and facilities. New culverts would be installed just below the road surface at relatively shallow excavation depths generally within the road prism and soils overlying bedrock. Thus, Project construction would likely not penetrate or affect underlying rock structures where paleontological resources would be most likely to occur. In the unlikely event that paleontological resources are found on site, implementation of BMP CUL-6 (Address Discovery of

Cultural Remains or Historic or Paleontological Artifacts Appropriately) would minimize any potential impacts by stopping work and adhering to standard conditions. Additionally, no unique geological features are known to occur on or near the Project sites. Therefore, implementation of the Proposed Project would result in a **less-than-significant impact** to paleontological resources.

3.8 GREENHOUSE GAS EMISSIONS

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

3.8.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to greenhouse gases that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

USEPA has developed federal regulations to reduce greenhouse gas (GHG) emissions from motor vehicles and developed permitting and reporting requirements for large stationary emitters of GHGs. As discussed in Section 3.3, Air Quality, the USEPA and NHTSA set standards for passenger cars and light trucks to meet Corporate Average Fuel Economy and GHG emissions standards.

State Laws, Regulations, and Policies

Assembly Bills and Executive Orders

In recent years, California has enacted numerous policies and plans to address GHG emissions and climate change. In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (AB 32), which set the overall goals for reducing California's GHG emissions to 1990 levels by 2020. SB 32, a follow-up to AB 32, similarly calls for a Statewide GHG emissions reduction to 40 percent below 1990 levels by December 31, 2030. Subsequent executive orders and bills (AB 1279 and SB 100) have revised the overall goal to Statewide carbon neutrality by 2045 and net negative emissions thereafter. CARB has completed rulemaking to implement several GHG emission reduction regulations and continues to investigate the feasibility of implementing additional regulations. These include the low-carbon fuel standard, which reduces GHG emissions associated with fuel usage, and the renewable portfolio standard, which requires electricity suppliers to increase the amount of electricity generated from renewable sources. CARB has implemented a mandatory reporting regulation and a cap-and-trade program for large emitters of GHGs.

California's 2022 Scoping Plan for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (CARB 2022). Strategies discussed in these plans include increasing building efficiency, increasing renewable power production, using clean and renewable fuels, transitioning to zero-emission vehicles, enhancing walkable and bikeable communities with transit, cleaner freight and goods movement, reducing emissions of pollutants with high global warming potential (GWP), capping emissions from key sectors, investing in communities to reduce emissions, capturing and storing carbon through the State's natural and working lands, and using a variety of mechanical approaches.

3.8.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts related to GHGs.

Global climate change is already affecting ecosystems and societies throughout the world and is caused, in part, by the accumulation in the atmosphere of GHGs, which are produced primarily by the burning of fossil fuels for energy. Because GHGs (carbon dioxide [CO_2], methane, NO_2, and chlorofluorocarbons) persist and mix in the atmosphere, emissions anywhere in the world affect the climate everywhere in the world. Consequently, the cumulative analysis is the same as the discussion concerning proposed Project impacts. GHG emissions are typically reported in terms of carbon dioxide equivalents (CO_2e), which converts all GHGs to an equivalent basis, considering their GWP compared to CO_2.

In 2021, total California GHG emissions were 381.3 million (metric tons) MT of CO_2e (CARB 2023). That is 12.6 MT CO_2e higher than 2020 levels and 49.7 million MT CO_2e below the 2020 GHG limit set by AB 32. This represents a per capita GHG emission rate of 9.7 MT CO_2e per person. Much of the increase compared to 2020 was very likely due to recovery after the COVID-19 pandemic. In 2021, the transportation sector of the California economy saw an increase in emissions of 10.0 MT CO_2e, and remained the largest source of emissions, accounting for approximately 38 percent of the total emissions. Emissions from the electricity sector accounted for 16 percent of the 2021 inventory, an increase due to a significant drop in in-state and imported hydropower generation due to below average precipitation levels.

San Mateo County's General Plan has a Climate Element that outlines climate policies and actions this includes building energy policies to transition to all electric new construction and conversion of existing buildings to all electric, increase of electric vehicle adoption and vehicle miles traveled (VMT) reductions, reduction of construction materials and waste, and working lands policies aimed at reducing barriers to support climate beneficial agriculture.

3.8.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts related to GHGs that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Generate a net increase in greenhouse gas emissions which may have a significant impact on the environment

The Proposed Project would generate GHG emissions during construction as a result of the combustion of fossil-fueled construction equipment, material hauling, and worker trips. Estimated

emissions associated with the Project's construction activities would be 322 MT CO_2e. Construction-related emissions were estimated using CalEEMod version 2022.1.1.26. Project construction assumptions, including equipment usage, schedule, and haul routes used for this analysis, were based on the Project description and a list of proposed equipment and equipment hours of use. **Appendix B** contains compiled construction assumptions and the Proposed Project's GHG emission estimates for construction activities.

Once construction is completed, emissions generated during maintenance and operations of the Proposed Project would be very minimal and would not result in any changes to GHG emissions from pre-Project levels.

The BAAQMD does not have a recommended threshold for construction related GHG emissions but does have an operational GHG threshold of 1,100 MT CO_2e per year. The estimated GHG emissions from the Proposed Project (322 MT CO_2e per year) would be well below the BAAQMD's operational threshold of 1,100 MT CO_2e per year, which is in compliance with the 2020 goal established in AB 32. The BAAQMD recently adopted new GHG significance thresholds for land use projects and plans; however, these thresholds are not applicable to the Project because they apply to buildings or projects that include trip generation and do not apply to infrastructure projects such as culvert replacement activities (BAAQMD 2023). Because implementation of the Proposed Project would take place after 2020, this GHG analysis considers the operational bright-line threshold in order to evaluate whether the Project would make substantial progress toward these future goals. In absence of guidance from the BAAQMD for construction emissions, the relevance of an appropriate threshold for post-2020 GHG emissions must be considered.

Sacramento Metropolitan Air Quality Management District (SMAQMD) initially conducted a similar analysis of the CEQA projects that would be captured by establishing a bright-line threshold for the 2020 goals. Recently, SMAQMD updated its analysis and determined that the existing bright-line threshold would still capture over 98 percent of GHG emissions (SMAQMD 2020). Thus, it would be reasonable to assume that an updated analysis by the BAAQMD would find that projects would continue to achieve a high capture rate of total GHG emissions with use of this bright-line threshold. This conclusion supports the continued use of 1,100 MT CO_2e as a significance threshold post-2020 and indicates that continued progress toward the 2030 and 2050 goals is likely to be maintained with this bright-line threshold.

As mentioned above, the estimated emissions of the Proposed Project would be 322 MT CO_2e, which falls within the assumed bright-line threshold. Therefore, the Proposed Project would not generate substantial GHG emissions. Project impacts related to the generation of GHG emissions would be **less than significant**.

b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

The Proposed Project would comply with both local and Statewide GHG emission reduction plans and regulations. California implemented AB 32 in order to lower GHG emissions to 1990 levels by the year 2020. Additionally, SB 32 outlined an overall goal to reduce California's GHG emissions to 40 percent below 1990 levels by the year 2030, and AB 1279 and SB 100 have revised the goal to Statewide carbon neutrality by the year 2045. The Proposed Project would not hinder the State's goals set forth by any of the above policies because the Project would result only in GHG emissions

from temporary construction activities and would not establish any new permanent sources of GHG emissions.

Additionally, the San Mateo County General Plan outlines specific strategies and goals to decrease GHG emissions and prepare for climate adaptation. The Proposed Project would be consistent with the goal to reduce emissions from transportation by implementing BMP GEN-19, which outlines measures to promote air quality protection, such as reducing construction vehicle idling times. For the reasons detailed here and in item (a) above, the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. Therefore, this impact would be **less than significant**.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be 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 and result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to hazards and hazardous materials that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

No federal regulations are applicable to hazards and hazardous materials in relation to the Proposed Project.

State Laws, Regulations, and Policies

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the Resource Conservation and Recovery Act (RCRA) and the State Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

California Occupational Safety and Health Administration

California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in the State. Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in Title 8 of the CCR, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Safety Data Sheets be available to employees and that employee information and training programs be documented.

Regional Water Quality Control Board

The SWRCB and RWQCBs regulate hazardous substances, materials, and wastes through a variety of State statutes, including, for example, the Porter-Cologne Water Quality Control Act, Cal. Water Code § 13000 et seq., and the underground storage tank cleanup laws (Cal. Health and Safety Code §§ 25280-25299.8). RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge waste within any region must file a report of waste discharge with the appropriate regional board.

3.9.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on hazards and hazardous materials.

Existing Hazards and Hazardous Materials

Within one mile of the Project sites, no open hazardous materials sites are documented on SWRCB Geotracker database (SWRCB 2024), nor are there any sites needing further action as documented on DTSC EnviroStor database (DTSC 2024).

Airports

No airports are located within two miles of the Project sites. The nearest airports are Las Trancas Airport approximately 12 miles south of the Proposed Project and Half Moon Bay Airport approximately 19 miles north.

Wildfire Hazards

As the Project area is located within a rural area of San Mateo County, it is located within a State Responsibility Area (SRA). The Project area is classified as a high fire hazard zone by CAL FIRE (CAL FIRE 2024) and the closest Very High Fire Hazard Severity Zone (FHSZ) is located approximately 1.25 miles to the west of the nearest Project location (CAL FIRE 2024). CAL FIRE does not designate the area where the Project sites are located as being in a Wildland Urban Interface (CAL FIRE 2019). Refer to Section 3.20, Wildfire, for more of a discussion on wildfire hazards.

Sensitive Receptors

No schools are located in the vicinity of the Project sites. However, campgrounds at Butano State Park, Memorial County Park, and Young Men's Christian Association (YMCA) camp are located less than one mile from the Project sites.

The nearest hospital, Stanford Hospital located at 500 Pasteur Drive, Palo Alto, is located approximately 10.5 miles to the northeast of the Project area.

Rural residences are located on either side of Wurr Road and Pescadero Creek Road, adjacent to the Project sites on that road.

3.9.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts related to hazards and hazardous materials that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials

As described in Chapter 2, *Project Description*, construction activities would involve removing existing concrete debris, replacing and installing new culvert pipes and headwalls; placing rock inlet protection or rock energy dissipator at outfall; and hauling of soil, debris, and material on- and off-site. Accordingly, Project construction would potentially involve the routine transport, use, storage, and disposal of hazardous materials such as fuel, oil, lubricants, and related materials. Such routine transport, use, storage, and disposal of hazardous materials could potentially create a hazard to the public or the environment (e.g., if hazardous materials were not disposed of in proper locations or at

approved facilities). However, the County would comply with all relevant federal, State, and local statutes and regulations related to transport, use, storage, or disposal of hazardous materials during construction, and all materials designated for disposal would be evaluated for appropriate federal and State hazardous waste criteria. During routine transport and use of equipment, small amounts of fuel and oil could be accidentally released. Implementation of BMP GEN-6 (Hazardous Material Storage/Disposal), BMP GEN-7 (Spill Prevention and Control), BMP GEN-9 (Vehicle Maintenance and Parking), and BMP GEN-10 (Equipment Maintenance & Fueling) would require the safe handling, storage, and disposal of chemicals used during construction.

No known hazardous release or contaminated sites are located within or near the Project area; therefore, construction would not require special handling of excavated soils nor materials. In addition, any spoils or other on-site soils that become contaminated by products used by heavy construction equipment (e.g., from a hydraulic fluid leak) would be hauled off-site for disposal at a permitted landfill.

Once constructed, Project operation and maintenance activities would be consistent with existing practices conducted under the County of San Mateo RMP. All hazardous materials used during maintenance would comply with existing federal, State, and local regulations. Overall, through compliance with relevant regulatory requirements regarding the transport, use, storage, and disposal of hazardous materials, this impact would be **less than significant**.

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

Potential releases of hazardous materials to the environment through reasonably foreseeable upset and accident conditions could result from releases from the routine use of hazardous materials during construction. As discussed in Response (a) above, construction activities would require the use of certain hazardous materials, such as fuels and oils. Such a release could harm aquatic or terrestrial organisms and pose a hazard to the public or environment if not handled properly. However, the use of hazardous materials would comply with all applicable laws and regulations. In addition, BMPs implemented by the County would ensure the safe handling, storage, and disposal of chemicals used during construction. Specifically, BMP GEN-6 (Hazardous Material Storage/Disposal), BMP GEN-7 (Spill Prevention and Control), BMP GEN-9 (Vehicle Maintenance and Parking), and BMP GEN-10 (Equipment Maintenance & Fueling) would be implemented to address accidental releases of hazardous materials.

No known hazardous release or contaminated sites are located within or near the Project area; therefore, there would be no potential for construction activities to create a significant hazard to the public or environment through the accidental release of any contaminated soil, sediment, or groundwater.

As described above, maintenance activities would be consistent with existing practices conducted under the County of San Mateo RMP and would comply with existing federal, State, and local regulations. Therefore, through compliance with all applicable laws and regulations and the implementation of BMPs, potential impacts to the public or environment through accidental release of hazardous materials would be **less than significant**.

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

No proposed or existing schools are located within 0.25 miles of the Project site. Therefore, the Project would have **no impact** on an existing or proposed school should hazardous materials be released.

d. Located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, create a significant hazard to the public or the environment

According to the SWRCB Geotracker and DTSC EnviroStor databases, the Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. Therefore, implementation of the Project would not create a significant hazard to the public or the environment due to its location on a hazardous materials site pursuant to Government Code § 65962.5. **No impact** would occur.

e. Located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a private airport or public airport and result in a safety hazard or excessive noise for people residing or working in the study area

As described above, no airports are located within two miles of the Project area. In addition, the Project area is not located within an airport land use plan. Therefore, implementation of the Project would have **no impact** on people residing or working in the Project area with respect to airport compatibility and excessive noise levels**.**

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

Proposed culvert repair activities would occur along Pescadero Creek Road, Wurr Road, and Cloverdale Road within the County right-of-way (road shoulders). These activities along with the operation of heavy construction equipment on roadways could potentially interfere with traffic movement and impair evacuation procedures in the event of an emergency. Small rural roads may be used as evacuation routes in the County and could be impacted if Project activities require temporary road closures during construction. Project construction activities would require temporary one lane closure along Pescadero Creek Road and full lane closure of Wurr Road. However, Wurr Road connects to Pescadero Creek Road in two locations, and the closure can be avoided by looping around to the other side of Wurr Road via Pescadero Creek Road. Implementation of BMPs including BMP GEN-17 (Maintain Traffic Flow), which requires construction to be staged in a manner that maintains two-way traffic flow where possible and BMP GEN-18 (Traffic Control and Public Safety), which requires the implementation of traffic measures during temporary lane closures and notification of local emergency service providers of planned lane closures would help minimize the potential for Project activities to affect emergency response or evacuation due to temporary lane closures. Therefore, Project impact on adopted emergency response plans or emergency evacuation plans would be **less than significant**.

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

The Project site is located in a rural area within a designated "high fire severity zone" (CALFIRE 2024). However, the Proposed Project would not involve the construction of any new habitable structures or homes. Implementation of BMP GEN-23 (Fire Prevention) which requires all equipment with internal combustion engines to be equipped with spark arrestors, appropriate fire suppression equipment to be available at the work site, flammable materials to be kept away from vegetation, and portable equipment to be kept away from flammable materials would reduce the potential for wildland fires at the Project sites. Therefore, with the implementation of BMP GEN-23, the Project and would not exacerbate wildfire risks. Refer to Section 3.20, Wildfire, for more of a discussion on wildfires. Thus, this impact would be **less than significant.**

3.10 HYDROLOGY AND WATER QUALITY

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

3.10.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to hydrology and water equality that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters. It established the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters (USEPA 2023a). The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972 and came to be commonly known as the "Clean Water Act" at that time (USEPA 2023a). Under the CWA, the USEPA has implemented pollution control programs, such as setting wastewater standards for industry. The USEPA has also developed national water quality criteria recommendations for pollutants in surface waters (USEPA 2023a).

Different sections of the CWA address different aspects of surface water pollution control, with some responsibilities under CWA being delegated to the states. Relevant sections of the CWA are described below.

Section 303(d), Impaired Water Bodies

Under CWA Section 303(d), states are required to identify and make a list of water bodies that are polluted. In California, this responsibility falls to the SWRCB and its nine RWQCBs. In addition to identifying impaired water bodies, states must identify the pollutants causing the impairments, establish priority rankings for waters on the list, and develop a schedule for development of control plans to improve water quality, including development of total maximum daily loads (TMDLs).

Creeks within the Project area include Little Butano Creek, Peterson Creek, and Bloomquist Creek which are not listed on the 303(d) TMDL list. However, receiving waterbodies, Butano Creek and Pescadero Creek, are listed on the 303(d) TMDL list for sedimentation/siltation. The San Francisco Bay RWQCB developed the Pescadero and Butano Creeks Watershed Sediment TMDL to address sediment sources and improve water quality within watershed creeks, including tributary creeks to Pescadero and Butano Creeks (San Francisco Bay RWQCB 2018).

Section 404, Permits for Fill Placement in Waters and Wetlands

CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," or jurisdictional waters, which include oceans, bays, rivers, streams, lakes, ponds, and wetlands. Before any actions that may discharge dredged or fill material into surface waters or wetlands are carried out, a delineation of jurisdictional waters of the U.S. must be completed, following USACE protocols (USACE 1987), in order to determine whether the project area encompasses wetlands or other waters of the United States that qualify for CWA protection. For actions that will discharge dredged or fill material into waters of the U.S., a permit must be obtained from the USACE, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

The basic premise of the Section 404 permitting program is that no discharge of dredged or fill material may be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment, or (2) the nation's waters would be significantly degraded (USEPA 2023b). In other words, applicants must first show that steps have been taken to avoid impacts to wetlands, streams,

and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts (USEPA 2023b). For most discharges that will have only minimal adverse effects, a general permit may be suitable. General permits are issued on a nationwide, regional, or state basis for particular categories of activities (USEPA 2023b). For proposed activities that have potentially significant impacts, an individual permit is required.

Section 401, Water Quality Certification

Section 401 of the CWA specifies that the SWRCB or applicable RWQCB must certify that any federal action meets water quality standards (23 CCR Section 3830, et seq.). Under California's policy of no net loss of wetlands, the SWRCB and RWQCBs require mitigation for dredge and fill impacts to wetlands and waterways. As described below (see "Section 404, Permits for Fill Placement in Waters and Wetlands"), dredge and fill activities in wetlands and waterways that impact waters of the U.S. require a CWA Section 404 permit from the USACE. These permits trigger the requirement to obtain a Section 401 certification, which must be obtained prior to issuance of a CWA Section 404 permit.

Section 402, Permits for Stormwater Discharge

CWA Section 402 regulates facilities that discharge pollutants into waters of the United States (U.S.) through the National Pollutant Discharge Elimination System (NPDES). Under the NPDES, all facilities discharging pollutants from any point source[4] into waters of the U.S. must obtain a NPDES permit. While originally focused on municipal and industrial discharges from pipes or other point sources, Section 402 of the CWA was amended in 1987 to include stormwater discharges, which may be non-point source in nature. State Laws, Regulations, and Policies

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (also known as the Porter-Cologne Act), passed in 1969, established the SWRCB and divided the state into nine hydrogeologic regions, each overseen by an RWQCB. In conjunction with the federal CWA, the Porter-Cologne Act is the principal law governing water quality regulation in California. The Porter-Cologne Act requires that each RWQCB develop a water quality control plan (also known as a Basin Plan) to identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. Waters of the State are defined differently than waters of the U.S., described above under CWA Section 404, and include any surface water or groundwater, including saline waters, which are within the boundaries of the state.

The Porter-Cologne Act also implements many provisions of the CWA, such as the NPDES permitting program, described above under "Federal Laws, Regulations, and Policies." Any entity discharging or proposing to discharge materials that could affect water quality must file a report of waste discharge with the applicable RWQCB.

[4] A point source is defined as any identifiable source of pollution from which pollutants are discharged, such as a pipe, ditch, ship or factory smokestack.

San Francisco Bay Basin Water Quality Control Plan

In accordance with the Porter-Cologne Act, the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin identifies beneficial uses and water quality objectives for surface and ground waters within the Region (San Francisco Bay RWQCB 2024). Beneficial uses for surface waters potentially affected by the Proposed Project are shown in **Table 3.10-1**.

Table 3.10-1. Beneficial Uses for Surface Waters Potentially Affected by the Proposed Project

Water Body	Beneficial Uses																	
	AGR	MUN	GWR	IND	PROC	COMM	SHELL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD	REC-1	REC-2	NAV
Little Butano Creek								E				E	E	E	E	E	E	E
Pescadero Creek	E	E						E			E	E	E	E	E	E	E	

Note: E = Existing beneficial use

Source: San Francisco Bay RWQCB 2024

3.10.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on hydrology and water quality.

Topography and Hydrology

Pescadero Creek Road runs from the western side of the Santa Cruz Mountains, west past Wurr Road and across an alluvial valley, to Pescadero-Butano Marsh before discharging to the Pacific Ocean. The Project area ranges from approximately 1,000 to 215 feet to in elevation. The Wurr Road and Pescadero Creek Road sites are within the Pescadero Creek watershed which drains to Pescadero-Butano Marsh and the Pacific Ocean near the town of Pescadero.

Bloomquist and Peterson Creeks are tributaries of Pescadero Creek, flowing south to north and draining to Pescadero Creek in Memorial County Park.

Little Butano Creek originates in Butano State Park, passes through the Project area at Cloverdale Road, and then flows north parallel to the west side of Cloverdale Road before discharging to Butano Creek near Eden W Road approximately 1.5 miles north of the Project area.

Stormwater

Existing drainage infrastructure within the Project area includes roadside ditches and culverts that convey water to ephemeral channels and/or tributary creeks to Pescadero Creek. The Project sites are located in a rural and sparsely inhabited area that is not served by a municipal storm sewer system.

Groundwater

No mapped groundwater basins are present in the Project area (California Department of Water Resources 2024).

Floodplains and Tsunamis

Project Site 190 is within the Little Butano Creek floodplain. The Federal Emergency Management Agency (FEMA) designates the majority of the Project site as FEMA Flood Hazard Zone A (FEMA 2023), which is an area subject to inundation by the 1-percent-annual-chance flood event or 100-year flood (FEMA 2020). Additionally, Project Site 94 is also within a FEMA Flood Hazard Zone A. All other sites are outside of a designated flooding zone.

None of the Project sites are within a mapped tsunami inundation zone (California Geological Survey 2024).

3.10.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on hydrology and water quality that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Violate any water quality standards, waste discharge requirements or otherwise substantially degrade water quality

Construction of the Proposed Project would include ground-disturbing activities that could result in erosion and the movement of sediment to surface waters downstream from the work areas. The movement and transport of soil, sediment, and other loose material associated with these ground-disturbing activities could also emit dust which could affect surface waters in the vicinity of the work areas. Other related water quality impacts include increased turbidity and water temperature and reduced dissolved oxygen levels in the water column. In-channel activities such as sediment removal could result in water quality impacts through the disturbance of creek banks, which may result in increased turbidity in the water column and migration of sediment to areas downstream. Additionally, hazardous materials (e.g., fuel, oil, grease, etc.) from construction equipment or stored at staging areas could leak or otherwise be accidentally released, thus resulting in adverse water quality impacts and potential violations of water quality standards. Equipment would be operated from the roadway where possible; however, some work activities may require work within the stream channel (e.g., Site 190 at Cloverdale Road would require work within Little Butano Creek and other sites may potentially require access to Bloomquist and Peterson Creeks). Operation of equipment within the stream channel would heighten the potential for pollution of surface waters via erosion/sedimentation and release of hazardous materials, particularly if preventative measures are not taken. This could result in violation of water quality standards or waste discharge requirements, which would be a significant impact without the use of Project BMPs.

Project construction activities would be conducted during the dry season when drainage ditches and tributaries are dry or channels exhibit minimal flow. However, if construction activities are necessary where water is present, dewatering activities including the use of cofferdams and installation of a clean water bypass may be necessary. If necessary, dewatering activities would be conducted in a

manner that would minimize impacts to water quality. Implementation of the following BMPs would reduce potential impacts to water quality: BMP GEN-1 (Staging and Access), BMP GEN-2 (Minimize Area of Disturbance and Site Maintenance), BMP GEN-3 (Construction Entrances and Perimeter), BMP GEN-6 (Hazardous Materials Storage/Disposal), BMP GEN-7 (Spill Prevention and Control), BMP GEN-8 (Waste Management), BMP GEN-9 (Vehicle Maintenance and Parking), BMP GEN-10 (Equipment Maintenance & Fueling), BMP GEN-12 (Concrete, Grout, and Mortar Application), BMP GEN-16 (Timing of Work), BMP GEN-22 (Site Stabilization), BMP EC-5 (Wattles/Fascines), BMP EC-6 (Hand Seeding), BMP EC-8 (Mulching), BMP EC-9 (Vegetative Buffer), BMP EC-10 (Erosion Control Blankets and Mats), BMP EC-11 (Surface Roughening), BMP EC-13 (Slope or Bank Stabilization), BMP EC-14 (Energy Dissipator), BMP SC-1 (Sandbags and Gravel Bags), BMP SC-2 (Silt Fence), BMP SC-3 (Straw Log, Straw Roll, Coir Log), BMP SC-7 (Silt Curtain), and BMP DW-1 (Channel Dewatering). These BMPs would include but are not limited to erosion and sediment control measures (e.g., mulch, temporary seeding, fiber rolls or blankets silt fences or straw waddles), measures to limit the potential discharge of other construction-related pollutants (e.g., vehicle and equipment fueling, spill prevention and response, etc.), and work window and work area restrictions and limitations.

Following construction, the Proposed Project would improve water quality relative to baseline conditions by repairing failing culverts, stabilizing eroding outfall areas, and removing sediment from Little Butano Creek. Under current conditions, erosion and sedimentation is occurring at many of the Project site locations due to culvert deficiencies. Sedimentation may adversely affect water quality conditions in Pescadero Creek and Little Butano Creek. Thus, by correcting the problems with the existing culverts and removing sediment in Little Butano Creek, the Proposed Project would reduce the potential for erosion and sedimentation occurring in the future. For the reasons stated above and with implementation of BMPs, the Proposed Project would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality. Additionally, these sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment and will help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the TMDL for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed. Thus, this impact would be **less than significant.**

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

No managed groundwater basins underlie the Project area. While Project construction activities may require the use of water for dust control, this would come from surface water sources and would not affect groundwater supplies. Although the Project would involve the installation of a minimal amount of rock and upsized culverts, the minimal addition would not interfere with groundwater recharge. The Project culverts would continue to allow water to pass through or underneath the roadway, where it may percolate into the streambed. Therefore, **no impact** to groundwater would occur with implementation of the Proposed Project**.**

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

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

As described in item 3.10(a) above, Project construction activities would have the potential to result in erosion and/or siltation on-site, which could lead to sediment being temporarily discharged downstream. Ground-disturbing activities (e.g., site preparation, installation of culverts) would loosen soils, which could then be mobilized and carried downstream by precipitation events. Project construction activities would also temporarily alter the existing drainage patterns of the sites through vegetation removal at work and staging areas and through ground-disturbance/excavation required for the Proposed Project. Additionally, it is possible that channel dewatering may be required if there is water in the creek channel at the time of construction (Site 94, Site 102, Site 190, Site 263, Site 268). These Project activities would create the potential for erosion and siltation to occur on- or off-site, which could adversely affect water quality. Specifically, implementation of erosion and sediment control measures (e.g., mulch, temporary seeding, fiber rolls or blankets silt fences or straw wattles) would help to limit off-site movement of sediments or silts, thereby preventing adverse effects to water quality.

Following construction, exposed soils would be stabilized by revegetation (i.e., seeding with native plants, livestaking) and the installation of erosion control materials, which would limit the potential for erosion and siltation post-construction. In general, the Proposed Project would reduce potential for erosion and siltation over the long term by improving deteriorated culvert conditions. For the reasons stated above, impacts would be **less than significant.**

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

The Proposed Project is designed to improve stormwater conveyance capacity and reduce the chance of flooding by installing properly sized culverts, able to handle 100-year flow capacity. The Proposed Project would not substantially increase the rate or amount of surface runoff by creating substantial areas of impervious surface. The amount of impervious surface associated with the new headwalls would be nominal. Therefore, implementation of the Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite. This impact would be **less than significant**.

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

The Proposed Project involves culvert replacement and upsizing to adequately convey flow. Additionally, the Proposed Project would not create or establish any substantial new areas of impervious surface. Several of the Project culverts serve to convey stormwater drainage from the road surfaces, and implementation of the Proposed Project would improve the performance of these facilities. During construction, there may be the potential for Project construction activities to

provide additional sources of polluted runoff to nearby waterbodies (e.g., spills of hazardous materials from construction equipment and subsequent precipitation events). Implementation of applicable BMPs included in item 3.10(a) above to control hazardous materials, erosion control, and construction work windows would limit the potential for construction activities to generate polluted runoff (e.g., accidental release of hazardous materials from construction equipment). As a result, implementation of the Proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This impact would be **less than significant**.

iv. impede or redirect flood flows

The Proposed Project would not create or establish substantial new above-ground structures that could impede or redirect flood flows. Rather, implementation of the Proposed Project would improve the existing roadway drainage system and thus reduce flooding by replacing deteriorated culverts, upsizing culverts where needed to convey flows, and installing new culverts where needed. As such, implementation of the Proposed Project would not substantially impede or redirect flood flows in an adverse way. This impact would be **less than significant.**

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

As described above, Project Sites 190 and 94 are within the FEMA 100-year flood hazard zone. Some of the other Project sites are located along roadways adjacent to creeks that may experience flooding during high flows. During construction, there would be a potential for hazardous materials associated within construction equipment and stored at staging areas (e.g., fuel, oil, grease, etc.) to be released if a large storm/flooding event were to occur at the time of construction. However, implementation of BMP GEN-16 (Timing of Work), which requires ground-disturbing activities within the channel to occur during the dry season and implementation of BMP GEN-6 (Hazardous Materials Storage/Disposal), which requires the proper storing and containing of hazardous materials on-site, would reduce the potential for any release of pollutants during an inundation event. Overall, implementation of the Proposed Project would improve local flood protection by replacing deteriorated culverts, upsizing culverts where necessary, and installing new culverts to convey high flows.

A seiche is a standing wave in enclosed or partially enclosed body of water, such as a lake, bay (i.e., San Francisco Bay) or estuary, which oscillates back and forth from one side of the waterbody to the other. Seiches may be triggered by moderate or large submarine or onshore earthquakes. None of the Project sites are located downstream from reservoirs or large enclosed bodies of water that may experience seiches. The closest waterbodies with potential to experience a seiche are Bean Hollow Lake and Reservoir de los Frijoles, located approximately 1.1 and 1.5 miles west of Site 190, respectively. Additionally, none of the Project sites are located within a tsunami inundation area. Therefore, the risks associated with a seiche and a tsunami are not considered potentially significant impacts.

In conclusion, implementation of the Proposed Project would not substantially risk release of pollutants due to project inundation from flooding, a seiche, or a tsunami. This impact would be **less than significant**.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

As discussed under Section 3.10) (a) above, given implementation of applicable BMPs, the Proposed Project would not result in substantial pollutant discharges during construction. Thus, construction of the Proposed Project would not substantially adversely affect beneficial uses, as identified in the San Francisco Bay Basin Plan (see **Table 3.10-1**). The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Waterways Consulting 2022) and the Proposed Project would help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (San Francisco Bay RWQCB 2018). Therefore, over the long term, implementation of the Proposed Project would improve the performance of existing culverts and repair unstable, eroding headwalls, thereby reducing potential sediment discharges to nearby surface waters. Additionally, the Proposed would improve fish passage by removing fish passage barriers in Little Butano Creek. No mapped groundwater basins underlie the Project area, and no adopted sustainable groundwater management plans are applicable to the Proposed Project (California Department of Water Resources 2024). Therefore, the Proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. This impact would be **less than significant**.

3.11 LAND USE AND PLANNING

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

3.11.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to land use and planning that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

No federal regulations are applicable to land use and planning in relation to the Proposed Project.

State Laws, Regulations, and Policies

California Government Code §§ 65300 – 65303.4

This code, as set, requires all counties and cities in California to adopt a long-term, comprehensive general plan for future development within their respective jurisdictions. It requires that all plans contain elements considering land use, circulation, housing, noise, conservation, open space, and safety.

California Coastal Commission

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976 (Coastal Act). The Coastal Act includes specific policies that address shoreline access, development and land use, aesthetics, water quality, and protection and enhancement of terrestrial and marine habitat and natural resources. Under the Coastal Management Program, the California Coastal Commission manages development along the California coast, excluding San Francisco Bay. The Coastal Act broadly defines development activities to include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters.

The California Coastal Commission plans and regulates the development and use of land and water in the coastal zone. The coastal zone extends three nautical miles offshore and varies in width from several hundred feet in highly urbanized areas to up to five miles in certain rural areas. Project Site

No. 190 along Cloverdale Road is located within the coastal zone. In San Mateo County, the Coastal Act is implemented through the San Mateo County Local Coastal Program.

Local Laws, Regulations, and Policies

San Mateo County Local Coastal Program

The San Mateo County Local Coastal Program (LCP) is intended to carry out the coastal protection policies of the Coastal Act (described above). All development within the coastal zone requires either a Coastal Development Permit (CDP) or an exemption from CDP requirements. In order for a permit or exemption to be issued, the project must comply with the policies of the LCP and other County requirements. The LCP includes policies for sensitive habitats, visual resources, hazards, shoreline access, recreation, among others (County of San Mateo 2024).

3.11.2 Discussion of Checklist Responses

The following sections provide an analysis of impacts on land use and planning that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Divide an established community

The Proposed Project involves the repair and replacement of damaged culverts and box culvert sediment removal and upstream channel restoration along Pescadero Creek Road, Wurr Road, and Cloverdale Road to address drainage infrastructure deficiencies and provide adequate conveyance capacity. The Proposed Project would not divide an established community. Thus, **no impact** would occur with implementation of the Proposed Project.

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

Land uses within the Project area include agriculture, public recreation, open space, rural residential, and forest timber production. Applicable land use plans include the San Mateo County General Plan (County of San Mateo 2013) and the County's LCP. Additionally, lands within the Project area are zoned for resource management district (RM), timber land preserve district (TPZ), and planned agriculture district/coastal development district (PAD/CD) (County of San Mateo 2024).

General Plan Policy 12.15 "Rural Road Improvements" requires that the County maintain and support improvements to rural roads for the safety of rural road users (County of San Mateo 2013). As previously mentioned, the Project involves repairing and replacing damaged culverts underneath rural roads, which would be in compliance with the County's General Plan. In addition, the Proposed Project incorporates BMPs that would protect sensitive resources consistent with the policies included in the LCP. Therefore, the Proposed Project would not conflict with any land use plan, policy, or regulation. Thus, **no impact** regards to conflicts with land use plans and policies would occur**.**

3.12 MINERAL RESOURCES

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

3.12.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to mineral resources that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

There are no federal laws, regulations, or policies related to mineral resources that are applicable to the Proposed Project.

State Laws, Regulations, and Policies

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA) of 1975 requires the State Mining and Geology Board to adopt state policies for the reclamation of mined lands and the conservation of mineral resources (DOC 2024). As required by SMARA, the state has established the California Mineral Land Classification System to help identify and protect mineral resources in areas that are subject to urbanization or other irreversible land uses that would prevent mineral extraction. Protected mineral resources include construction materials, industrial and chemical mineral materials, metallic and rare minerals, and nonfluid mineral fuels.

3.12.2 Discussion of Checklist Responses

The following sections provide an analysis of impacts on mineral resources that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

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

As a culvert repair and channel restoration project, the Proposed Project would not change the existing land use or function of the area and thus would not change the accessibility of potentially occurring minerals that are of value to the region or residents of the state. As a result, implementation of the Proposed Project would have **no impact** on the availability of a known mineral resource of value.

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

As described above, the Project area is not located within a designated mineral resource area and is not located within close proximity to an active quarry. Because no active known mineral resource recovery sites are located on or near the Project area, the proposed Project would not 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. Therefore, implementation of the Project would have **no impact** on the availability of a locally important mineral resource recovery site.

3.13 NOISE

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project result in?				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, would the project expose people residing or working in the project site to excessive noise levels?	☐	☐	☐	☒

3.13.1 Overview of Noise and Vibration Concepts and Terminology

In the CEQA context, noise can be defined as unwanted sound. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level, or sound intensity. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive, creating the A-weighted decibel (dBA) scale. Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this chapter.

Decibel (dB) is a measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

A-weighted decibel (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

Maximum sound level (Lmax) is the maximum sound level measured during a given measurement period.

Minimum sound level (Lmin) is the minimum sound level measured during a given measurement period.

Equivalent sound level (Leq) is the equivalent steady-state sound level that, in a given period, would contain the same acoustical energy as a time-varying sound level during that same period.

Percentile-exceeded sound level (Lxx) is the sound level exceeded during *x* percent of a given measurement period. For example, L_{10} is the sound level exceeded 10 percent of the measurement period.

Day-night sound level (Ldn) is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels during the period from 10:00 p.m. to 7:00 a.m. (typical sleeping hours). This weighting adjustment reflects the elevated sensitivity of individuals to ambient sound during nighttime hours.

Community noise equivalent level (CNEL) is the energy average of the A-weighted sound levels during a 24-hour period, with 5 dB added to the A-weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels between 10:00 p.m. and 7:00 a.m.

In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. **Table 3.13-1** presents approximate noise levels for common noise sources, measured adjacent to the source.

Table 3.13-1. **Examples of Common Noise Levels**

Common Outdoor Activities	Noise Level (dBA)
Jet flyover at 1,000 feet	110
Gas lawnmower at 3 feet	100
Diesel truck at 50 feet traveling 50 miles per hour	90
Noisy urban area, daytime	80
Gas lawnmower at 100 feet, commercial area	70
Heavy traffic at 300 feet	60
Quiet urban area, daytime	50
Quiet urban area, nighttime	40
Quiet suburban area, nighttime	30

Source: Caltrans 2013

Vibration

Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). Most environmental vibrations consist of a composite, or "spectrum," of many frequencies. The normal frequency range of most ground-borne vibrations that can be felt

generally starts from a low frequency of less than 1 Hz to a high frequency of about 200 Hz. Vibration information for this analysis has been described in terms of the peak particle velocity (PPV), measured in inches per second, or of the vibration level measured with respect to root-mean-square vibration velocity in decibels (VdB), with a reference quantity of 1 micro-inch per second.

Vibration energy dissipates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High-frequency vibrations reduce much more rapidly than do those characterized by low frequencies, so that in a far-field zone distant from a source, the vibrations with lower frequency amplitudes tend to dominate. Soil properties also affect the propagation of vibration. When ground-borne vibration interacts with a building, a ground-to-foundation coupling loss usually results, but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows, shaking of loose items, or the motion of building surfaces. In some cases, the vibration of building surfaces can also be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise.

Ground-borne vibration is generally limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities, such as pile driving. Road vehicles rarely create enough ground-borne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps. Human sensitivity to vibration varies by frequency and by receiver. Generally, people are more sensitive to low-frequency vibration. Human annoyance is also related to the number and duration of events; the more events or the greater the duration, the more annoying it becomes.

3.13.2 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to noise that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies for construction-related noise and vibration apply to the Proposed Project. However, the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment Manual* state that for evaluating daytime construction noise impacts in outdoor areas, a noise threshold of 90 dBA Leq and 100 dBA Leq should be used for residential and commercial/industrial areas, respectively (FTA 2018).

For construction vibration impacts, the FTA guidelines use an annoyance threshold of 80 VdB for infrequent events (fewer than 30 vibration events per day) and a damage threshold of 0.12 inches per second (in/sec) PPV for buildings extremely susceptible to vibration damage (FTA 2018).

State Laws, Regulations, and Policies

California requires each local government entity to implement a noise element as part of its general plan. California Administrative Code, Title 4, presents guidelines for evaluating the compatibility of various land uses as a function of community noise exposure.

3.13.3 Discussion of Checklist Reponses

The following sections provide an analysis of impacts related to noise that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies

Noise impacts resulting from construction activities would depend on the noise generated by the various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Construction noise impacts primarily occur when construction activities occur during noise-sensitive times of the day (i.e., early morning, evening, and nighttime hours), when construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction occurs over an extended period (e.g., longer than one year).

The San Mateo County Noise Ordinance Code Chapter 4.88 exempts noise associated with construction, demolition, repair, and grading during the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays (San Mateo County 2024). Construction activities associated with the Proposed Project would occur between 7:00 a.m. and 6:00 p.m. on weekdays, in compliance with the San Mateo County Noise Ordinance. If weekend work is required, it would also be conducted in compliance with the San Mateo County Noise Ordinance. No nighttime construction activities would occur as part of the Proposed Project.

The Proposed Project would generate noise associated with construction activities (e.g., site grading, compaction, excavation, and debris and material hauling), including from the operation of construction equipment and the use of vehicles and trucks during construction. Project construction activities would be typical for culvert replacement work. Noise calculations are included in **Appendix E, Noise Calculations**.

The nearest sensitive receptors are located adjacent to the Proposed Project. Noise levels from construction were estimated based on the two noisiest pieces of equipment located at the center of the Proposed project sites. The noisiest pieces of equipment were assumed to be a vibratory roller (85 dBA) and trucks (84 dBA). Equipment operation in the middle of the Project site would not exceed the significant threshold for construction noise of 90 dBA. When equipment is operating near the edges of the Project site, the impact to sensitive receptors could be potentially significant especially for residences located adjacent to the Project site and people camping and recreating in adjacent campgrounds and parks. **Mitigation Measure NOI-1 (Implement Construction Noise Reduction Measures)** would limit the hours of construction activities from 7:00 am to 6:00 pm consistent with the San Mateo County Noise Ordinance and would require the installation of proper mufflers on equipment as well equipment shrouds when equipment is operating within 37 feet from adjacent residential properties, campgrounds, and active recreation areas.

With implementation of Mitigation Measure NOI-1, the impacts from construction noise would be **less than significant with mitigation**.

Mitigation Measure NOI-1: Implement Construction Noise Reduction Measures

- To the extent feasible, contractor shall restrict the operation of noise-generation equipment to 7:00 am – 6:00 pm, Monday through Friday.
- If weekend work is required, these activities would be further restricted to between 9:00 a.m. to 5:00 p.m. on Saturdays in compliance with the San Mateo County Noise Ordinance Code Chapter 4.88.
- All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or noise-reducing features in good operating condition that met or exceed original factory specifications.
- Mobile noise-generation equipment and machinery shall be shut off when not in use.

b. Generation of excessive groundborne vibration or groundborne noise levels

Common construction activities and equipment may expose people to excessive groundborne vibration or groundborne noise. Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibrations are above 80 VdB. Building damage occurs at a PPV of 0.12 in/sec for buildings extremely susceptible to vibration damage. Vibration and ground-borne noise levels are estimated following methods described in the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) to determine the peak particle velocity (PPV) that would potentially impact buildings and the vibration velocity (in VdB) for annoyance. It was assumed that the equipment would have similar vibration sound levels as a vibratory roller:

- 36.3 feet to PPV of 0.12 in/sec
- 86 VdB noise vibration at 25 feet
- 73.2 feet to noise vibration of 80 VdB

The Proposed Project would not require pile driving, blasting, or other special construction techniques associated with greater groundborne vibration. Therefore, the expected generation of groundborne vibration associated with the Proposed Project would not cause any damage to nearby buildings. However, there may be people located near the Project sites temporarily within the noise annoyance distant of 73.2 feet such as a farm worker, hiker, or people using the nearby parks, rural residences, and campgrounds. However, since these are not areas where the sensitive receptors would linger and they could easily avoid being this close to the construction activity, it is not anticipated that there would be an impact to sensitive receptors to cause an annoyance from vibration. Therefore, impacts related to the Proposed Project generating excessive groundborne vibration would be **less than significant**.

c. For a project located within the vicinity of a private airstrip or an airport land use plan area, or, within 2 miles of a public airport or public-use airport, would the project expose people residing or working in the project site to excessive noise levels

The Project sites are not located within the vicinity of a private airport or airstrip. The nearest airstrip is Las Trancas Airport approximately 12 miles and the Half Moon Bay Airport approximately 19 miles north south of the Project sites. The Project area is not located within an airport land use plan or within two miles of a public or public-use airport. Thus, the Project would have **no impact** related to airport noise exposure.

3.14 POPULATION AND HOUSING

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

3.14.1 Regulatory Setting

The relevant regional and local laws, regulations, and policies are described in **Appendix A**. No federal or state regulations or policies regarding population and housing are applicable to the Proposed Project.

3.14.2 Discussion of Checklist Responses

The following sections provide an analysis of impacts on population and housing that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Induce unplanned population growth

The Project would not involve the construction of new homes or businesses within the area or extend new roads or other types of infrastructure that could cause substantial population growth. Construction activities would be temporary and would last a few weeks to a few months. It is anticipated that the regional labor supply would be able to fulfill crew demands, and no crew relocation would be necessary. Because these jobs would be filled by the local work force, the Proposed Project would not induce population growth related to new long-term employment opportunities. As a result, implementation of the Project would have **no impact** to the local population and would not induce unplanned population growth.

b. Displace a substantial number of existing people or housing

Although residences are located near some of the Project sites, no residents would be displaced by implementation of the Project, either temporarily or permanently. As such, implementation of the Project would have **no impact** related to housing displacement.

3.15 PUBLIC SERVICES

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

3.15.1 Regulatory Setting

The relevant regional and local laws, regulations, and policies are described in **Appendix A**. No federal or state regulations or policies regarding public services are applicable to the Proposed Project.

3.15.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on public services, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

Fire Protection

The Project area is located within unincorporated San Mateo County. The San Mateo County Fire Department provides fire protection, emergency medical service, fire prevention, and suppression services to unincorporated areas of the County (San Mateo County Building & Planning Division 2006). The San Mateo County Fire Department has both paid and volunteer personnel and operates three volunteer fire stations and four paid stations for a total of seven fire stations. The closest fire station to the Project area is Volunteer Station 55 located at 8879 Pescadero Creek Road, approximately 0.35 mile from the closest culvert repair site (County of San Mateo 2024a).

Police Protection

The San Mateo County Sherriff's Office provides law enforcement for the unincorporated areas of San Mateo County, including the Project area (County of San Mateo 2024b). An emergency call box is located approximately 1.6 miles north of the Project site. The closest police station to the Project area is located at 330 Bradford Street in Redwood City, which is approximately 13 miles from the Project area.

Schools

The Project area is located within the La Honda-Pescadero Unified School District (San Mateo County Office of Education 2024). The closest school to the Project area is Pescadero High School/Middle School, which is located approximately 3.8 miles northeast of the Project site at Cloverdale Road. Camp Glenwood, a minimum-security honor camp for juvenile offenders, is located approximately 1 mile northeast of the Projects sites along Pescadero Creek Road.

Parks

Several culvert repairs sites on Wurr Road and Pescadero Creek Road are located within or near the 673-acre Memorial County Park. The Project area is also adjacent to Sam McDonald County Park, Butano State Park, and the YMCA Camp Loma Mar.

Other Public Facilities

No other public facilities are located within the vicinity of the Project area.

3.15.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on public services that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Result in adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities

(i)(ii) Fire Protection and Police Protection

As described in Chapter 2, *Project Description,* the Proposed Project would address drainage infrastructure deficiencies and provide adequate conveyance capacity. The Proposed Project would not induce population growth and would not involve the construction of any new facilities or involve any long-term activities that would result in increased demand for police and fire services. However, construction activities would require temporary one lane closure along Pescadero Creek Road and full lane closure of Wurr Road which could affect the mobility of fire and police vehicles, thereby adversely affecting the fire and police protection services in the vicinity of the Project site. However, Wurr Road connects to Pescadero Creek Road in two locations and the closure can be avoided by looping around to the other side of Wurr Road via Pescadero Creek Road. Implementation of BMP GEN-17 (Maintain Traffic Flow) and BMP GEN-18 (Traffic Control and Public Safety) would ensure that emergency service providers are notified of any planned closures and appropriate traffic control

measures are implemented. Furthermore, improving conditions and maintaining future access would prevent culvert failure and road closures. Therefore, impacts related to fire and police services would be **less than significant.**

(iii-v) Schools, Parks, and Other Public Facilities

As described in Chapter 2, *Project Description,* the Proposed Project would address drainage infrastructure deficiencies and provide adequate conveyance capacity. The Proposed Project would not induce population growth and would not involve the construction of any new facilities or involve any long-term activities that would result in increased demand for schools, parks, or other public facilities. Impacts related to recreation are discussed further in Section 3.16, Recreation, below. Therefore, **no impacts** to schools, parks, or other types of public facilities would occur.

3.16 RECREATION

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

3.16.1 Regulatory Setting

The relevant regional and local laws, regulations, and policies are described in **Appendix A**. No federal or state regulations or policies related to recreation are applicable to the Proposed Project.

3.16.2 Environmental Setting

Several of the Project sites are located within or near Memorial County Park. Additionally, Site 190 along Cloverdale Road is adjacent to Butano State Park. YMCA Camp Loma Mar is also located approximately 0.25 miles northeast of the Project sites along Pescadero Creek Road.

3.16.3 Discussion of Checklist Responses

a. Increase use of existing parks or recreational facilities

As described in Section 3.14, Population and Housing, the Project would not increase the local population nor result in population growth in the area. Therefore, the Proposed Project would not increase the total number of possible visitors that may frequent the area on a regular basis.

Several of the Project sites occur within or adjacent to Memorial County Park and Butano State Park. Access to Memorial County Park is provided via Pescadero Creek Road and access to Butano State Park is provided via Cloverdale Road. During construction, access to Memorial County Park may be temporarily disrupted through temporary lane closures; however, the Project would not limit access to or recreational use of the nearby parks.

Upon completion, the Project would not substantially increase the use of existing parks or other recreational facilities such that physical deterioration of these facilities would occur. Therefore, impacts associated with the Project on the use of existing parks and recreational facilities would be **less than significant**.

b. Creation of new or altered recreational facilities

The Proposed Project would replace in-kind and/or improve damaged culverts within and immediately adjacent to Memorial County Park and Butano State Park. Project activities would not directly affect recreational facilities nor result in the construction or expansion of any new recreational facilities. Therefore, implementation of the Project would have **no impact** related to the creation of new or altered recreational facilities.

3.17 TRANSPORTATION

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

3.17.1 Regulatory Setting

The relevant regional and local laws, regulations, and policies are described in **Appendix A**. No federal or state regulations or policies related to transportation are applicable to the Proposed Project.

3.17.2 Environmental Setting

The following sections describe the environmental setting that pertains to impacts on transportation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

Existing Vehicle Access

All proposed culvert repair locations associated with the Proposed Project are within a rural, unincorporated area of San Mateo County, near the Town of Pescadero and community of Loma Mar. Roads within the Project area are rural and mountainous, occurring typically within steep terrain with small shoulders. The culvert repair locations along Wurr Road and Pescadero Creek Road are accessible directly from the road. Site 190 at Cloverdale Road and Little Butano Creek would be accessible from Cloverdale Road but would also require temporary access points to both the upstream and downstream side of the box culvert. The closest major highways to the Project area include CA State Route 84 to the north, and CA State Route 1 to the west.

Existing Bicycle and Pedestrian Facilities

While certain areas of the County are equipped with sidewalks, crosswalks, curb ramps, and streetscape amenities, the Project area is rural with limited to no bicycle and pedestrian facilities in

the vicinity. None of the roads within the Project area have dedicated pedestrian sidewalks or bicycle lanes.

3.17.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on transportation that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Conflict with applicable circulation plans, ordinances, or policies and applicable congestion management programs

The Project's effect on transportation in the Project area would be limited to short-term effects associated with construction vehicles and haul trips. Construction-related traffic would consist primarily of commutes to and from worksites by construction workers with occasional delivery and removal of materials during the construction period. Construction staging and stockpile areas would be limited to areas within the County's right-of-way, including road shoulders and closed lanes designated as construction areas, and the typical work crew would consist of between four and ten individuals. While construction workers would travel to and from the work sites, which would add vehicle traffic to area roadways, the temporary added volume of traffic generated by construction work crews on Project area roadways would be negligible relative to roadway capacity and existing traffic volumes both locally and regionally.

Construction of the Proposed Project would require the temporary closure of Wurr Road in the vicinity of the seven proposed culvert locations as well as temporary one-lane closures on Pescadero Creek Road at the four culvert locations. No temporary road closures would be required on Cloverdale Road. Although a full closure on Wurr Road would be required, the roadway connects to Pescadero Creek Road in two locations, and the closure can be avoided by looping around to the other side of Wurr Road via Pescadero Creek Road. All roadway closures would be temporary.

Implementation of BMP GEN-17 (Maintain Traffic Flow) requires two-way traffic flow on roadways within the work areas to be maintained where possible, limits the presence of heavy equipment and haul traffic within residential areas, and requires property owners to be notified if heavy equipment or hauling would be required beyond planned work windows. Implementation of BMP GEN-18 (Traffic Control and Public Safety) requires the implementation of traffic control measures such as signage and flaggers to minimize impacts on traffic due to temporary lane closures. Additionally, BMP GEN-18 requires the County to notify local emergency service providers about planned lane closures, install measures to prevent dangerous conditions from work on the roadway. Although temporary, full roadway and one-lane closures could lead to minor localized traffic delays, temporary reductions in roadway level of service (LOS) or create traffic hazards that conflict with applicable circulation plans, ordinances, or policies and applicable congestion management programs.

Although there is no dedicated bicycle lane along these roads, there is still a likely chance for cyclists to use the roads occasionally. The implementation of BMP GEN-18 (Traffic Control and Public Safety) would reduce the risk to cyclists by requiring signage and flaggers at road closures. Thus, implementation of the Project would have less than significant impact on alternative transportation methods.

For the reasons stated above, the Proposed Project would have a **less than significant impact** on programs, plans, ordinances, and policies addressing the circulation system.

b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)

Implementation of the Project would not entail a change in land use from existing conditions or introduce factors that would generate new or unanticipated long-term changes in VMT, such as residences and facilities. In addition, roadway capacity would be unaffected. Therefore, implementation of the Proposed Project would not conflict with or be inconsistent with CEQA Guidelines § 15064.3(b)(2). **No impact** would occur.

c. Increased hazards resulting from geometric design features

Implementation of the Proposed Project would not substantially change the design of any roadway or intersection. Following construction, all roads would be fully reopened and would function similarly to how they did prior to construction. As described above, construction activities would require the temporary full closure of Wurr Road during culvert repair work and the temporary one land closure on Pescadero Creek Road during culvert repair work. Additionally, heavy construction equipment would operate on the roadway and road shoulder around work sites. Implementation of BMP GEN-17 (Maintain Traffic Flow), which requires two-way traffic flow on roadways within the work areas to be maintained where possible, limits heavy equipment and haul traffic in residential zones, and notifies property owners if heavy equipment or hauling extends beyond planned times, and BMP GEN-18 (Traffic Control and Public Safety) which requires the implementation of traffic control measures would minimize the potential for Project activities to result in adverse impacts regarding increased roadway hazards. Thus, the Project would have a **less than significant impact**.

d. Inadequate emergency access

The Proposed Project would not include any activities that would permanently block or constrain publicly accessible roadways or emergency access routes. Project activities may require the temporary full closure of Wurr Road and a temporary one lane closure of Pescadero Creek Road during the construction period. Due to the temporary closures, traffic could be stopped or delayed on these roads which could negatively affect emergency access to the area. Implementation of BMP GEN-17 (Maintain Traffic Flow) and GEN-18 (Traffic Control and Public Safety) would minimize the potential for Project activities to adversely affect emergency access and would require the County to notify emergency service providers in the event of any lane or road closures. Furthermore, the Project would have long-term benefit of improving reliability of emergency access by preventing future culvert failure and roadway closures. Therefore, implementation of the Proposed Project would have a **less than significant impact** on emergency access.

3.18 TRIBAL CULTURAL RESOURCES

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
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)	☐	☐	☐	☒
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

3.18.1 Regulatory Setting

The following sections describe federal and state, regulations, and policies that are relevant to impacts related to tribal cultural resources that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

Federal law does not address tribal cultural resources (TCR), as these resources are defined in the California PRC. However, similar resources, called Traditional Cultural Properties (TCPs), fall under the purview of Section 106 of the NHPA, which was described in Section 3.5, Cultural Resources. TCPs are locations of cultural value that are historic properties. A place of cultural value is eligible as a TCP "because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural

identity of the community" (Parker & King 1990, rev. 1998). A TCP must be a tangible property, meaning that it must be a place with a referenced location, and it must have been continually a part of the community's cultural practices and beliefs for the past 50 years or more. Unlike TCRs, TCPs can be associated with communities other than Native American tribes, although the resources are usually associated with tribes. By definition, TCPs are historic properties; that is, they meet the eligibility criteria as a historic property for listing in the NRHP. Therefore, as historic properties, TCPs must be treated according to the implementing regulations found under Title 36 CFR §800, as amended in 2001.

State Laws, Regulations, and Policies

Assembly Bill 52

Assembly Bill (AB) 52, which was approved in September 2014 and went into effect on January 1, 2015, requires that State lead agencies consult with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe. The bill, chaptered in Public Resources Code § 21084.2, also specifies that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Defined in Public Resources Code § 21074(a), TCRs are:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a. Included or determined to be eligible for inclusion in the CRHR; or

    b. Included in a local register of historical resources as defined in subdivision (k) of §5020.1.

2. 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 I of §5024.1. In applying the criteria set forth in subdivision I of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Public Resources Code § 21074 as follows:

A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

a. A historical resource described in §21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to newly chaptered § 21080.3.2 or according to § 21084.3. §21084.3 identifies mitigation measures that include the avoidance and preservation of TCRs, treating TCRs

with culturally appropriate dignity, and considering the tribal cultural values and meaning of the resource.

3.18.2 Environmental Setting

TCR are defined in PRC Section 21074 as sites, features, places, cultural landscapes, sacred places, and objects that hold cultural value to a California Native American Tribe.

Montrose submitted a sacred lands file request and contacted the NAHC on August 1, 2023, for a list of tribes with a traditional and cultural affiliation with the Project area. The NAHC responded on August 12, 2023, noting that no sacred sites have been recorded within the vicinity of the Project area. The NAHC also provided a list of 15 tribal contacts with a traditional and cultural affiliation with the Project area for notification pursuant to Public Resources Code § 21080.3.1 (AB 52). Letters were sent to each contact on October 28, 2024, with follow up emails on November 1, 2024, by the County to elicit any concerns or information regarding any known tribal cultural resources within the Project area. To date, two responses have been received. As planning proceeds, the County will continue to consult with interested tribal representatives regarding the Project and incorporate their concerns into Project planning and mitigation as warranted.

3.18.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on tribal cultural resources that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

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, or 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)

No TCRs have been identified within the Project area that are either listed or eligible for listing on the CRHR or on any other local register of historical resources as defined by PRC Section 21074. Therefore, **no impact** to known TCRs would occur as a result of implementation of the Proposed Project.

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

Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Although not anticipated, is it possible that Native American archaeological remains or Native American human remains could be discovered during Project activities and determined to be TCRs. If such resources are identified, they would be treated according to BMP CUL-6 (Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately). Implementation of these mitigation measures would result in a **less-than-significant impact** related to TCRs.

3.19 UTILITIES AND SERVICE SYSTEMS

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

3.19.1 Regulatory Setting

No federal or state regulations are applicable to utilities and service systems in relation to the Proposed Project. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

3.19.2 Environmental Setting

Water

The County has two water service areas that provide residents and businesses in the La Honda and Pescadero communities with adequate and reliable supplies of water. County Service Area No. 7 supplies water to approximately 70 customers in the La Honda community and also supplies two

County facilities including Camp Glenwood Boys Ranch and Sam McDonald Park. County Service Area No. 11 includes three wells, one 135,000-gallon distribution tank, a 140,000-gallon storage tank, and a distribution system and has approximately 200 residential and commercial customers (County of San Mateo 2024). Additionally, the Loma Mar Mutual Water Company provides water service to the community of Loma Mar adjacent to the Project area, and the Memorial County Park Water System provides water service to Memorial County Park, which primarily relies on water from Pescadero Creek.

Wastewater

The County provides sewer collection services for residents and businesses within ten sewer maintenance and sanitation districts within the unincorporated areas of San Mateo County; however, none are within the project area. Additionally, the Parks Department provides sewer collection and wastewater treatment services to Memorial County Park and is proposing to replace an existing wastewater treatment plant in Memorial County Park (County of San Mateo 2024).

Solid Waste

There is one active landfill, the Ox Mountain Landfill, that is located in the County within the city of Half Moon Bay. The Ox Mountain Landfill accepts all types of solid waste except hazardous waste. The design capacity of the landfill is 60.5 million cubic yards and the estimated closure date is January 2034 (CalRecycle 2024).

Telecommunications

The County is served by multiple telecommunications companies, including AT&T, Verizon, Crown Castle, Mobilitie, and others. Overhead telecommunication lines traverse the Project area.

Electrical Power and Natural Gas

Pacific Gas and Electric Company provides natural gas and electricity throughout the County, including within the vicinity of the Project.

3.19.3 Discussion of Checklist Responses

a. Require the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects

No new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities are proposed as part of the Proposed Project. However, the Project would include upsizing and replacing existing drainage conveyance structures (i.e., culverts), and installing new culverts. Project activities include drainage improvements to provide adequate conveyance and flood protection commensurate with the site hydrology. Therefore, implementation

of the Proposed Project would result in a **less-than-significant** impact related to stormwater drainage infrastructure.

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

The Proposed Project would not involve construction of any housing, commercial buildings, or any other structures that would require permanent water supplies. Project water use may include water for dust suppression and soil compaction and post-construction watering of newly planted/seeded areas. However, these potential water uses would be minimal and would likely be supplied by a water truck. Therefore, water use would not adversely affect existing water supplies or inhibit the sustainable management of water supplies. As such, this impact would be **less than significant**.

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

The Proposed Project would not involve construction of any housing, commercial buildings, or any other structures that would generate wastewater. A nominal amount of wastewater would be generated by construction workers using portable restrooms on-site, which would be off hauled by the contractor for disposal. This limited amount of wastewater would not substantially contribute to an exceedance of capacity at local wastewater treatment facilities. Therefore, this impact would be **less than significant**.

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.

Solid waste would be generated by construction of the Project through demolishing existing culverts and roadway sections, and by removing sediment. Solid waste generated during construction would likely be transported to the Pescadero transfer station or the Ox Mountain Sanitary Landfill. Ox Mountain Sanitary Landfill has sufficient capacity until 2034, and the additional solid waste generated during Project construction could be accommodated within the landfill's capacity (CalRecycle 2024). The County would require contractors to comply with regulations on solid waste and solid waste recycling. Therefore, the Proposed Project would not generate excessive volumes of solid waste or otherwise impair the attainment of solid waste reduction goals. Therefore, the impact would be **less than significant.**

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste

The Proposed Project would generate waste but would comply with management and reduction regulations related to solid waste. The Project would not increase demand for solid waste services. Therefore, the impact would be **less than significant**.

3.20 WILDFIRE

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

3.20.1 Regulatory Setting

The following sections describe federal and state regulations and policies that are relevant to impacts related to wildfire that could result from Project implementation. The relevant regional and local laws, regulations, and policies are described in **Appendix A**.

Federal Laws, Regulations, and Policies

No federal regulations are applicable to wildfire in relation to the Proposed Project.

State Laws, Regulations, and Policies

CAL FIRE Wildland Fire Management

The Office of the State Fire Marshal and CAL FIRE administer state policies regarding wildland fire safety. Construction contractors must comply with the following requirements in the Public Resources Code during construction activities at any sites with forest-, brush-, or grass-covered land:

- Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Pub. Res. Code Section 4442).
- Appropriate fire-suppression equipment must be maintained from April 1 to December 1, the highest-danger period for fires (Pub. Res. Code Section 4428).
- On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire-suppression equipment (Pub. Res. Code Section 4427).
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines must not be used within 25 feet of any flammable materials (Pub. Res. Code Section 4431).

3.20.2 Environmental Setting

All Project site locations are within a rural unincorporated area of San Mateo County, near the communities of Pescadero and Loma Mar, and are surrounded by trees, dense vegetation, low density residential land, and open recreation space.

Fire Hazard Severity Zones (FHSZ) are mapped by the Office of the State Fire Marshal and are determined based on factors such as slope, winds, and fuel loading. These severity zones are classified as moderate, high, and very high (CAL FIRE 2024). CAL FIRE has mapped the fire hazards for all State Responsibility Areas (SRA) and has worked with local agencies to provide recommendations for "Very High" fire hazard severity zones (VHFHSZ) within Local Responsibility Areas (LRA). LRAs include incorporated cities and other urban areas where local government is responsible for wildfire protection (CAL FIRE 2024).

According to CAL FIRE (2024), all culvert locations within the Project area are located within a High FHSV within the SRA. The nearest SRA VHFHSV to the Proposed Project is located approximately 1.1 miles west of the Cloverdale Road (Site 190), and the nearest LRA is located approximately three miles northwest. In the County Community Wildfire Plan, the entire area surrounding this Project site is identified as being in a Wildland Urban Interface (CAL FIRE and San Mateo County 2022).

3.20.3 Discussion of Checklist Responses

The following sections provide an analysis of impacts on wildfires that would result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines.

a. Substantially impair an adopted emergency response plan or emergency evacuation plan.

As stated in Section 3.17, Transportation, the Proposed Project's effect on transportation in the Project area would be limited to short-term effects associated with construction vehicles and haul trips, and the temporary full closure of Wurr Road and temporary one-lane closure of Pescadero Creek Road. The County and/or contractor would follow BMP GEN-17, (Maintain Traffic Flow), which would ensure two-way traffic on roads within work zones, minimize heavy equipment and haul traffic in residential areas, and notify property owners if heavy equipment or hauling extends beyond

scheduled work times. Additionally, the implementation of BMP GEN-18 (Traffic Control and Public Safety), which would involve implementing traffic control measures to manage traffic, safeguard workers and vehicle passage, would reduce the impact of temporary lane closures on traffic. BMP GEN-18 also mandates that the County inform local emergency service providers of planned lane closures which would minimize the potential for Project activities to affect emergency response or evacuation routes. Additionally, the Project would have long-term benefit of improving reliability of emergency access and evacuation by preventing future culvert failure and roadway closures. Therefore, implementation of the Proposed Project would have an impact that is **less than significant** regarding impairing an adopted emergency response plans or emergency evacuation plans.

b. Due to slope, prevailing winds, and other factors, they exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Project construction activities would not involve the placement of people or habitable structures in areas without adequate fire protection. Additionally, Project activities would not result in the creation of new wildland areas, which could increase fire dangers.

Project activities involving the operation of vehicles and internal combustion engine equipment in high or very high FHSZs, (e.g., earthwork or grading activities) could increase the risk of accidental ignition of a wildland fire. Implementation of BMP GEN-23 (Fire Prevention), which requires on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, and restricts activities on high fire danger days would minimize wildfire risk. Additionally, Project activities would be conducted in accordance with the CAL FIRE Wildland Fire Management Standards described above. Therefore, with adherence to BMP GEN-23 (Fire Prevention) and the CAL FIRE Standards, the Proposed Project would minimize risk of igniting wildfires during Project construction activities and would therefore not substantially exacerbate fire risk to nearby structures or occupants. This impact would be **less than significant**.

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 on the environment.

Proposed actions include repair, replacement, and installation of drainage infrastructure including culverts, headwalls, rock inlet protection, and rock energy dissipater at outfall. The Proposed Project would not require the installation or maintenance of infrastructure that would exacerbate fire risk or result in temporary or ongoing impacts on the environment. Implementation of the Project would have **no impact** related to this 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.

Proposed Project activities would not involve placement of people or habitable structures in areas with risks related to post-wildfire flooding or landslides. Potential impacts related to erosion and

landsides are discussed in Section 3.7, Geology, Soils, and Seismicity. The Proposed Project would not 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. Furthermore, upsizing and repair of deteriorated culverts would improve the ability of drainage structures to handle post-fire debris. This impact would be **less than significant**.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

3.21.1 Discussion of Checklist Responses

a. Substantially degrade environmental quality, fish or wildlife, and historic resources

As discussed throughout this IS/MND, potential Project impacts were identified for cultural resources and noise. With the implementation of BMPs and mitigation measures identified in this IS/MND (refer to Mitigation Measures CUL-1, and NOI-1), the Proposed Project would further reduce the potential to eliminate important examples of the major periods of California history or prehistory; damage or render inaccessible culturally important tribal resources; or substantially increase ambient noise levels. Therefore, this impact would be **less than significant with mitigation**.

b. Cumulative Impacts

A cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines § 15355). Cumulative impacts reflect "the change in the environment that results

from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines § 15355[b]).

Lead agencies may use a "list" approach to identify related projects or may base the identification of cumulative impacts on a summary of projections in an adopted general plan or related planning document (CEQA Guidelines § 15130[b]), also known as the "projection" approach. This document utilizes a combination of the list and projection approaches. Project contributions to localized cumulative impacts (air quality, biological resources, noise and vibrations) are evaluated using the list approach, while Project contributions to regional cumulative impacts (GHG emissions and traffic) are evaluated using the projection approach.

Projects with the potential to contribute to the same cumulative impacts as the Proposed Project are, to a large extent, within close geographic proximity to the Project area, except for certain resources (e.g., air quality, greenhouse gas emissions). While not every possible cumulative project is likely to be listed, the list of cumulative projects is believed to be representative of the types of impacts that would be generated by other projects related to the Proposed Project. The cumulative impact evaluation assumes that the impacts of past and present projects are represented by baseline conditions, and cumulative impacts are considered in the context of baseline conditions alongside reasonably foreseeable future projects.

The list approach is applied by developing a list of pasts, present, and reasonably foreseeable projects. A review of the County of San Mateo Public Works Project list shows that two projects may be located near a Project site. These two projects include the Memorial Park Generator and Electrical Improvement Project (completed in 2024) and the CSA 7 Water System Distribution Pipeline Improvement Project (County of San Mateo 2024). Timeline for the CSA 7 Water System Distribution Pipeline Improvement Project is still to be determined however, it is tentatively planned for the summer of 2026. The Memorial Park Generator and Electrical Improvement Project was completed in August 2024. The project involved installing two generators and the CSA 7 Water System Distribution Pipeline Improvement Project is not expected to result in significant cumulative impacts due to the low impact nature of the project.

Additionally, the County is conducting RMP work in 2025/2026 and 2026/2027, which includes minor work along Wurr Road at Site 262 and Pescadero Creek Road Sites 126 and 128. The County is also doing sediment skimming and ditch work near Pescadero Creek Road at Butano Creek. Moreover, the County is implementing a Pavement Repair Project, which includes pavement repairs along Butano Cutoff, Cloverdale Road, and Bean Hollow Road. Additionally, the County is currently constructing the Pescadero High School CSA 11 Water Line Extension Project. All of these projects are low impact in nature and are not expected to result in significant cumulative impacts.

Lastly, CEQA.net lists San Mateo County Parks Water Distribution and Infrastructure Project, which would replace the Memorial Park water mainline, Sequoia Flat campground water mainline and distribution pipelines and Wurr Road campground water pipeline. Additionally, CEQA net lists Little Butano Creek Flow Enhancement Project which would install wells and offset surface water withdrawals in Little Butano Creek, and Little Butano Creek Fish Passage and Habitat Enhancement Project. The Little Butano Creek Fish Passage and Habitat Enhancement Project is occurring downstream of Site 190 on Cloverdale Road and will occur during the summer of 2025, prior to the initiation of the Proposed Project. The Little Butano Creek Fish Passage and Habitat Enhancement

Project will remove the bedrock chute which would allow upstream movement of steelhead and Coho salmon into Little Butano Creek within the Site 190 Project Area; however, with the implementation of Project BMPs, the implementation of these two projects are not expected to result in significant cumulative impacts. Together, the two projects improve fish passage and enhance habitat for common and sensitive species along Little Butano Creek.

Table 3.21-1 summarizes the cumulatively significant impacts and identifies the Proposed Project's contribution. Additional analysis follows for those impacts to which the Proposed Project would contribute.

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Resource Topic	Cumulatively Significant Impacts	Proposed Project's Contribution
Aesthetics	None identified	No analysis required
Agricultural Resources	None identified	No analysis required
Air Quality	The SFBAAB has been designated as being in nonattainment under both federal and State standards for ozone and PM2.5; PM10 is also designated as being in nonattainment under State standards. These impacts would be considered cumulatively significant.	Use of vehicles, hauling trucks, and other equipment would result in emissions of criteria air pollutants. However, because such emissions would be below BAAQMD thresholds, in accordance with BAAQMD guidance, the Proposed Project would not make a considerable contribution to cumulative impacts related to air quality.
Biological Resources	Past and present projects could have temporary adverse effects on special-status species and habitat during the construction phase. This cumulative impact is significant.	Proposed Project BMPs BIO-1, BIO-2, BIO-3, GEN-6, GEN-7, GEN-8, GEN-9, GEN-10, GEN-14, and GEN-21 would effectively avoid and minimize potential Project-level impacts on sensitive biological resources. Overall, the Proposed Project is beneficial to local biological resources especially by reducing erosion, sedimentation, and restoring anadromous fish passage by removing the barrier at Site No. 190. Accordingly, the Project's contribution to the cumulative impact would be less than cumulatively considerable.

Resource Topic	Cumulatively Significant Impacts	Proposed Project's Contribution
Cultural Resources	Throughout California, culturally important sites and traditional cultural practices have been substantially affected by land management practices and urbanization over the past 150 years. While the San Mateo County General Plan contain policies regarding preservation of important cultural resources, ongoing development could lead to the cumulative loss of significant historic and archeological resources. This cumulative impact is significant.	The Proposed Project would involve ground-disturbing activities during construction, which could potentially expose buried, unknown cultural resources. Adverse impacts on such resources would add to the ongoing losses of and effects on cultural resources in California due to development activities. As discussed in this document, the implementation of project Mitigation Measure CUL-1 and BMP CUL-6 would reduce project impacts to cultural resources to a less than significant level. Accordingly, the Project's contribution to the cumulative impact would be less than cumulatively considerable.
Energy	None identified.	No analysis required.
Geology, Soils, and Seismicity	None identified.	No analysis required.
Greenhouse Gas Emissions	Anthropogenic emissions of GHG are widely accepted in the scientific community as contributing to global warming. This cumulative impact is significant.	Vehicle and equipment use would result in emissions of GHGs. However, because such emissions would be below applicable thresholds, in accordance with BAAQMD guidance, the Proposed Project would not make a considerable contribution to cumulative impacts related to GHG emissions.
Hazards and Hazardous Materials	None identified.	No analysis required.
Hydrology and Water Quality	The hydrology and water quality of surface and ground waters in the San Francisco Bay Area have been adversely impacted by decades of urban development and other human activities. The San Francisco Bay and surface streams flowing to the Bay continue to be listed as impaired under the Clean Water Act for various pollutants. The cumulative impact is significant.	Construction of the Proposed Project would involve ground-disturbing activities that could result in erosion and discharge of sediment, as well as accidental releases of hazardous materials. However, implementation of BMPs EC-10 (Erosion Control Blankets & Mats), GEN-7 (Spill Prevention and Control), GEN-16 (Timing of Work), and GEN-22 (Site Stabilization) would reduce these impacts to a level that is less than significant at the project level. The Project's contribution to the cumulative impact would be less than cumulatively considerable. Additionally, the Project would reduce erosion and sediment inputs downstream. Maintenance sites were identified as priority locations in the Pescadero-Butano Watershed County Road

Resource Topic	Cumulatively Significant Impacts	Proposed Project's Contribution
		Inventory and Sediment Assessment and the Project would help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the TMDL for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed.
Land Use and Planning	None identified.	No analysis required.
Mineral Resources	None identified.	No analysis required.
Noise	Traffic-related noise associated with reasonably foreseeable future increased growth in traffic volumes in San Mateo County is considered to have a significant cumulative impact.	The Proposed Project would not increase noise associated with increased vehicle use in the long term because it would not foster population growth. Project construction would result in a temporary increase in localized noise but would be limited to only one to several pieces of equipment operating during a short period. The Proposed Project would not make a considerable contribution to cumulative impacts related to traffic-related noise.
Population and Housing	None identified.	No analysis required.
Public Services	None identified.	No analysis required.
Recreation	None identified.	No analysis required.
Transportation	A reasonably foreseeable future increase in VMT in San Mateo County due to population growth is considered a significant cumulative impact.	The Proposed Project will implement BMP GEN-17 (Maintain Traffic Flow), BMP GEN-18 (Traffic Control and Public Safety, and BMP GEN-18 (Traffic Control and Public Safety). These would help maintain existing traffic flow during project construction and make sure emergency service providers are aware of the Project and have access. The Project itself would not increase population and thereby add to increased VMT over the long term. Short-term construction traffic would be temporary and limited in number of construction vehicles during this short period. Accordingly, the Project's contribution to the cumulative impact would be less than cumulatively considerable.

Resource Topic	Cumulatively Significant Impacts	Proposed Project's Contribution
Tribal Cultural Resources	Throughout California, the Native American cultural legacy, which includes tribal cultural resources such as sites, features, places, cultural landscapes, sacred places, and objects that hold cultural value to a California Native American Tribe, has been substantially affected by land management practices and urbanization over the past 150 years. While the San Mateo County General Plan contain policies regarding preservation of important tribal cultural resources, ongoing development could lead to the cumulative loss of significant tribal cultural resources. This cumulative impact is significant.	The Proposed Project would involve ground-disturbing activities during construction, which could potentially encounter tribal cultural resources. Adverse impacts on such resources would add to the ongoing losses of and effects on places, features, landscapes, or objects of important value to a California Native American Tribe due to development activities. Mitigation Measure CUL-1 and BMP CUL-6 would consider tribal cultural values and treat tribal cultural resources with appropriate dignity, reducing impacts to a less than significant level. Accordingly, the Project's contribution to the cumulative impact would be less than cumulatively considerable.
Utilities and Service Systems	None identified.	No analysis required.
Wildfire	Throughout California, the risk of wildfire has increased as the global climate has changed due to anthropogenic influences. While wildfire in urban areas was previously rare, in recent years there have been multiple incidents of wildfire penetrating urban areas, such as the Tubbs Fire of 2017 that inflicted great losses in the Santa Rosa and CZU Lightning Complex Fires in San Mateo and Santa Cruz Counties. This cumulative impact is significant.	The Proposed project is not expected to increase or exacerbate fire risk. Accordingly, the Project's contribution to the cumulative impact would be less than cumulatively considerable.

The Proposed Project could result in cumulative impacts related to air quality, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, noise, transportation, tribal cultural resources, and wildlife as a result of Project construction. However, because the construction duration would be relatively short and because Project construction would comply with BMPs identified in Chapter 2, the Project's contribution to existing cumulative impacts would be less than considerable. Therefore, the Project would result in a **less-than-significant cumulative impact**.

c. Effects on Human Beings

Based on the analysis provided in the above resource sections in the IS/MND, implementation of the Proposed Project would have a less than significant impact on human beings through the implementation of BMPs and mitigation measures identified in this document. Therefore, with implementation of BMPs and mitigation measures, no substantial adverse effects on human beings would result, and the impact would be **less than significant**.

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Chapter 4
DETERMINATION

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. These conclusions are based on the evaluation of the proposed Project in light of existing site conditions, technical studies and resource evaluations conducted for the Project and in the project area; comparison of the proposed Project conditions to local and regional plans; other references and information sources as listed in Chapter 6, *References*; and site visits. For further information, see the environmental background information contained in the permanent file on this project. These background documents are available for public review at the County of San Mateo Department of Public Works office at 555 County Center, 5th Floor, Redwood City, CA 94063.

On the basis of this initial evaluation:

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

Julie Casagrande
Signature

11/4/2025
Date

Name: Julie Casagrande
County of San Mateo Department of Public Works

Chapter 5
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Chapter 6
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None.

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None.

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Appendix A

Regional and Local Laws, Regulations, and Policies

Appendix A
Regional and Local Laws, Regulations, and Policies

This appendix includes policies from general plan policies related to Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs, and incorporated jurisdictions in the project area.

General Plans are long-range comprehensive plans developed for cities and counties that govern growth and development. The project area is located in San Mateo County. Although San Mateo County includes many cities and towns, this analysis focuses on those municipalities directly affected by proposed project activities. The following section reviews key policies in the General Plans of San Mateo County (2013).

San Mateo County

The following policies contained in the San Mateo County General Plan are applicable to the Proposed Project.

Chapter 1 Vegetative, Water, Fish and Wildlife Resources Policies

1.1 Conserve, Enhance, Protect, Maintain and Manage Vegetative, Water, Fish, and Wildlife Resources

Promote the conservation, enhancement, protection, maintenance, and managed use of the County's Vegetative, Water, Fish, and Wildlife Resources.

1.2 Protect Sensitive Habitats

Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

1.21 Importance of Sensitive Habitats

Consider areas designated as sensitive habitats as a priority resource requiring protection.

1.39 Control Incompatible Vegetation, Fish and Wildlife

Encourage and support the control of vegetation, fish and wildlife resources which are harmful to the surrounding environment or pose a threat to public health, safety and welfare.

Chapter 2 Soil Resources Policies

2.2 Minimize Soil Erosion

Minimize soil erosion through application of appropriate conservation practices.

2.3 Prevention of Soil Contamination

Prevent soil contamination through the appropriate use, storage, and disposal of toxic substances.

2.23 Regulate Excavation, Grading, Filling, and Land Clearing Activities Against Accelerated Soil Erosion

Regulate excavation, grading, filling, and land clearing activities to protect against accelerated soil erosion and sedimentation.

2.29 Promote and Support Soil Erosion Stabilization and Repair Efforts

Promote and support efforts aimed at stabilization of ongoing soil erosion and repair of erosion caused land scars.

2.30 Emergency Creekside Erosion Control

Assure timely implementation of emergency creekside erosion control activities.

Chapter 4 Visual Quality

4.29 Trees and Vegetation

a. Preserve trees and natural vegetation except where removal is required for approved development or safety.

b. Replace vegetation and trees removed during construction wherever possible. Use native plant materials or vegetation compatible with the surrounding vegetation, climate, soil, ecological characteristics of the region and acceptable to the California Department of Forestry.

c. Provide special protection to large and native trees.

4.58 Tree and Vegetation Removal

Prohibit the removal of more than 50% of the tree coverage except as allowed by permit.

Chapter 5 Historic and Archeological Resources

5.1 Historic Resource Protection

Protect historic resources for their historic, cultural, social and educational values and the enjoyment of future generations.

5.3 Protection of Archaeological/Paleontological Sites

Protect archaeological/paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs.

Chapter 15 Natural Hazards Policies

15.45 Abatement of Flooding Hazards

Support measures for the abatement of flooding hazards, including but not limited to: (1) removal or relocation of development from flood hazard areas; (2) construction of impoundments or channel diversions provided that adequate mitigation of environmental impacts can be demonstrated; and (3) debris clearance and silt removal programs conducted in a manner so as not to disrupt existing riparian communities.

15.38 Encourage Coordination Between the County and Fire Protection Agencies

Encourage coordination and cooperation between the County, volunteer fire departments, fire protection districts, State and city fire departments in order to facilitate the most efficient delivery of fire protection services, reduce response times and assure a uniform data base and communication system.

Other Local Policies

San Mateo County Community Climate Action Plan

Through the San Mateo County Community Climate Action Plan, the unincorporated area of San Mateo County set a GHG emissions reduction target of 45 percent below 1990 levels by 2030 and demonstrate carbon neutrality within unincorporated San Mateo County by 2040.

The Community Climate Action Plan (CCAP) outlines priority actions to achieve a 45% reduction of greenhouse gas emissions over 1990 levels by 2030 and carbon neutrality by 2040.

The City of San Mateo 2020 Climate Action Plan established per capita GHG emission targets of 4.3 metric tonnes carbon dioxide equivalents in 2030 and 1.2 metric tonnes carbon dioxide equivalents in 2050.

San Mateo-Santa Cruz County Community Wildfire Protection Plan (CWPP)

The San Mateo-Santa Cruz County Community Wildfire Protection Plan (CWPP), updated in 2018, identifies the hazards and risks associated with wildfires in both San Mateo and Santa Cruz Counties and proposes strategies to mitigate those risks. Developed by CAL FIRE and the Resource Conservation District for San Mateo County and Santa Cruz County, the CWPP reflects community and agency stakeholder input from the two counties following the Summit Fire in 2008, and recommends projects to reduce the potential for catastrophic wildfire. The CWPP also serves as a mechanism to obtain state grant funding to implement those projects.

San Mateo-Santa Cruz Unit 2023 Strategic Fire Plan

The San Mateo-Santa Cruz Unit 2023 Strategic Fire Plan, developed by CAL FIRE San Mateo-Santa Cruz Unit, identifies fire management strategies and tactics intended to reduce the hazards associated with wildfires and recommends preventative measures to make homes, neighborhoods, and communities within the Unit area's approximate 894 square miles more defensible from wildfire.

2021 Multijurisdictional Local Hazard Mitigation Plan

The 2021 Multijurisdictional Local Hazard Mitigation Plan is developed by San Mateo County in partnership with 35 local governments. The plan aims to identify and reduce risks from natural disasters within the County. It identifies and assesses ten major hazards of concern, including wildfire, flooding, and landslides, and also provides a high-level profile for other potential hazards such as pandemics, aircraft incidents, and cyber threats. Major issues regarding wildfires within the County are identified and include the management of growth in interface areas, that there are CAL FIRE hazard mapping gaps for the cities of Millbrae, Pacifica and San Bruno, and a need for regional consistency with regard to elements such as sprinklers and combustible roof standards.

San Mateo's Significant Tree Ordinance

The San Mateo County's Significant Tree Ordinance protects the county's trees, which are considered a valuable natural resource. The ordinance requires a permit to remove or trim any tree that meets the following criteria:

- **Significant Tree**

  A tree with a trunk circumference of at least 38 inches, measured 4.5 feet above the ground. In the Emerald Lake Hills Design Review district, the trunk circumference must be at least 19 inches.

- **Heritage Tree Ordinance**

  A tree that meets certain size and location requirements, such as Santa Cruz Cypress and Oregon White Oak. A detailed list of heritage trees is available at the Planning counter.

Appendix B

Air Quality, Energy, and GHG Emissions Calculations

23.039 SM Culverts Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23.039 SM Culverts
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	Statewide
Windspeed (m/s)	2.70
Precipitation (days)	41.8
Location	37.273682038172026, -122.2986926893033
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1283
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

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
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-10-A	Water Exposed Surfaces

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.93	2.46	17.1	16.4	0.05	0.85	0.35	1.17	0.79	0.09	0.86	—	5,408	5,408	0.22	0.12	2.04	5,448
Mit.	2.93	2.46	17.1	16.4	0.05	0.85	0.35	1.17	0.79	0.09	0.86	—	5,408	5,408	0.22	0.12	2.04	5,448
% Reduced	—	—	—	—	—	—	1%	< 0.5%	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.13	2.62	18.3	19.6	0.06	0.81	0.39	1.20	0.75	0.10	0.84	—	6,358	6,358	0.26	0.13	0.06	6,404
Mit.	3.13	2.62	18.3	19.6	0.06	0.81	0.38	1.19	0.75	0.10	0.84	—	6,358	6,358	0.26	0.13	0.06	6,404
% Reduced	—	—	—	—	—	—	1%	< 0.5%	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.79	0.66	4.54	4.80	0.02	0.18	0.13	0.31	0.16	0.03	0.20	—	1,928	1,928	0.08	0.05	0.34	1,944
Mit.	0.79	0.66	4.54	4.80	0.02	0.18	0.13	0.31	0.16	0.03	0.20	—	1,928	1,928	0.08	0.05	0.34	1,944

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.12	0.83	0.88	< 0.005	0.03	0.02	0.06	0.03	0.01	0.04	—	319	319	0.01	0.01	0.06	322
Mit.	0.14	0.12	0.83	0.88	< 0.005	0.03	0.02	0.06	0.03	0.01	0.04	—	319	319	0.01	0.01	0.06	322
% Reduced	—	—	—	—	—	—	1%	< 0.5%	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.93	2.46	17.1	16.4	0.05	0.85	0.35	1.17	0.79	0.09	0.86	—	5,408	5,408	0.22	0.12	2.04	5,448
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.13	2.62	18.3	19.6	0.06	0.81	0.39	1.20	0.75	0.10	0.84	—	6,358	6,358	0.26	0.13	0.06	6,404
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.79	0.66	4.54	4.80	0.02	0.18	0.13	0.31	0.16	0.03	0.20	—	1,928	1,928	0.08	0.05	0.34	1,944
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.14	0.12	0.83	0.88	< 0.005	0.03	0.02	0.06	0.03	0.01	0.04	—	319	319	0.01	0.01	0.06	322

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.93	2.46	17.1	16.4	0.05	0.85	0.35	1.17	0.79	0.09	0.86	—	5,408	5,408	0.22	0.12	2.04	5,448
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.13	2.62	18.3	19.6	0.06	0.81	0.38	1.19	0.75	0.10	0.84	—	6,358	6,358	0.26	0.13	0.06	6,404
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.79	0.66	4.54	4.80	0.02	0.18	0.13	0.31	0.16	0.03	0.20	—	1,928	1,928	0.08	0.05	0.34	1,944
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.14	0.12	0.83	0.88	< 0.005	0.03	0.02	0.06	0.03	0.01	0.04	—	319	319	0.01	0.01	0.06	322

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
94	Grading	1/1/2025	1/1/2025	5.00	1.00	94
102	Grading	1/2/2025	1/13/2025	5.00	8.00	102
119	Grading	1/14/2025	1/17/2025	5.00	4.00	119
128.1	Grading	1/18/2025	1/22/2025	5.00	3.00	128.1
190	Grading	1/23/2025	2/12/2025	5.00	15.0	190
262	Grading	2/13/2025	2/17/2025	5.00	3.00	262
263	Grading	2/18/2025	4/23/2025	5.00	47.0	263
265	Grading	4/24/2025	4/26/2025	5.00	2.00	265
265.1	Grading	4/29/2025	4/29/2025	5.00	1.00	265.1
266	Grading	4/30/2025	5/1/2025	5.00	2.00	266
268	Grading	5/2/2025	7/25/2025	5.00	61.0	268
270	Grading	7/26/2025	7/28/2025	5.00	1.00	270

270.1	Grading	7/29/2025	7/29/2025	5.00	1.00	270.1
Paving	Paving	7/30/2025	8/18/2025	5.00	14.0	paving

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
94	Excavators	Diesel	Average	1.00	8.00	108	0.38
94	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
94	Off-Highway Trucks	Diesel	Average	2.00	4.00	330	0.38
94	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
94	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
102	Excavators	Diesel	Average	1.00	8.00	108	0.38
102	Excavators	Diesel	Average	1.00	2.67	45.0	0.38
102	Tractors/Loaders/Backhoes	Diesel	Average	1.00	5.34	67.1	0.37
102	Rollers	Diesel	Average	1.00	5.34	99.8	0.38
102	Plate Compactors	Diesel	Average	1.00	2.67	8.00	0.43
102	Off-Highway Trucks	Diesel	Average	3.00	5.78	330	0.38
102	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
102	Pumps	Diesel	Average	1.00	8.00	48.2	0.74
102	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
102	Off-Highway Trucks	Diesel	Average	1.00	2.67	430	0.38
119	Excavators	Diesel	Average	1.00	4.00	108	0.38
119	Excavators	Diesel	Average	1.00	1.50	45.0	0.38
119	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
119	Rollers	Diesel	Average	1.00	6.00	99.8	0.38

119	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43
119	Off-Highway Trucks	Diesel	Average	3.00	1.50	330	0.38
119	Off-Highway Trucks	Diesel	Average	1.00	7.50	450	0.38
119	Rollers	Diesel	Average	1.00	1.00	48.2	0.38
119	Off-Highway Trucks	Diesel	Average	1.00	1.00	430	0.38
128.1	Excavators	Diesel	Average	1.00	2.67	108	0.38
128.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
128.1	Rollers	Diesel	Average	1.00	4.67	99.8	0.38
128.1	Plate Compactors	Diesel	Average	1.00	1.33	8.00	0.43
128.1	Off-Highway Trucks	Diesel	Average	3.00	1.78	330	0.38
128.1	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
128.1	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
128.1	Off-Highway Trucks	Diesel	Average	1.00	1.34	430	0.38
190	Excavators	Diesel	Average	1.00	4.00	108	0.38
262	Excavators	Diesel	Average	1.00	2.67	108	0.38
262	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
262	Rollers	Diesel	Average	1.00	4.67	99.8	0.38
262	Plate Compactors	Diesel	Average	1.00	1.34	8.00	0.43
262	Off-Highway Trucks	Diesel	Average	3.00	1.78	330	0.38
262	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
262	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
262	Off-Highway Trucks	Diesel	Average	1.00	1.34	430	0.38
263	Paving Equipment	Diesel	Average	1.00	2.55	159	0.36
263	Rubber Tired Loaders	Diesel	Average	1.00	6.80	249	0.36
263	Excavators	Diesel	Average	1.00	5.53	273	0.38
263	Excavators	Diesel	Average	1.00	1.00	45.0	0.38

263	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.00	67.1	0.37
263	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43
263	Off-Highway Trucks	Diesel	Average	3.00	3.06	330	0.38
263	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
263	Pumps	Diesel	Average	1.00	6.38	11.0	0.74
265	Excavators	Diesel	Average	1.00	3.00	45.0	0.38
265	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	67.1	0.37
265	Paving Equipment	Diesel	Average	1.00	7.00	99.8	0.36
265	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
265	Off-Highway Trucks	Diesel	Average	3.00	1.56	330	0.38
265	Off-Highway Trucks	Diesel	Average	1.00	7.00	450	0.38
265	Rollers	Diesel	Average	1.00	2.00	48.2	0.38
265	Off-Highway Trucks	Diesel	Average	1.00	2.00	430	0.38
265.1	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
265.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
265.1	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
265.1	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
265.1	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
265.1	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
265.1	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
265.1	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
266	Excavators	Diesel	Average	1.00	3.00	45.0	0.38
266	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	67.1	0.37
266	Paving Equipment	Diesel	Average	1.00	7.00	99.8	0.36
266	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
266	Off-Highway Trucks	Diesel	Average	3.00	2.33	330	0.38

266	Off-Highway Trucks	Diesel	Average	1.00	7.00	450	0.38
266	Rollers	Diesel	Average	1.00	2.00	48.2	0.38
266	Off-Highway Trucks	Diesel	Average	1.00	2.00	430	0.38
268	Paving Equipment	Diesel	Average	1.00	2.56	159	0.36
268	Rubber Tired Loaders	Diesel	Average	1.00	6.80	249	0.36
268	Excavators	Diesel	Average	1.00	5.52	273	0.38
268	Excavators	Diesel	Average	1.00	1.00	45.0	0.38
268	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.00	67.1	0.37
268	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43
268	Off-Highway Trucks	Diesel	Average	3.00	3.06	330	0.38
268	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
268	Pumps	Diesel	Average	1.00	6.38	11.0	0.74
270	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
270	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
270	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
270	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
270	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
270	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
270	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
270	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
270.1	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
270.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
270.1	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
270.1	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
270.1	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
270.1	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38

270.1	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
270.1	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
94	Excavators	Diesel	Average	1.00	8.00	108	0.38
94	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
94	Off-Highway Trucks	Diesel	Average	2.00	4.00	330	0.38
94	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
94	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
102	Excavators	Diesel	Average	1.00	8.00	108	0.38
102	Excavators	Diesel	Average	1.00	2.67	45.0	0.38
102	Tractors/Loaders/Backhoes	Diesel	Average	1.00	5.34	67.1	0.37
102	Rollers	Diesel	Average	1.00	5.34	99.8	0.38
102	Plate Compactors	Diesel	Average	1.00	2.67	8.00	0.43
102	Off-Highway Trucks	Diesel	Average	3.00	5.78	330	0.38
102	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
102	Pumps	Diesel	Average	1.00	8.00	48.2	0.74
102	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
102	Off-Highway Trucks	Diesel	Average	1.00	2.67	430	0.38
119	Excavators	Diesel	Average	1.00	4.00	108	0.38
119	Excavators	Diesel	Average	1.00	1.50	45.0	0.38
119	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
119	Rollers	Diesel	Average	1.00	6.00	99.8	0.38
119	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43
119	Off-Highway Trucks	Diesel	Average	3.00	1.50	330	0.38

119	Off-Highway Trucks	Diesel	Average	1.00	7.50	450	0.38
119	Rollers	Diesel	Average	1.00	1.00	48.2	0.38
119	Off-Highway Trucks	Diesel	Average	1.00	1.00	430	0.38
128.1	Excavators	Diesel	Average	1.00	2.67	108	0.38
128.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
128.1	Rollers	Diesel	Average	1.00	4.67	99.8	0.38
128.1	Plate Compactors	Diesel	Average	1.00	1.33	8.00	0.43
128.1	Off-Highway Trucks	Diesel	Average	3.00	1.78	330	0.38
128.1	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
128.1	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
128.1	Off-Highway Trucks	Diesel	Average	1.00	1.34	430	0.38
190	Excavators	Diesel	Average	1.00	4.00	108	0.38
262	Excavators	Diesel	Average	1.00	2.67	108	0.38
262	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	67.1	0.37
262	Rollers	Diesel	Average	1.00	4.67	99.8	0.38
262	Plate Compactors	Diesel	Average	1.00	1.34	8.00	0.43
262	Off-Highway Trucks	Diesel	Average	3.00	1.78	330	0.38
262	Off-Highway Trucks	Diesel	Average	1.00	6.67	450	0.38
262	Rollers	Diesel	Average	1.00	1.34	48.2	0.38
262	Off-Highway Trucks	Diesel	Average	1.00	1.34	430	0.38
263	Paving Equipment	Diesel	Average	1.00	2.55	159	0.36
263	Rubber Tired Loaders	Diesel	Average	1.00	6.80	249	0.36
263	Excavators	Diesel	Average	1.00	5.53	273	0.38
263	Excavators	Diesel	Average	1.00	1.00	45.0	0.38
263	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.00	67.1	0.37
263	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43

263	Off-Highway Trucks	Diesel	Average	3.00	3.06	330	0.38
263	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
263	Pumps	Diesel	Average	1.00	6.38	11.0	0.74
265	Excavators	Diesel	Average	1.00	3.00	45.0	0.38
265	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	67.1	0.37
265	Paving Equipment	Diesel	Average	1.00	7.00	99.8	0.36
265	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
265	Off-Highway Trucks	Diesel	Average	3.00	1.56	330	0.38
265	Off-Highway Trucks	Diesel	Average	1.00	7.00	450	0.38
265	Rollers	Diesel	Average	1.00	2.00	48.2	0.38
265	Off-Highway Trucks	Diesel	Average	1.00	2.00	430	0.38
265.1	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
265.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
265.1	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
265.1	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
265.1	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
265.1	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
265.1	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
265.1	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
266	Excavators	Diesel	Average	1.00	3.00	45.0	0.38
266	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	67.1	0.37
266	Paving Equipment	Diesel	Average	1.00	7.00	99.8	0.36
266	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
266	Off-Highway Trucks	Diesel	Average	3.00	2.33	330	0.38
266	Off-Highway Trucks	Diesel	Average	1.00	7.00	450	0.38
266	Rollers	Diesel	Average	1.00	2.00	48.2	0.38

266	Off-Highway Trucks	Diesel	Average	1.00	2.00	430	0.38
268	Paving Equipment	Diesel	Average	1.00	2.56	159	0.36
268	Rubber Tired Loaders	Diesel	Average	1.00	6.80	249	0.36
268	Excavators	Diesel	Average	1.00	5.52	273	0.38
268	Excavators	Diesel	Average	1.00	1.00	45.0	0.38
268	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.00	67.1	0.37
268	Plate Compactors	Diesel	Average	1.00	1.00	8.00	0.43
268	Off-Highway Trucks	Diesel	Average	3.00	3.06	330	0.38
268	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
268	Pumps	Diesel	Average	1.00	6.38	11.0	0.74
270	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
270	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
270	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
270	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
270	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
270	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
270	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
270	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38
270.1	Excavators	Diesel	Average	1.00	6.00	45.0	0.38
270.1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	67.1	0.37
270.1	Paving Equipment	Diesel	Average	1.00	8.00	99.8	0.36
270.1	Plate Compactors	Diesel	Average	1.00	2.00	8.00	0.43
270.1	Off-Highway Trucks	Diesel	Average	3.00	3.67	330	0.38
270.1	Off-Highway Trucks	Diesel	Average	1.00	8.00	450	0.38
270.1	Rollers	Diesel	Average	1.00	4.00	48.2	0.38
270.1	Off-Highway Trucks	Diesel	Average	1.00	4.00	430	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
94	—	—	—	—
94	Worker	12.0	11.7	LDA,LDT1,LDT2
94	Vendor	—	8.40	HHDT,MHDT
94	Hauling	2.00	50.0	HHDT
94	Onsite truck	—	—	HHDT
102	—	—	—	—
102	Worker	30.0	11.7	LDA,LDT1,LDT2
102	Vendor	—	8.40	HHDT,MHDT
102	Hauling	7.25	20.0	HHDT
102	Onsite truck	—	—	HHDT
119	—	—	—	—
119	Worker	27.5	11.7	LDA,LDT1,LDT2
119	Vendor	—	8.40	HHDT,MHDT
119	Hauling	4.00	20.0	HHDT
119	Onsite truck	—	—	HHDT
128.1	—	—	—	—
128.1	Worker	25.0	11.7	LDA,LDT1,LDT2
128.1	Vendor	—	8.40	HHDT,MHDT
128.1	Hauling	1.67	20.0	HHDT
128.1	Onsite truck	—	—	HHDT
190	—	—	—	—
190	Worker	2.50	11.7	LDA,LDT1,LDT2
190	Vendor	—	8.40	HHDT,MHDT
190	Hauling	9.60	20.0	HHDT

190	Onsite truck	—	—	HHDT
262	—	—	—	—
262	Worker	25.0	11.7	LDA,LDT1,LDT2
262	Vendor	—	8.40	HHDT,MHDT
262	Hauling	1.67	20.0	HHDT
262	Onsite truck	—	—	HHDT
263	—	—	—	—
263	Worker	27.5	11.7	LDA,LDT1,LDT2
263	Vendor	—	8.40	HHDT,MHDT
263	Hauling	6.57	20.0	HHDT
263	Onsite truck	—	—	HHDT
265	—	—	—	—
265	Worker	25.0	11.7	LDA,LDT1,LDT2
265	Vendor	—	8.40	HHDT,MHDT
265	Hauling	3.50	20.0	HHDT
265	Onsite truck	—	—	HHDT
265.1	—	—	—	—
265.1	Worker	25.0	11.7	LDA,LDT1,LDT2
265.1	Vendor	—	8.40	HHDT,MHDT
265.1	Hauling	4.00	20.0	HHDT
265.1	Onsite truck	—	—	HHDT
266	—	—	—	—
266	Worker	25.0	11.7	LDA,LDT1,LDT2
266	Vendor	—	8.40	HHDT,MHDT
266	Hauling	2.50	20.0	HHDT
266	Onsite truck	—	—	HHDT
268	—	—	—	—
268	Worker	27.5	11.7	LDA,LDT1,LDT2

268	Vendor	—	8.40	HHDT,MHDT
268	Hauling	6.57	20.0	HHDT
268	Onsite truck	—	—	HHDT
270	—	—	—	—
270	Worker	25.0	11.7	LDA,LDT1,LDT2
270	Vendor	—	8.40	HHDT,MHDT
270	Hauling	6.00	20.0	HHDT
270	Onsite truck	—	—	HHDT
270.1	—	—	—	—
270.1	Worker	25.0	11.7	LDA,LDT1,LDT2
270.1	Vendor	—	8.40	HHDT,MHDT
270.1	Hauling	6.00	20.0	HHDT
270.1	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	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
94	—	—	—	—
94	Worker	12.0	11.7	LDA,LDT1,LDT2
94	Vendor	—	8.40	HHDT,MHDT
94	Hauling	2.00	50.0	HHDT
94	Onsite truck	—	—	HHDT
102	—	—	—	—
102	Worker	30.0	11.7	LDA,LDT1,LDT2

102	Vendor	—	8.40	HHDT,MHDT
102	Hauling	7.25	20.0	HHDT
102	Onsite truck	—	—	HHDT
119	—	—	—	—
119	Worker	27.5	11.7	LDA,LDT1,LDT2
119	Vendor	—	8.40	HHDT,MHDT
119	Hauling	4.00	20.0	HHDT
119	Onsite truck	—	—	HHDT
128.1	—	—	—	—
128.1	Worker	25.0	11.7	LDA,LDT1,LDT2
128.1	Vendor	—	8.40	HHDT,MHDT
128.1	Hauling	1.67	20.0	HHDT
128.1	Onsite truck	—	—	HHDT
190	—	—	—	—
190	Worker	2.50	11.7	LDA,LDT1,LDT2
190	Vendor	—	8.40	HHDT,MHDT
190	Hauling	9.60	20.0	HHDT
190	Onsite truck	—	—	HHDT
262	—	—	—	—
262	Worker	25.0	11.7	LDA,LDT1,LDT2
262	Vendor	—	8.40	HHDT,MHDT
262	Hauling	1.67	20.0	HHDT
262	Onsite truck	—	—	HHDT
263	—	—	—	—
263	Worker	27.5	11.7	LDA,LDT1,LDT2
263	Vendor	—	8.40	HHDT,MHDT
263	Hauling	6.57	20.0	HHDT
263	Onsite truck	—	—	HHDT

265	—	—	—	—
265	Worker	25.0	11.7	LDA,LDT1,LDT2
265	Vendor	—	8.40	HHDT,MHDT
265	Hauling	3.50	20.0	HHDT
265	Onsite truck	—	—	HHDT
265.1	—	—	—	—
265.1	Worker	25.0	11.7	LDA,LDT1,LDT2
265.1	Vendor	—	8.40	HHDT,MHDT
265.1	Hauling	4.00	20.0	HHDT
265.1	Onsite truck	—	—	HHDT
266	—	—	—	—
266	Worker	25.0	11.7	LDA,LDT1,LDT2
266	Vendor	—	8.40	HHDT,MHDT
266	Hauling	2.50	20.0	HHDT
266	Onsite truck	—	—	HHDT
268	—	—	—	—
268	Worker	27.5	11.7	LDA,LDT1,LDT2
268	Vendor	—	8.40	HHDT,MHDT
268	Hauling	6.57	20.0	HHDT
268	Onsite truck	—	—	HHDT
270	—	—	—	—
270	Worker	25.0	11.7	LDA,LDT1,LDT2
270	Vendor	—	8.40	HHDT,MHDT
270	Hauling	6.00	20.0	HHDT
270	Onsite truck	—	—	HHDT
270.1	—	—	—	—
270.1	Worker	25.0	11.7	LDA,LDT1,LDT2
270.1	Vendor	—	8.40	HHDT,MHDT

270.1	Hauling	6.00	20.0	HHDT
270.1	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

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 (sq. ft.)	Acres Paved (acres)
94	15.5	0.00	0.00	0.00	—
102	316	148	0.00	0.00	—
119	90.7	35.3	0.00	0.00	—

128.1	34.7	1.10	0.00	0.00	—
190	347	802	0.00	0.00	—
262	34.7	1.10	0.00	0.00	—
263	1,329	1,137	0.00	0.00	—
265	37.0	16.7	0.00	0.00	—
265.1	19.2	6.70	0.00	0.00	—
266	30.3	6.90	0.00	0.00	—
268	1,627	1,580	0.00	0.00	—
270	25.4	17.4	0.00	0.00	—
270.1	25.5	21.4	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.18

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
User Defined Industrial	0.18	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	changed to rural. Construction start generically set to 1/1/2025.

Construction: Construction Phases	Assumed 8 hour work days based on longest hours of equipment use and rounded up to first whole number for work days per phase.
Construction: Off-Road Equipment	Site Specific construction list
Construction: Trips and VMT	Site specific estimate of workers. Adjusted hauling trip distance to 50 miles. Assumed 1 vendor trip per day at 50 miles.
Construction: Paving	site specific square feet of asphalt

Appendix C

Special-status Species Known to Occur in the Project Area

Appendix C. Species Table

The potential for each species to occur in the Project Area was assessed using the criteria outlined below.

None: the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: suitable habitat or key habitat elements might be present but might be of poor quality or isolated from the nearest extant occurrences, and/or the species is not known to occur in the area.

Possible: presence of suitable habitat or key habitat elements that potentially support the species.

Present: the species was either observed directly or its presence was confirmed by field investigations or in previous studies in the area

Appendix C. Species Table

Table 1. Special-status Plant Species

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Acanthomintha duttonii San Mateo thorn-mint	FE / SE / 1B.1	Chaparral, valley and foothill grassland. Uncommon serpentinite vertisol clays; in relatively open areas. 50-185 m. Blooms April through June.	**None**. Not known to occur within coastal portions of San Mateo County.
Agrostis blasdalei Blasdale's bent grass	- / - / 1B.2	Coastal bluff scrub, coastal dunes, and coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 5-365 m. Blooms in May through July.	**None.** Suitable habitat is not present in the Study areas.
Allium peninsulare var. franciscanum Franciscan onion	- / - / 1B.2	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 5-320 m. Blooms in May through June.	**None.** Suitable habitat is not present in the Study areas
Amsinckia lunaris bent-flowered fiddleneck	- / - / 1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m. Blooms in March through June.	**None**. Suitable cismontane woodland habitat is present in the Study areas of Wurr Road, Pescadero Creek Road and Cloverdale. However, this species is not known to occur within coastal or bayside portions of San Mateo County and no known CNDDB occurrences are mapped within Project area (CNDDB 2025).
Aphyllon robbinsii Robbins' broomrape	- / - / 1B.1	Coastal bluff scrub. Rocky or sandy soil on bluffs, cliffs, landslides, or shell mounds; possibly on sand dunes. Its only confirmed host is *Eriophyllum staechadifolium.* 0-100 m. Blooms in April through July.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos andersonii Anderson's manzanita	- / - / 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest. 95-765 m. Blooms in November through May.	**Not expected.** Suitable habitat is present in the vicinity of the Study area, but the nearest known occurrence is near Butano Ridge Road in Pescadero Creek County Park approximately 2.15 miles east of the Project area (CNDDB 2025). This species was not observed in the Project area during reconnaissance surveys.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Arctostaphylos glutinosa Schreiber's manzanita	- / - / 1B.2	Chaparral, closed-cone coniferous forest. Mudstone or diatomaceous shale outcrops; often with *Pinus attenuata*. 170-680 m. Blooms March through April.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos ohloneana Ohlone manzanita	- / - / 1B.1	Coastal scrub, lower montane coniferous forests. Monterey shale. 455-520 m. Blooms February through March.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos regismontana Kings Mountain manzanita	- / - / 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops. 240-705 m. Blooms December through April.	**None.** Suitable habitat containing granitic or sandstone outcrops is not present in the Project areas.
Arctostaphylos silvicola Bonny Doon manzanita	- / - / 1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest. Only known from Zayante (inland marine) sands in Santa Cruz County. 150-520 m. Blooms January through March.	**None.** Suitable habitat is not present in the Study areas and Zayante sands is restricted to occur within Santa Cruz County.
Arenaria paludicola Marsh sandwort	FE/SE	Marshes and swamps. Grow up through dense mats of *Typha, Juncus, Scirpus,* etc. in freshwater marsh. 10-170m. Blooms May to August.	**None.** Suitable habitat is not present in the Study areas.
Astragalus agnicidus Humboldt County milk-vetch	- / SE / 1B.1	Broadleafed upland forest, north Coast coniferous forest. Disturbed areas, openings, and roadsides (sometimes). 120-800 m. Blooms April through September.	**None.** Suitable broadleafed upland habitat is present in the Study areas. However, no known occurrences are present within 5 miles of the Project area (CNDDB 2025).
Astragalus pycnostachyus var. *pycnostachyus* coastal marsh milk-vetch	- / - / 1B.2	Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m. Blooms June through October.	**None.** Suitable habitat is not present in the Study areas.
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	- / - / 1B.1	Chaparral, cismontane woodland. Sandy or gravelly openings. 300-1535 m. Blooms May through August.	**None.** Suitable habitat is present in the Study areas. However, this species is restricted to Santa Cruz County.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	- / - / 1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-230 meters. Blooms May through November.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	FE / - / 1B.1	Lower montane coniferous forest. Zayante coarse sands in maritime ponderosa pine sandhills. 105-475 m. Blooms April through July.	**None.** Suitable habitat is not present in the Study areas and is species is restricted to Santa Cruz County.
Cirsium andrewsii Franciscan thistle	- / - / 1B.2	Coastal bluff scrub, broadleafed upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0-295 m. Blooms March through July.	**None.** Suitable habitat is not present in the Study areas.
Cirsium fontinale var. fontinale fountain thistle	FE / SE / 1B.1	Valley and foothill grassland, chaparral, cismontane woodland, meadows and seeps. Serpentine seeps and grassland. 45-185 m. Blooms May through October.	**None.** Suitable habitat of chappal is present in the Study areas. However, the nearest known location is within Ano Nuevo and this species is possibly extirpated (CNDDB 2025).
Cirsium praeteriens lost thistle	- / - / 1A	Little information exists on this plant; it was collected from the Palo Alto area at the turn of the 20th Century. Although not seen since 1901, this Cirsium is thought to be quite distinct from other Cirsiums acc. to D. Keil. 0-100 m. Blooms June through July.	**None.** Suitable habitat is not present in the Study areas and species is restricted to Palo Alto, Ca.
Collinsia corymbose round-headed collinsia	- / - / 1B.2	Coastal dunes. 0-30 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Collinsia multicolor San Francisco collinsia	- / - / 1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 10-275 m. Blooms March through May.	**None.** Suitable habitat is not present in the Study areas.
Dirca occidentalis western leatherwood	- / - / 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 25-425 meters. Blooms January through April.	**Possible.** Suitable habitat is present in the along several Wurr Road and Pescadero Creek Road sites. Several CNDDB occurrences are present north of La Honda Road approximately 1.94 miles northwest from Site 128.1 (CNDDB 2025).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Eriophyllum latilobum San Mateo woolly sunflower	FE / SE / 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest, ultramafic. Often on roadcuts; found on and off of serpentine. 30-610 m. Blooms May through June.	**None.** Suitable habitat of cismontane woodland is present in the Study areas of Wurr Road, and Pescadero Creek Road. However, one CNDDB occurrence in La Honda from 1988 is considered possibly extirpated and species is presumed extirpated within La Honda Quadrat (CNDDB 2025 and CNPS 2025).
Eryngium aristulatum var. hooveri Hoover's button-celery	- / - / 1B.1	Vernal pools, wetland. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 1-50 m. Blooms July.	**None.** Suitable habitat is not present in the Study areas.
Eryngium jepsonii Jepson's coyote-thistle	- / - / 1B.2	Vernal pools, valley and foothill grassland. Clay. 3-300 meters. Blooms April through August.	**None.** Suitable habitat is not present in the Study areas.
Erysimum ammophilum sand-loving wallflower	- / - / 1B.2	Chaparral (maritime), coastal dunes, coastal scrub. Sandy openings. 3-320 m. Blooms February through June.	**None.** Suitable habitat is not present in the Study areas.
Fissidens pauperculus minute pocket moss	- / - / 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 10-1,024 m.	**Possible.** Suitable habitat is present in the study area. One CNNDB occurrence is present near Old Haul Road near Memorial County Park and another along the Little Butano Creek Trail within Butano State Park (CNDDB 2025).
Fritillaria liliacea fragrant fritillary	- / - / 1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-385 m. Blooms February through April.	**Not expected.** Cismontane woodland occurs within the area. However, only one historical occurrence from 1931 was observed in Pilarcitos Lake in Montara Mountain. No other CNDDB occurrences are not known to occur within the Santa Cruz Mountain area of San Mateo County and in the vicinity of the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Grimmia torenii Toren's grimmia	- / - / 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Boulder and rock walls. 325 - 1160 m.	**Not expected.** Suitable habitat of cismontane woodland is present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Grimmia vaginulata vaginulate grimmia	- / - / 1B.1	Chaparral (openings), boulder and rock walls. 685 - 685 m	**None.** Suitable habitat is not present in the Study areas.
Hesperevax sparsiflora var. brevifolia short-leaved evax	- / - / 1B.2	Coastal bluff scrub, coastal dunes. Sandy bluffs and flats. 0-200m.	**None.** Suitable habitat is not present in the Study areas.
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	FT / SE / 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest. Sometimes on granitic and sandstone. 280-800 m.	**None.** Suitable habitat is not present in the Study areas.
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	FT / SE / 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest. On sandstone. 400-490 m. Blooms in October.	**None.** Suitable habitat is not present in the Study areas.
Hesperolinon congestum Marin western flax	FT / ST / 1B.1	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 60-400 m. Blooms April through June.	**None.** Suitable habitat with serpentine is not present in the Study areas.
Horkelia cuneata var. *sericea* Kellogg's horkelia	- / - / 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 5-215 m. Blooms April through September.	**None.** Suitable habitat is not present in the Study areas.
Lasthenia californica ssp. macrantha perennial goldfields	- / - / 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m. Blooms January through November.	**None.** Suitable habitat is not present in the Study areas.
Legenere limosa legenere	- / - / 1B.1	Vernal pools. In beds of vernal pools. 1-1005 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Leptosiphon rosaceus rose leptosiphon	- / - / 1B.1	Coastal bluff scrub. 10-140 m. Blooms April through July.	**None.** Suitable habitat is not present in the Study areas.
Lessingia arachnoidea Crystal Springs lessingia	- / - / 1B.2	Coastal sage scrub, valley and foothill grassland, cismontane woodland. Grassy slopes on serpentine; sometimes on roadsides. 90-200 m. Blooms July through October.	**None.** Suitable habitat with serpentine is no present in the Study areas.
Limnanthes douglasii ssp. sulphurea Point Reyes meadowfoam	- / SE / 1B.2	Marshes and swamps (freshwater), vernal pools, coastal prairie, meadows and seeps. Vernally wet depressions in open rolling, coastal prairies and meadows; typically in dark clay soil. 10-125 m. Blooms March through May.	**None.** Suitable habitat is not present in the Study areas.
Lupinus constancei Lassics lupine	FE / - / 1B.1	Lower montane coniferous forest (serpentinite). 1500-2000 m. Blooms July.	**None.** Suitable habitat is not present in the Study areas.
Malacothamnus arcuatus arcuate bushmallow	- / - / 1B.2	Chaparral. Gravelly alluvium. 1-735 m. Blooms April through June.	**Possible.** Suitable chaparral habitat is present along Pescadero Creek Road (Site 128.1). One CNDDB occurrence is present near La Honda approximately 0.45 miles northwest from Site 128.1 (CNDDB 2025).
Microseris paludosa marsh microseris	- / - / 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 3-610 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Monolopia gracilens woodland woollythreads	- / - / 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. 100-1,200 meters. Blooms February through July.	**Possible.** Suitable habitat of chaparral and cismontane woodland is present along Wurr Road and Pescadero Creek Road. One CNDDB occurrence is near La Honda 0.45 miles northwest from Project area of Pescadero Creek Road (Site 102 and 128.1) (CNDDB 2025).
Orthotrichum kellmanii Kellman's bristle moss	- / - / 1B.2	Chaparral, cismontane woodland. Carbonate and sandstone. 343-685 m. Blooms January through February.	**None.** Suitable habitat of chaparral and cismontane woodland is present in the Study area of Pescadero Road, but carbonate and sandstone are not present.

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Pedicularis dudleyi Dudley's lousewort	- / - / 1B.2	Chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. 60-330 m. Blooms April through June.	**None.** Suitable habitat is present in the Study areas of Wurr Road, Pescadero Road and Pescadero Creek Road. However, known occurrences are confined to Portola State Park approximately 3.8 miles southeast from the Project areas and study areas do not contain deep shady woods of older coast redwood forests (CNDDB 2025).
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	- / - / 1B.2	Chaparral, lower montane coniferous forest, north coast coniferous forest. Sandy shale slopes; sometimes in the transition between forest and chaparral. 455-915 m. Blooms May through June.	**Not expected**. Suitable habitat is present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Pentachaeta bellidiflora white-rayed pentachaeta	FE / SE / 1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 35-610 m. Blooms March through May.	**Possible.** Suitable habitat is present in along the Wurr Road and Pescadero Creek Road sites. Nearest CNDDB occurrence is present Portola State Park approximately 0.9 miles southeast from Wurr Road.
Pinus radiata Monterey pine	- / - / 1B.1	Closed-cone coniferous forest, cismontane woodland. 25-185 m.	**None.** Only native stands of Monterey pine are considered special-status. In San Mateo County, native stands are limited to areas around Año Nuevo State Park
Piperia candida white-flowered rein orchid	- / - / 1B.2	North Coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m. Blooms May through September.	**Possible.** Suitable habitat is present in the Study areas of Wurr Road and Pescadero Road. Nearest CNDDB occurrence is present Portola State Parks approximately 3.9 miles southeast from Project areas of Wurr Road.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	- / - / 1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 5-160 m. Blooms March through June.	**None.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, the Study areas are outside of known elevation range for this species.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Plagiobothrys diffusus San Francisco popcornflower	- / SE / 1B.1	Valley and foothill grassland, coastal prairie. Historically from grassy slopes with marine influence. 45-360 meters. Blooms March through June.	**None.** Suitable habitat is not present in the Study areas.
Sagittaria sanfordii Sanford's arrowhead	- / - / 1B.2	Marshes and swamps (shallow freshwater). In standing or slow-moving freshwater ponds, marshes, and ditches. 0-650 m. Blooms May through October.	**Not expected.** Suitable aquatic habitat present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Senecio aphanactis chaparral ragwort	- / - / 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-1020 m. Blooms January through May.	**Not expected.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Silene scouleri ssp. scouleri Scouler's catchfly	- / - / 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 5-315 m. Blooms June through September.	**None.** Suitable habitat is not present in the Study areas.
Silene verecunda ssp. verecunda San Francisco campion	- / - / 1B.2	Coastal bluff scrub, chaparral, coastal prairie coastal scrub, valley and foothill grassland. Often on mudstone or shale; one site on serpentine. 30-645 m. Blooms March through August.	**Not expected.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Stebbinsoseris decipiens Santa Cruz microseris	- / - / 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coasta l scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 90-750 m. Blooms April though May.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Stuckenia filiformis ssp. *alpina* northern slender pondweed	- / - / 2B.1	Marshes and swamps. Shallow, clear water of lakes and drainage channels. 5-2325 m. Blooms May through July.	**Not expected.** Suitable habitat of drainage channels is present in the Study areas of Wurr Road, Pescadero Creek Road, and Pescadero Road. However, no known occurrences are present within 5 miles of the Project areas (CNDDB 2025). There is one historic CNDDB occurrence approximately four miles south of Little Butano Creek (Site 190) (CNDDB 2025). However, suitable marsh and swamp habitat is not present in Little Butano Creek (Site 190).
Trifolium amoenum two-fork clover	- / - / 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0-300 meters. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Trifolium buckwestiorum Santa Cruz Clover	- / - / 1B.1	Coastal prairie, broadleafed upland forest, cismontane woodland. Moist grassland. Gravelly margins. 30-805 m. Blooms April through October.	**None.** Suitable habitat of cismontane woodland is present in the Study areas of Wurr Road, and Pescadero Creek Road. However, moist grassland with gravely margins is not present and no known occurrences are present within 5 miles of the Project areas (CNDDB 2025).
Trifolium polyodon Pacific Grove clover	- / SR / 1B.1	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 5-260 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.

* List of Abbreviations for Species Status follow below: FE = Federal endangered FT = Federal threatened FC = Federal Candidate SC = State Candidate SE = State Endangered (California) ST = State Threatened (California) SR = State Rare (California) SCC = Species of Special Concern FP= Fully Protected Source: California Department of Fish and Wildlife (CDFW). 2025 California Natural Diversity Database.	CA Rare Plant Rank 1A = Plants presumed extinct in California and rare/extinct elsewhere 1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California 1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California 1B.3 = Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California 2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Table 2. Special-status Animal Species

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Invertebrates			
Bombus crotchii Crotch bumble bee	- / SCE	Coastal areas east to the Sierra-Cascade crest and south into Mexico. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*.	**None.** The Project areas are within the historic range of this species; however not within its current range (CDFW 2023). No CNDDB records occur within 5 miles of the Project areas (CNDDB 2025).
Bombus occidentalis Western bumble bee	- / SCE	Open grasslands, shrublands, chaparral, desert margins, including Joshua tree and creosote scrub, and semi-urban settings. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*. Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Western bumble bee populations in California are currently largely restricted to high elevation sites in the Sierra Nevada and a few records on the northern California coast (Xerces Society et al. 2018).	**None.** The Project areas are within the historic range of this species; however, it is not within the mapped current range (CDFW 2023). No CNDDB records occur within 5 miles of the Project areas of Wurr Road, Pescadero Creek Road or Pescadero Road (CNDDB 2025). Nearest CNDDB occurrences are present within mouth of Gazos Creek from 1972 approximately 1.56 miles southwest and within Redwood State Park from 1961 approximately 2 miles east of the Project area of Cloverdale (CNDDB 2025).
Danaus plexippus monarch - California overwintering population (pop. 1)	FC / -	Dense Eucalyptus, Monterey pine, and live oak groves along Coastal California that provide shelter from prevailing winds. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Closed-cone coniferous forest.	**Not expected.** No overwintering sites are present in the Project areas. Six CNDDB occurrences occur along the coast within 5 miles of the Project area of Cloverdale. Additionally, all 6 occurrences are documented overwintering sites by Xerces Society (2023).
Euphydryas editha bayensis Bay checkerspot butterfly	FT / -	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants.	**None.** The current range of this species is restricted to Santa Clara County (USFWS 2009), and species has been reintroduced to Edgewood County Park and San Bruno Mountain. Current range of species is outside of Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Speyeria zerene myrtleae Myrtle's silverspot butterfly	FE / -	Coastal dunes. Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County.	**None.** The current range of this species is restricted to Point Reyes (USFWS 2009).
Amphibians			
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	FT / ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**None.** Suitable habitat is not present in the Study areas.
Aneides niger Santa Cruz black salamander	- / SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	**Possible.** Suitable habitat is present along Cloverdale Road and Wurr Road and Pescadero Creek Road woodlands. The nearest CNDDB occurrence from 2002 is within Gazos Creek in Butano State Park 1.5 miles east of the Cloverdale Road site, with a historical occurrence from 1950 on Old Woman's Creek less than 1 mile south from Cloverdale Road.
Dicamptodon ensatus California giant salamander	- / SSC	Aquatic, meadow & seep, north coast coniferous forest, riparian forest. Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Present.** Larvae was observed in the scour pool downstream of Site 268 in Peterson Creek during reconnaissance surveys. The nearest CNDDB occurrence overlaps with Project area location 102 on Pescadero Creek Road (CNDDB 2025).

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	FT / SE	Aquatic, riparian forest, riparian scrub, riparian woodland, south coast flowing waters. San Francisco Peninsula and Diablo Range south of San Francisco Bay Estuary, and south through the Santa Cruz and Gabilan Mountains east of the Salinas River in the southern inner Coast Ranges. Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	**Possible.** Suitable aquatic habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. The nearest CNDDB occurrence from 1960 overlaps Site 94 (CNDDB 2025). Other known occurrences are within Pescadero Creek Park from 1960 and 1999 (CNDDB 2025).
Rana draytonii California red-legged frog	FT / SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Possible.** The Project area is within designated Critical Habitat for this species. Suitable riparian habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. Forty-two CNDDB occurrence records are known from within five miles of the Cloverdale Road location (CNDDB 2025). Fourteen occurrence records are known within five miles of the Wurr Road and Pescadero Creek Road sites, with one record as close as 0.5 miles northeast of Site 102 (CNDDB 2025).
Taricha rivularis red-bellied newt	- / SSC	Broadleaved upland forest, north coast coniferous forest, redwood, riparian forest, and riparian woodland. Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**None.** The current range of this species is restricted to Humboldt County south to Sonoma County, and Isolated population in Santa Clara County.
Reptiles			
Chelonia mydas	FT / -	Marine. Completely herbivorous; needs adequate supply of seagrasses and algae.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
green sea turtle			
Actinemys marmorata Northwestern pond turtle	PT / SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not expected.** This species is known to inhabit Pescadero-Butano Marsh approximately 3.8 miles northwest of the Cloverdale Road site (Site 190) (CNDDB 2025). Marginal aquatic habitat is present upstream and downstream of the Cloverdale Road culvert, but the concrete bed, banks, and box culvert prevent this species from persisting within the Project area. Suitable habitat is absent at the Wurr Road and Pescadero Creek Road sites.
Thamnophis sirtalis tetrataenia San Francisco gartersnake	FE / SE/ FP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	**Possible.** This species is documented in the Pescadero-Butano watershed within five miles of the study area (CNDDB 2025). Suitable riverine habitat is present in Little Butano Creek. Marginal aquatic habitat is present at Bloomquist Creek and Peterson Creek, but these sites generally lacked dense vegetative cover and/or suitable pools.
Fish			
Acipenser medirostris pop. 1 green sturgeon - southern DPS	- / SSC	The green sturgeon ranges from Mexico to at least Alaska in marine waters and is observed in bays and estuaries up and down the west coast of North America. Green sturgeon are believed to spawn in the Rogue River, Klamath River Basin, and the Sacramento River, and rarely occur in the Umpqua River. Green sturgeon appear to occasionally occupy the Eel River, and may also be using the Trinity River.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Eucyclogobius newberryi tidewater goby	FE / SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, requires fairly still but not stagnant water and high oxygen levels.	**None.** Suitable habitat is not present in the Study area.
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	FE / SE	Open ocean, estuaries, and rivers. Federal listing includes populations between Punta Gorda and San Lorenzo River. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	**Present.** Coho salmon are known to occur in Pescadero Creek and the creek is designated Critical Habitat for this species. However, no work occurs on Pescadero Creek, and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish. Coho also occur in Butano Creek. Currently a bedrock chute on Little Butano Creek is a total fish barrier downstream of the Cloverdale Road site (Site 190) which impedes anadromous fish from upstream movement. However, the San Mateo RCD is currently (Summer 2025) implementing a project to remove the bedrock chute, which will allow upstream movement of Coho salmon in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.

Scientific Name Common Name	Listing status* (Federal/ State)	Habitat Association	Potential to Occur in the Study Area
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	FT / SCC	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	**Present.** Steelhead are known to occur in Pescadero Creek and lower reaches of Little Butano Creek and the creek is designated Critical Habitat for this species (Spence et al. 2008, CEMAR 2008). However, no work occurs on Pescadero Creek and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Steelhead also occur in Butano Creek but total fish barriers on Little Butano Creek downstream of the Cloverdale Road site currently impede anadromous fish from upstream movement. The RCD is currently (Summer 2025) implementing a project to remove the bedrock chute, which will allow upstream movement of steelhead in Little Butano Creek to Cloverdale Road prior to the planned start of the Project. Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish.
Spirinchus thaleichthys longfin smelt	- / ST	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater. Inhabits coast estuaries north of the Russian River (primarily) and south of Pillar Point, Half Moon Bay.	**None.** Suitable habitat is not present in the Study area.
Spirinchus thaleichthys pop. 2 Longfin smelt – San Francisco Bay-Delta DPS	FE/ST	Found in the Gulf of Farallones from Russian River to Pillar Point, Half Moon Bay, and salt and freshwater habitats upstream of the Golden Gate including the San Francisco Bay, Sacramento - San Joaquin River Delta, and their tributaries where found.	**None.** The Study area is not within the known range of this species (CDFW 2024).

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Birds			
Aquila chrysaetos golden eagle	- / FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**None.** Suitable habitat is not present in the Study area.
Asio otus long-eared owl	- / SSC	Cismontane woodland, great basin scrub, riparian forest, riparian woodland, upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**Not expected.** A breeding pair was documented near the Stevens Creek headwaters approximately 5 miles east of Pescadero Creek Road, Site 128.1 in 1986/1987 (CNDDB 2025). The open space area adjacent to Site 128.1 provides suitable foraging habitat but lacks suitable nesting habitat.
Athene cunicularia burrowing owl	- / SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None.** Suitable habitat is not present in the Study area.
Brachyramphus marmoratus marbled murrelet	FT / SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	**Present.** In Memorial County Park, known Marbled murrelet (MAMU) occupied sites have been at documented at the Huckelberry Flat and occupied behavior has been confirmed at Homestead Flat, Sequoia Flat at Memorial County Park. Designated Critical Habitat for this species overlaps within San Mateo County in Memorial Park, is present within Site 94 and Site 102 and is adjacent to the Project sites along Wurr Road (Sites 263, 265, 265.1, 266, 268, and 270). Based on proximity to 2010 CNDDB occurrence at Memorial County Park (CNDDB#38) it is assumed MAMU has the potential to occur at Project sites at 265, 265.1, 266, 268, and 270 (occurrence overlaps Wurr Road and Pescadero creek Road) and Site 263 is approximately 144 meters from 2010 occurrence

Scientific Name Common Name	Listing status* (Federal/ State)	Habitat Association	Potential to Occur in the Study Area
			(CNDDB 2025). The presence of potential nesting trees within 300 feet (ft) of Project sites with large diameter tree with large (≥4") horizontal branches (platform location with moss and access and good canopy cover, complex understory, good access points for landing) are present in sites 94, 263, 265, 270, 270.1. No suitable nesting trees were observed within 300 ft at Sites 102, 265.1, and 266. With known occupied sites, confirmed occupied behavior, CNDDB occurrences and presence of potential nesting trees (within 300ft of Project site) within the vicinity of the Project area is it possible (assumed) that Sites 94, 263, 265, 268, 270, 270.1 contain suitable habitat for marbled murrelet and the species has the potential to occur within these Study areas.
Charadrius alexandrinus nivosus western snowy plover	FT / SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	**None.** Suitable habitat is not present in the Study area.
Coturnicops noveboracensis yellow rail	- / SSC	Shallow brackish and freshwater marshes, wet meadows, and occasionally rice fields. Summer resident in eastern Sierra Nevada in Mono County.	**None.** Suitable habitat is not present in the Study area.
Cypseloides niger black swift	- / SSC	Coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**None.** Suitable habitat is not present in the Study area.
Elanus leucurus white-tailed kite	- / FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Falco peregrinus anatum American peregrine falcon	FD / SD	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**None.** Suitable nesting habitat is absent from the study area.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	- / SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**None.** Suitable habitat is not present in the Study area.
Gymnogyps californianus California condor	FE/SE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. forages up to 100 miles from roost/nest.	**None.** Suitable habitat is not present in the Study area.
Haliaeetus leucocephalus bald eagle	FD / SE, FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Absent as Breeder.** Suitable habitat is present in the Study area. However, no CNDDB records occur within 5 miles of the Project areas (CNDDB 2025).
Laterallus jamaicensis coturniculus California black rail	- / ST	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None.** Suitable habitat is not present in the Study area.
Melospiza melodia pusillula Alameda song sparrow	- / SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits *Salicornia* marshes; nests low in *Grindelia* bushes (high enough to escape high tides) and in *Salicornia*.	**None.** Suitable habitat is not present in the Study area.
Rallus obsoletus California Ridgway's rail	FE / SE, FP	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Riparia riparia bank swallow	- / ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**None.** Suitable habitat is not present in the Study area.
Sternula antillarum browni California least tern	FE / SE, FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**None.** Suitable habitat is not present in the Study area.
Mammals			
Antrozous pallidus pallid bat	- / SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Possible.** Suitable foraging habitat is present within the study area, such as in larger trees in riparian areas. One CNDDB occurrence is 2.3 miles west of Wurr Road (CNDDB 2025).
Corynorhinus townsendii Townsend's big-eared bat	- / SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not expected.** One CNDDB occurrence within 1.3 miles west of Wurr Road (CNDDB 2025). Suitable foraging habitat is present within the study area. Roosting habitat is limited to very large cavities in redwood trees as typical roost sites, such as old mines, caves, barns, and abandoned buildings, are not within the Project area.
Eumetopias jubatus Steller sea lion	FD / SSC	Breeds on Ano Nuevo, San Miguel and Farallon islands, Point St. George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	- / SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	**Present.** No CNDDB occurrences were within 5 miles of the Study area (CNDDB 2025). However, suitable habitat is present where forest, woodland, and chaparral habitats occur. In addition, one woodrat nest was observed along Little Butano Creek downstream of Cloverdale Road (Site 190) during the July 2025 survey.
Reithrodontomys raviventris Salt marsh harvest mouse	FE / SE, FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**None.** Suitable habitat is not present in the Study area.
Sorex vagrans halicoetes salt marsh wandering shrew	- / SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6-8 ft above sea level where abundant driftwood is scattered among *Salicornia*.	**None.** Suitable habitat is not present in the Study area.
Taxidea taxus American badger	- / SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Possible.** This species is known to occur in the Santa Cruz Mountains east of La Honda to Skyline Boulevard, with multiple CNDDB occurrence records within a 3.0 mile radius of Pescadero Creek Road (Site 128.1) and one historical record from 1978 was reported in Butano State Park near the Cloverdale Road site (Site 190) (CNDDB 2025). Suitable habitat is present in the open grassland and chaparral areas adjacent to these sites.

* List of Abbreviations for Federal and State Species Status follow below: FE = Federal endangered PE = Proposed endangered FT = Federal threatened PT = Federal proposed threatened FC = Federal proposed candidate	SE = State endangered ST = State threatened SCE = State candidate endangered SSC = Species of special concern (CDFW) FP = Fully protected (CDFW)

Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.

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Appendix D

Cultural Resources Assessment Report

Technical Report

CULTURAL RESOURCES INVENTORY REPORT

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project San Mateo County, CA

August 2025

Prepared for:

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List of Acronyms

APE	area of potential affects
BERD	Built Environment Resource Directory
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DIA	Diameter
DPR	California Department of Parks and Recreation
LF	linear feet
Montrose	Montrose Environmental
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHP	Office of Historic Preservation
PRC	Public Resources Code
Project	Wurr Road, Pescadero Creek Road, Cloverdale Road Culvert Repairs Project
RPA	registered professional archaeologist
RSP	Rock Slope Protection
SHPO	State Historic Preservation Officer
TBD	To Be Determined
TCR	tribal cultural resource
USC	United States Code
USGS	U.S. Geological Survey

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Executive Summary

The County of San Mateo (County) Department of Public Works (DPW) is proposing to implement the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Project) to improve and repair twelve (12) culverts along Wurr Road, Pescadero Creek Road and Cloverdale Road. The Proposed Project is located near the communities of Pescadero and Loma Mar in unincorporated San Mateo County. The Project installs three (3) new culverts, replaces two (2) culverts, upsizes five (5) culverts, and installs a new trash/debris rack and stabilizes the eroding channel at one (1) location. Additional improvements at these sites include replacing/installing new headwalls, adding rock inlet protection, and adding rock outfall energy dissipation. In addition, the Project will remove sediment and enhance habitat at one (1) location along Cloverdale Road. The anticipated work at Cloverdale Road will remove accumulated sediment and obstructive vegetation as well as demolish existing concrete channel structures upstream and downstream of the double box crossing and restore the channel to provide unimpeded fish passage. The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Waterways 2022) and will help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (California Regional Water Quality Control Board 2018).

A cultural resources inventory was conducted to comply with the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA guidelines (14 California Code of Regulations 15000 et seq.). The inventory also supports obligations under Section 106 of the National Historic Preservation Act (NHPA) due to the proposed actions requiring federal permits, such as Section 404 of the Clean Water Act.

This inventory consisted of a literature review to identify any previously recorded cultural resources within the search radius of the current area of interest and a field survey to locate any cultural resources that may exist but have not yet been recorded. No previously recorded resources have boundaries that intersect with the Project locations; no newly identified cultural resources were identified during the archaeological pedestrian survey. No adverse effect to historic resources or properties is expected to result from the Project actions.

This inventory was performed based on information obtained at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), as well as on direct observation of site conditions and other information generally applicable as of September 2024. The conclusions and recommendations herein are therefore based on information available up to that point in time. Further information may come to light in the future that could substantially change the conclusions found herein.

Information obtained from these sources in this timeframe is assumed to be correct and complete. Montrose Environmental (Montrose) does not assume any liability for findings or lack of findings based upon misrepresentation of information presented to Montrose or for items that are not visible, made visible, accessible, or present at the time of the Project area inventory.

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1 Introduction

1.1 Location and Setting

The County of San Mateo (County) is proposing culvert repairs and improvements at 12 locations near the communities of Pescadero and Loma Mar in unincorporated San Mateo County, California (see **Figure 1**). An assessment of the existing drainage infrastructure and a hydrologic conditions study determined improvements at each proposed site was needed to address drainage infrastructure deficiencies and provide adequate conveyance capacity commensurate with the site hydrology.

The Project areas are located on the La Honda and Franklin Point U.S. Geological Survey (USGS) 7.5" Quadrangles (Townships 7S, 8S, Ranges 4W, 5W, Sections 26, 27, 34, 4, 3, 36) (**Figure 2**).

1.2 Project Description

The County proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve and repair twelve (12) culverts along Wurr Road, Pescadero Creek Road, and Cloverdale Road. The Proposed Project is located near the communities of Pescadero and Loma Mar in unincorporated San Mateo County. The Project includes installs three (3) new culverts, replaces two (2) culverts, upsizes five (5) culverts, and installs a new trash/debris rack and stabilizes the eroding channel at one (1) location. Culverts will be replaced and upsized where they have been deemed damaged or undersized. Culvert sizing determinations are based on hydraulic model results and hydrological conditions. Culverts will be replaced in-kind where the existing pipe diameter adequately conveys flows. New culverts will be installed at three (3) sites to provide added roadway ditch drainage relief and minimize roadway flooding. Additional improvements at these sites include replacing/installing new headwalls, adding rock inlet protection, and adding rock outfall energy dissipation.

In addition, the Project will remove sediment and enhance habitat at one (1) location along Cloverdale Road. The anticipated work at Cloverdale Road will remove accumulated sediment and obstructive vegetation as well as demolish existing concrete channel structures upstream of the double box crossing and restore the channel to provide unimpeded fish passage.

The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Waterways 2022) and will help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load (TMDL) for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (California Regional Water Quality Control Board 2018). The site locations and IDs (as identified in TMDL road inventory) are as follows:

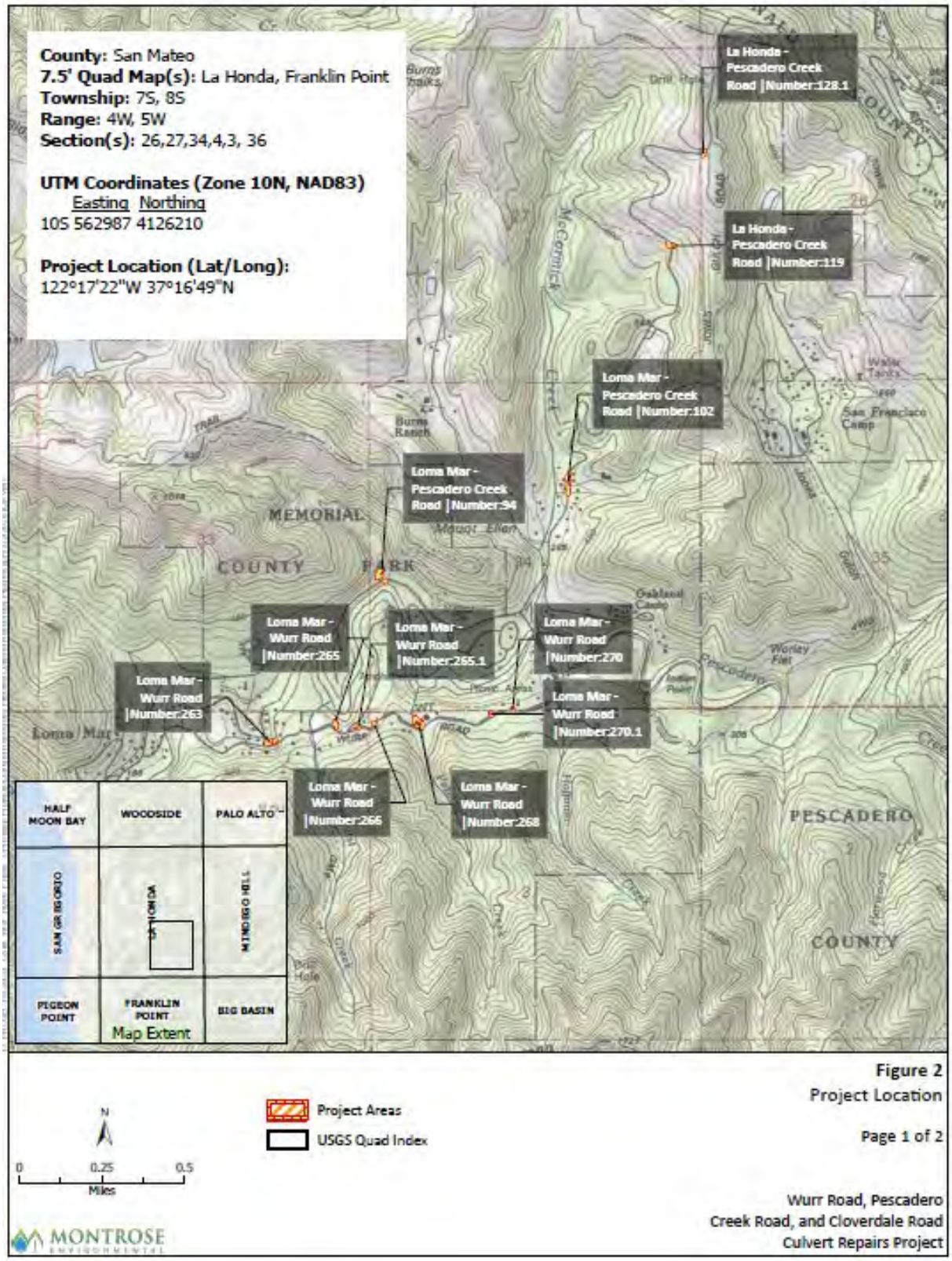
- **Pescadero Creek Road**, four (4) sites: Sites 128.1, 119, 102, and 94.
- **Wurr Road**, seven (7) sites: Sites 263, 265, 265.1, 266, 268, 270, and 270.1
- **Cloverdale Road**, one (1) site: Site 190.

Table 1 summarizes Project activities proposed for each site. Heavy equipment will be used to excavate trenches, remove the existing culvert pipes, and install the new culvert pipes and associated inlet and outlet structures. The roadways will be restored to previous conditions.

Figure 1. Vicinity



Figure 2. Project Location



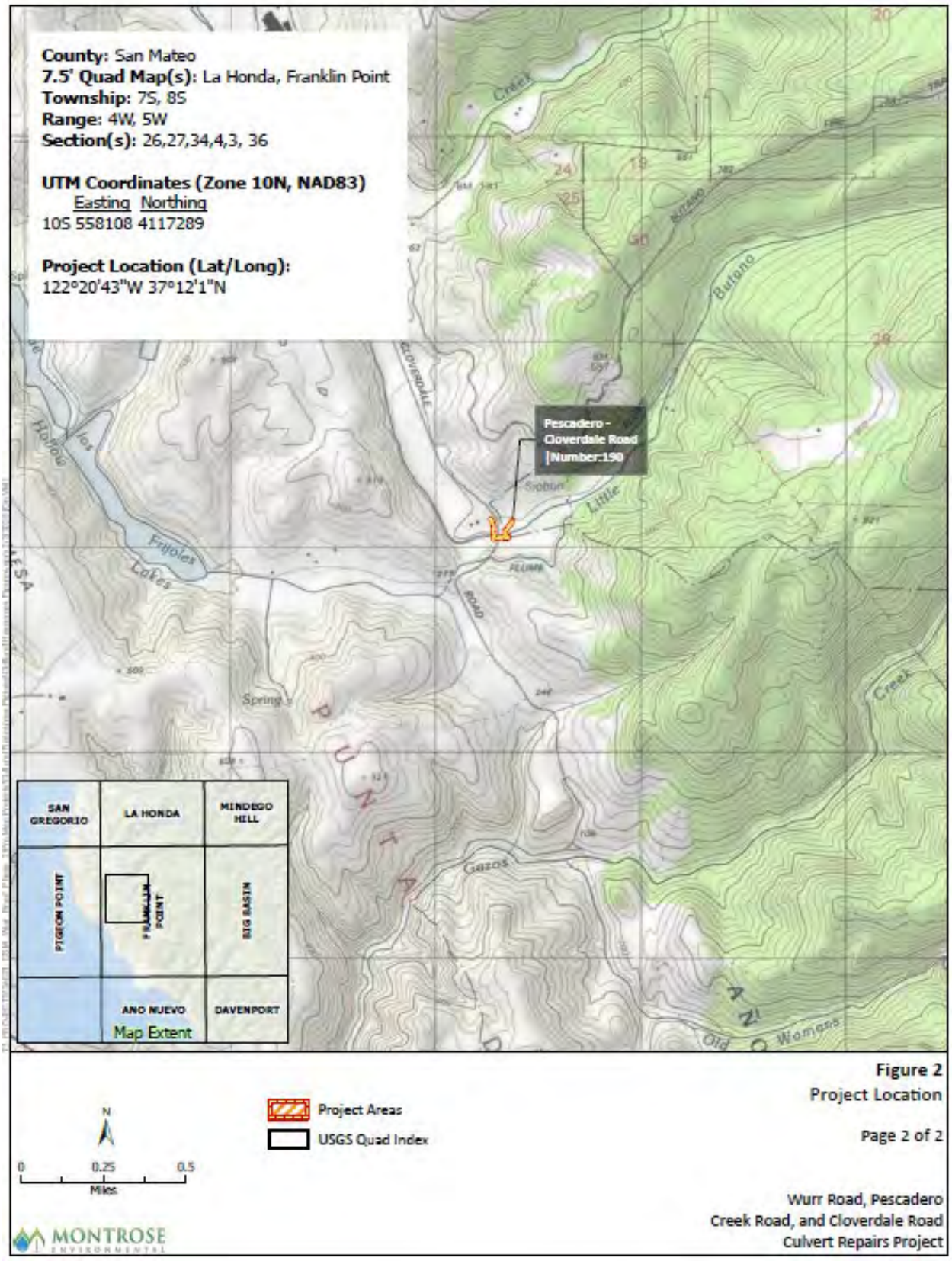

County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
10S 558108 4117289
Project Location (Lat/Long):
122°20'43"W 37°12'1"N
Pescadero - Cloverdale Road |Number:190
SAN GREGORIO
LA HONDA
MINDEGO HILL
PIGEON POINT
FRANKLIN POINT
BIG BASIN
ANO NUEVO
DAVENPORT
Map Extent
Project Areas
USGS Quad Index
N
0
0.25
0.5
Miles
MONTROSE ENVIRONMENTAL
Figure 2
Project Location
Page 2 of 2
Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

Table 1. Culvert Repair Locations and Expected Levels of Disturbance

Site ID / TMDL No.	Road	Resource Agency Jurisdictions	Existing Culvert Diameter (inches)	Proposed Site Improvements
Pescadero Creek Road Locations				
94	Pescadero Creek Road	CDFW, RWQCB, USACE	28	Install new debris reflector (trash rack) at inlet; add new rock energy dissipator at outfall
102	Pescadero Creek Road	CDFW, RWQCB, USACE	24	Demo existing culverts and junction box and slurry fill trench; install/upsize replacement culvert in new alignment (24” to 38” H x 57" W arch culvert); new headwall and rock inlet protection; new rock energy dissipator at outfall; install/upsize replacement roadside ditch culvert with new inlet catch basin near inlet of new culvert alignment (12” to 18” DIA); install new 15" DIA roadside culvert with asphalt inlet apron.
119	Pescadero Creek Road	CDFW, RWQCB, USACE	36	Demo existing culvert; install/upsize replacement culvert with new outfall alignment (36” to 42” DIA); replace existing concrete headwall and add new rock inlet protection; new flume down drain with inlet apron from roadside ditch to culvert outlet; new rock energy dissipator at outfall; regrade inlet to conform to existing flow line; and regrade downstream roadside embankment.
128.1	Pescadero Creek Road	N/A	New	New 18” diameter (DIA) culvert, headwall at inlet, rock inlet and outlet protection
Wurr Road Locations				
263	Wurr Road MP 0.6A	CDFW, RWQCB, USACE	78	Replace 78” DIA culvert; extend pipe length at inlet 12’ and outlet 25’; reconstruct unstable embankment slopes; new rock inlet and outlet protection; install new 18" pipe with headwall from roadside ditch to culvert inlet; relocation of one (1) existing log at inlet and approximately four (4) at outlet; revegetate embankment with native tree species and plants.
265	Wurr Road MP 0.7	CDFW, RWQCB, USACE	12	Demo existing culvert; install/upsize replacement culvert with new outfall alignment (12” to 30” DIA); new headwall and rock inlet protection; extend outfall location 25’; new rock outfall energy dissipator; grade outfall swale to conform to existing flow line; demo existing roadside ditch culvert
265.1	Wurr Road MP 0.7	N/A	New	New 18” DIA culvert; new headwall and inlet rock protection; and new rock energy dissipator at outfall

Site ID / TMDL No.	Road	Resource Agency Jurisdictions	Existing Culvert Diameter (inches)	Proposed Site Improvements
266	Wurr Road MP 0.8	CDFW, RWQCB, USACE	16	Demo existing culvert; install/upsize replacement culvert in new alignment (16” to 30” DIA); new headwall and rock inlet protection; and new rock energy dissipator at outfall
268	Wurr Road MP 1.0	CDFW, RWQCB, USACE	84	Replace 84” DIA culvert; extend pipe length at inlet 18’ and outlet 21’; reconstruct unstable embankment slopes; remove existing concrete headwall; new rock inlet and outlet protection; install new 18" slope down drain with rock lined ditch and concrete headwall from roadside to culvert inlet, install new 18" slope down drain with concrete headwall from roadside to culvert outlet; relocate existing logs at inlet; revegetate embankment with native tree species and plants.
270	Wurr Road MP 1.2	N/A	12	Demo existing culvert; install/upsize replacement culvert with new outfall alignment (12” to 24” DIA); extend the culvert length by 10’; new headwall and rock inlet protection; and new rock energy dissipator at outfall
270.1	Wurr Road MP 1.2	N/A	New	New 24” DIA culvert; new headwall and rock inlet protection; new rock energy dissipator at outfall
Cloverdale Road				
190	Cloverdale Road	CDFW, RWQCB, USACE	8’ x 7’ double box	Remove upstream concrete apron, weirs, and sacked concrete banks; replace upstream apron with naturalized channel constructed from engineered streambed material (ESM) and vegetated rock slope protection; construction of an engineered streambed pool and channel downstream of culvert outlet and associated channel bank grading and stabilization with vegetation or vegetated rock slope protection; remove accumulated sediment from existing culvert barrels and outlet; install slope protection fabric; revegetate riparian corridor with native tree species and plants.

1.3 Regulatory Setting

1.3.1 State of California Regulations

CEQA and State CEQA Guidelines

The Proposed Project seeks to comply with the CEQA (Public Resources Code [PRC] 21000 et seq.) and the CEQA guidelines (California Code of Regulations [CCR], Title 14, Chapter 3), which determine, in part, whether a project has a significant effect on a unique archaeological resource (per PRC 21083.2) or a historical resource (per PRC 21084.1).

CEQA guidelines in CCR 15064.5 notes that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." Lead agencies are required to identify potentially feasible measures or alternatives to avoid or mitigate significant adverse changes in the significance of a historical resource before such projects are approved. According to the CEQA guidelines, historical resources are:

- Listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (per PRC 5024.1(k));
- Included in a local register of historical resources (per PRC 5020.1) or identified as significant in a historical resource survey meeting the requirements of PRC 5024.1(g); or
- Determined by a lead state agency to be historically significant.

California Register of Historical Resources

PRC Section 5024.1 establishes the CRHR. This register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed, or determined to be eligible for listing, in the National Register of Historic Places (NRHP), including properties evaluated under Section 106 of the NHPA. The following CRHR criteria for listing are similar to those of the NRHP.

(1) Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) Are associated with the lives of persons important in our past;

(3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(4) Have yielded, or may be likely to yield, information important in prehistory or history.

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

Unique Archaeological Resources

CEQA guidelines in CCR 15064.5 also applies to unique archaeological resources as defined in PRC 21084.1. As defined in PRC Section 21083.2, a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

The CEQA guidelines note that if an archaeological resource is not a unique archaeological resource, historical resource, or tribal cultural resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (CCR Section 15064.5[c][4])

Tribal Cultural Resources

PRC 21080.3.1 (also known as Assembly Bill 52) requires that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe, and if the agency intends to release a negative declaration, mitigated negative declaration, or environmental impact report for a project. The bill also specifies, under PRC 21084.2, that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is considered a project that may have a significant effect on the environment.

As defined in Section 21074(a) of the PRC, TCRs are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. Included or determined to be eligible for inclusion in the CRHR; or

   b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

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

TCRs are further defined under Section 21074(b) and (c) as follows:

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to Section 21080.3.2 or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs, treating TCRs with culturally appropriate dignity, and considering the tribal cultural values and meaning of the resource.

The lead state agency for the Project will communicate and consult as needed with Native American tribes pursuant to PRC 21080.3.1. The results of that communication to date are provided in **Appendix A**.

1.3.2 Federal Regulations

The Proposed Project is subject to federal permit review. As a result, the Project, constitutes a federal undertaking as defined by Title 54 United States Code (USC) Section 300101 of the NHPA and mandates compliance with 54 USC Section 306108, commonly known as Section 106 of the NHPA, and its implementing regulations found under Title 36 of the Code of Federal Regulations (CFR) Section 800, as amended in 2001. To comply with Section 106 of the NHPA, the project proponent must "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register."

The implementing regulations of the NHPA require that cultural resources be evaluated for eligibility to the NRHP if they cannot be avoided by an undertaking (proposed project). To determine site significance through application of NRHP criteria, several levels of potential significance that reflect different (although not necessarily mutually exclusive) values must be considered. As provided in Title 36 CFR Section 60.4, "the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association" and must be considered within the historic context. Resources must also be at least 50 years old, except in rare cases, and, to meet eligibility criteria of the NRHP, must:

(A) Be associated with events that have made a significant contribution to the broad patterns of our history; or

(B) Be associated with the lives of persons significant in our past; or

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

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

For archaeological sites evaluated under Criterion (D), integrity requires that the site remain sufficiently intact to convey information necessary to address specific important research questions.

Section 106 of the National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to consider the effects of their actions on historic properties (54 USC 306108). The Section 106 review process typically consists of the following major steps by federal agencies, all of which occur in consultation with the State Historic Preservation Officer (SHPO), Native American Tribes, and other consulting parties.

1. Initiate Section 106 process by defining the federal undertaking and establishing a plan for consultation.

2. Identify the area of potential effect (APE).

3. Identify historic properties within the limits of the APE.

4. Assess the effects of the undertaking by applying the criteria for adverse effects.

5. Resolve adverse effects.

The Section 106 regulations define an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing on the NRHP (36 CFR Section 800.5[a][1]).

Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable or may be more remote in time or distance (36 CFR Section 800.5[a][1]).

2 Project Context

2.1 Environmental Setting

The Project areas are situated within the Coast Range geologic province. The northern Coast Ranges are a geologic province comprised of numerous rugged north-south trending ridges and valleys that run parallel to a series of faults and folds. Formation of these ranges is generally attributed to events associated with subduction of the Pacific Plate beneath the western border of North America. The bedrock that underlies the region is a complex assemblage of highly deformed, fractured, and weathered sedimentary, igneous, and metamorphic rocks (Schoenherr 1992). The bedrock geology of the Project area consists of Miocene and Pliocene age, non-marine sedimentary rock (California Geological Survey 2010).

The Project is located in the Pescadero-Butano Creek watershed. Riverine habitat in this study area includes Pescadero Creek (general vicinity), unnamed tributary drainages, Peterson Creek (Site 268), Bloomquist Creek (Site 263), and Little Butano Creek (Site 190). These features area generally characterized as having intermittent or perennial flow and a coarse matrix of gravel/cobble beds and fine sediments with earthen banks. Other riverine features within the Project area include minor intermittent or ephemeral drainages along Pescadero Creek Road and Wurr Road.

Terrestrial habitats include upland areas, including forest/woodland, shrubland, grassland, and barren areas. Developed areas are also classified as terrestrial habitat. Terrestrial habitats in the study area are described below. The riparian canopy at the project sites generally consists of a narrow band of big leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), and California buckeye (*Aesculus californica*) trees with a sparse shrub, vine, and fern understory contiguous with the redwood forest community of the project study area.

Riparian woodland habitat is a tree-dominated community, with typical species including white alder (*Alnus rhombifolia*), Pacific willow (*Salix lasiandra*), Douglas fir (*Pseudotsuga menziesii*), and American dogwood (*Cornus florida*). A shrub or vine layer often occurs that frequently includes California blackberry (*Rubus ursinus)*, poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Frangula californica*), and young willows (*Salix* spp.). Understory herbs include grasses, California mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica*), rushes (*Juncus* spp.), and California bee plant (*Scrophularia californica*). The mid-and upper-bank areas and adjacent historic benches in the project reach support riparian woodlands associated with Little Butano Creek, Bloomquist Creek, and Peterson Creek.

Redwood forest habitats are largely restricted to areas of coastal influence with relatively stable temperatures and summer coastal fog. The tree composition includes redwood (*Sequoia sempervirens*) as the dominant species with associated species including California bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), and red alder (*Alnus rubra*). Redwood forest is present along Wurr Road and Pescadero Creek Road.

California annual grassland is present along some slopes in the study area. Dominant species include slender oat (*Avena barbata*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and soft brome (*B. hordeaceus*). Ruderal species are present along roadway shoulder areas.

Prior to 1850, the region surrounding San Francisco Bay was a rich biome of coastal salt marsh and coastal prairie-scrub, with mixed hardwood settings more upland and inland that supported numerous animal and plant species exploited by pre-contact populations (Küchler 1976).

2.2 Pre-Contact Context

The pre-contact period reflects information known about the indigenous population from the time the region was first populated with humans until the arrival of the first Europeans, who recorded their journeys. The pre-contact record is derived from over a century of archaeological research, and while much has been gleaned from these studies, large gaps in the data record remain. The following pre-contact culture sequence, derived from Milliken et al. (2010:114-118), briefly outlines the prehistory of the San Francisco Bay region.

The Early Holocene (Lower Archaic; 8000 to 3500 B.C.) is considered a time when populations continued to be very mobile as they practiced a foraging subsistence pattern around the region. Artifacts that characterize this period include the millingslab and handstone to process seeds, as well as large wide-stemmed and leaf-shaped projectile points.

The Early Period (Middle Archaic; 3500 to 500 B.C.) is marked by the appearance of cut shell beads in the archaeological record, as well as the presence of the mortar and pestle for processing acorns. House floors with postholes indicate substantial living structures, which suggests a move toward establishing a more sedentary lifestyle and an increasing population.

The Middle Period, which includes the Lower Middle Period (Initial Upper Archaic; 500 B.C. to A.D. 430) and Upper Middle Period (Late Upper Archaic; A.D. 430 to 1050), appears to be a time when geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the Upper Middle Period, mobility was being replaced by the development of numerous small villages. Around A.D. 430 a “dramatic cultural disruption” occurred, as evidenced by the sudden collapse of the Olivella saucer bead trade network.

The Initial Late Period (Lower Emergent; A.D. 1050 to 1550) reflects a social complexity that had developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

The Terminal Late Period (Upper Emergent; A.D. 1550 to circa 1750) generally represents the indigenous cultures that were encountered by the Spanish when they first arrived in San Francisco Bay.

2.3 Ethnohistoric Context

The population indigenous to the Project area spoke a language referred to as Costanoan, a derivative from a Spanish term for “coast people.” Costanoan, which consisted of six known languages and various dialects within those languages, was spoken over a broad territory that included all of the San Francisco Peninsula, along the east and south of San Francisco Bay, and south to Monterey Bay, Salinas Valley, and the area around Hollister. Those residing in San Francisco Peninsula and the

Project area spoke the Ramaytush dialect of San Francisco Bay Costanoan (Milliken et al. 2009:33 35).

The Costanoan peoples, also referred to as the Ohlone, Mutsun, or Rumsen, depending on geography, were not a united cultural or political entity (Milliken et al. 2009:2-4). Rather, there were strong differences not only in language, but also in culture, between the San Francisco and Monterey Bay occupants. Political affinity was based on the tribelet, which was comprised of one or more villages within a specific geographic territory (Levy 1978:487).

The tribelet territory was 10 to 12 miles in diameter and contained a population of 200 to 400 people living among four or five villages (Milliken et al. 2009:99). Those living in the Project area resided in large villages along permanent streams in locations that allowed access to the diverse resources found in the tidal marshlands, the valley floor, and the hills (Milliken et al. 2010:106; Moratto 2004:225).

Several Costanoan tribes lived entirely within modern-day San Mateo County. Along the bay were the *Urebure* of San Bruno, the *Ssalson* in San Mateo and the *Lamchin* at Redwood City. Other tribes were partially in San Mateo County but also spilled over into more southern counties. These included, but not limited to, the *Puichun* who were on the bay front at San Francisquito Creek, and the *Olpen* who lived in the mountains above the *Puichun* at the headwaters of San Francisquito Creek. Another group, the *Quiroste*, lived on the coast in the area of Point Ano Nuevo (Milliken et al. 2009:87-89). Numerous village locations throughout San Mateo County have been identified for some of these groups, including villages in proximity to the Project areas (Milliken et al. 2009:4-5).

2.4 Historic-Era Context

The historic era began in the San Francisco Bay area when Spanish explorers arrived in the late 1760s and the 1770s. Members of the Portola expedition were the first to arrive in present-day San Mateo County. On October 23, 1769, the party entered the Quiroste village of Mitenne, where they were graciously welcomed. Portola's group continued northward, encountering and staying at villages of all the peninsula tribes as they crossed to the bay-side of the peninsula via Sweeny Ridge and camped near Palo Alto by the middle of November. The party retraced their route back to Monterey. Following Portola's exploration, the Rivera-Palou expedition followed Portola's exploration 5 years later, in 1774. Instead of coming up the coast, the Rivera-Palou party arrived through Santa Clara Valley, and followed along the bay shore to San Francisquito Creek. The team made their way to the north end of the peninsula before returning to Monterey via the coastal route. Early exploration was conducted near Woodside Valley in 1769, when the first Portola expedition camped in the valley. By 1793, the area encompassing the northern and central peninsula was no longer inhabited by tribal villages and the local San Francisco Bay Costanoan-speaking local tribes of the area had been absorbed into Mission Dolores (Milliken et al. 2009). In August 1840, the Governor of Spanish California granted the 12,545-acre Rancho Canada de Raymundo to John Coppinger, an Irishman who had become a naturalized Mexican citizen. This rancho consisted of most of the eastern slopes and valleys in the Woodside area, including today's Wunderlich Park.

Mexico, which included California, became independent from Spain in 1822, and after that time, the government began issuing grants of land to favored citizens. First granted only to Mexican nationals, these tracts of land were soon bestowed upon those outsiders (largely Americans) who agreed to become citizens (Kyle et al. 2002:xiii-xiv). During Mexican rule, at least 20 tracts of land, or ranchos, were granted within what was to become San Mateo County (California State Lands Commission

1982). Nine of the ranchos (one of which overlaps into San Francisco County, and one into Santa Cruz County) stretched out along the Pacific coast, three were entirely within the interior mountains, and the remainder bordered San Francisco Bay. These properties were largely used for cattle grazing, agriculture, or timber harvesting, though the operations also attracted settlers who would purchase small tracts of land in order to establish their own livelihoods. Central settlements eventually became established on many of the ranchos, particularly on the bay side, that are the sites of modern-day communities (Kyle et al. 2002).

2.5 Geoarchaeological Context

To assess the potential for buried archaeological sites within a project area's components, an investigation will often take into account factors that either encouraged or discouraged human use or occupation of certain landforms (e.g., geomorphic setting and distance to water), combined with those that affected the subsequent preservation (i.e., erosion or burial) of those landforms. It is well known, for instance, that pre-contact archaeological sites in California are most often found on relatively level landforms near natural water sources (e.g., spring, stream, river, or estuary), which is often where two or more environmental zones (ecotones) are present. Landforms with this combination of variables are frequently found at or near the contact between a floodplain and a higher and older geomorphic surface, such as an alluvial fan or stream terrace (Hansen 2004:5).

In general, most Pleistocene-age landforms have little potential for harboring buried archaeological resources, as they developed before the first evidence of human migration into North America (ca. 13,000 years ago). However, Pleistocene or older surfaces buried below younger Holocene deposits do have a potential for containing archaeological deposits because of the long-term viability of the platform (or Pleistocene age surface) from which occupation can occur. Holocene alluvial deposits may contain buried soils (paleosols) that represent periods of landform stability before renewed deposition. The identification of paleosols within Holocene-age landforms is of particular interest because they represent formerly stable surfaces that have a potential for preserving archaeological deposits.

The potential for the Project Area to contain buried archaeological resources was investigated using a model formulated by Byrd et al. (2017) for predicting a location's sensitivity for buried Native American archaeological sites based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene[1] , has a slope of 5 percent or less, is within 150 meters (500 feet) of fresh water, and 150 meters (500 feet) of a confluence. A basic premise of the model is that Native American archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating these factors using the buried site model (Byrd et al. 2017: Tables 11 and 12), a location's sensitivity was scored on a scale of 1–10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5).

Based on landform age and the other factors described above, the model determined that the sensitivity for buried sites in the Project Area is considered low. Moreover, a review of Witter et al. (2006), a quaternary geology review of the Bay Area—from which the Byrd et al. (2017) analysis is partially derived— indicates that the Project areas are mostly underlain by pre-Quaternary deposits and bedrock. A small portion of the sites in the Project Areas are underlain by more recent geologic

[1] The Holocene Epoch is the current period of geologic time, which began about 11,700 years ago, and coincides with the emergence of human occupation of the area.

formations. The Pescadero-Cloverdale Road section is underlain by Holocene alluvium, which increases the sensitivity of this location for buried deposits—particularly at Cloverdale Road near Butano Park Road (site No. 190). Whereas some sites within the Loma Mar – Wurr Road section are underlain by Late Pleistocene to Holocene alluvial fan or stream terrace deposits but only in areas directly adjacent to stream watercourses; all other locations are underlain by bedrock deposits. Overall, the geology suggests that the majority of the Project Areas are underlain by bedrock layers or Pre-Pleistocene formations that would not have likely supported substantial human activity due to the antiquity of the landform as pre-dating known human occupation for the area and, as such, would not suggest that buried deposits are likely in this area.

3 Native American Communication and Archival Research

3.1 Native American Communication

An email request was made to the Native American Heritage Commission (NAHC) on August 1, 2023, to review its files for the presence of recorded sacred sites on the Project area. The NAHC responded on August 12, 2023. The results of the Sacred Lands database review were negative for any sacred sites within the Project area.

On October 28, 2024, letters were sent to the 15 tribal contacts provided by the NAHC with follow up emails on November 1, 2024 (**Table 2**). The letters requested any additional information regarding tribal resources and to notify the County if they wished to initiate consultation regarding the Project actions. To date, responses have only been received from Amah Mutsun Tribal Band of Mission San Juan Bautista and The Ohlone Indian Tribe. As planning proceeds, the County will continue to consult with interested tribal representatives regarding the Project and incorporate their concerns into Project planning and mitigation as warranted.

Table 2. Tribal Communication Conducted to Date

Organization/Tribe	Name of Contact	Letter Date	Comments
Amah Mutsun Tribal Band	Valentin Lopez, Chairperson	10/28/2024	No response
Amah Mutsun Tribal Band	Ed Ketchum, Vice-Chairperson	10/28/2024	No response
Amah Mutsun Tribal Band of Mission San Juan Bautista	Irenne Zwierlein, Chairperson	10/28/2024	Responded on 11/01/2024 via email and provided a letter of response and Most Likely Descendant recommendation letter; The County responded on 12/11/2024 and provided a summary of the project's cultural review process and results to date and inquired if the Tribe would like to set up a meeting to discuss the project further; No further response has been received at this time.
Costanoan Rumsen Carmel Tribe	Carla Munoz, Tribal Council	10/28/2024	No response
Costanoan Rumsen Carmel Tribe	Desiree Munoz, Tribal Liaison	10/28/2024	No response
Costanoan Rumsen Carmel Tribe	Henry Muñoz	10/28/2024	No response

Organization/Tribe	Name of Contact	Letter Date	Comments
Costanoan Rumsen Carmel Tribe	Samuel Rodriguez	10/28/2024	No response
Indian Canyon Mutsun Band of Costanoan	Ms. Ann Marie Sayers, Chairperson	10/28/2024	No response
Indian Canyon Mutsun Band of Costanoan	Kanyon Sayers-Roods, MLD Contact	10/28/2024	No response
Muwekma Ohlone Indian Tribe of the SF Bay Area	Richard Massiatt, Councilmember/MLD Tribal Rep.	10/28/2024	No response
Muwekma Ohlone Indian Tribe of the SF Bay Area	Charlene Nijmeh, Chairperson	10/28/2024	No response
The Ohlone Indian Tribe	Vincent Medina, Tribe Consultant	10/28/2024	See response for Andrew Galvan.
The Ohlone Indian Tribe	Desiree Vigil, THPO	10/28/2024	See response for Andrew Galvan.
The Ohlone Indian Tribe	Andrew Galvan, Chairperson	10/28/2024	Responded on 11/02/2024 via email and requested copy of the contact list and Sacred Lands File search results provided by the NAHC; The County responded on 12/11/2024 and provided requested items; No further response has been received at this time.
Wuksachi Indian Tribe/Eshom Valley Band	Kenneth Woodrow, Chairperson	10/28/2024	No response

All correspondence, to date, between the NAHC and contacted tribes is provided in **Appendix A**.

3.2 Archival Research and Results

A record search was requested at the Northwest Information Center (NWIC) to determine whether any portions of the Project area had been previously surveyed for cultural resources and to identify the presence of any previously recorded cultural resources within the Project area, as well as a 0.25-mile buffer (the search radius). The records search was received on May 24, 2024 (NWIC File No. 23-1700). See **Appendix B** for detailed summaries of results for this records search.

Other sources of information reviewed included, but were not limited to, the current listings of properties on the *National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, California Points of Historical Interest*, as listed in the Office of Historic

Preservation's (OHP's) Historic Property Directory, and the Built Environment Resource Directory (BERD) for San Mateo County (OHP 2020).

No resources have been previously recorded within the Project areas. Four resources have been previously recorded within the search radius (see **Appendix B**); none have been identified as CRHR or NRHP listed historical resources or properties.

Table 3. Previously Recorded Resources within the Records Search Radius

Primary No.	Name/Description	Type	Age
41-001991	420 Wurr Road	Building	Historic
41-002190	Log Cabin Site	Building, Site	Historic
41-002221	CRF-PESCADERO-01	Structure	Historic
41-002696	Memorial Park Wastewater Treatment Facility	Building, Structure	Historic

According to the record search results, the boundaries of three previous studies intersect the Project areas, specifically the locations along the Loma Mar – Wurr Road section. All of these investigations were negative for cultural resources or archaeological deposits. Once investigation, S-027920, was conducted in the forested areas within and south of Wurr Road that covered approximately a ½-square miles (Tunheim 2002). This survey did not identify any cultural resources or archaeological deposits. Eleven previous studies intersect the search radius (see **Appendix B**).

4 Inventory Methods and Results

Figure 3 depicts each location and the areas surrounding the locations that were surveyed that constitute the APE.

A pedestrian survey of each culvert repair location was conducted by Montrose archaeologist Brian Sandford on June 8, 2024. Each location was surveyed, to the extent feasible, as well as a 100-foot buffer surrounding each side of culvert footprint and the surrounding area. **Table 4** lists the locations and the conditions encountered, as well as the results.

Table 4. Survey Methods and Results for Each Project Area

Project Culverts by Road Name Section	Methods	Comments	Results
Pescadero Creek Road	Intensive (10-meter transects)	Soil is a dark brown clay silt; high levels of organic vegetation; some root disturbance observed	Negative for cultural deposits
Wurr Road	Intensive (10-meter transects)	Soil includes brown and black clay, brown clay-loam, and brown-dark brown loam; high levels of organic vegetation; some root disturbance observed	Negative for cultural deposits
Cloverdale Road	Intensive (10-meter transects)	Limited native surface visibility due to dense vegetation and presence of sacked concrete	Negative for cultural deposits

Due to the heavy vegetation and grass cover, as well as substantial roadway hardscaping, the overall visibility of the native surface was limited from 0 to 30 percent. In addition, the majority of the culvert locations are located within very steeply sloped locations that also presented difficulties in inspecting the ground surface. However, all areas of existing native surface exposure, as well as areas exposed using a shovel or trowel to view the native surface, were inspected. A total of 5 shovel test pits or trowel scrapes were conducted. A total of about 26-acres were surveyed[2] (see Figure 3).

At the time of the pedestrian survey, the western downstream portion of Site 190 was not included in the project footprint and was therefore not included in the survey area. The revised and expanded footprint, which adds approximately 0.25-acres, was not revisited for pedestrian survey. The addition of the expanded area along the creek bed, which is the only area of the expanded project APE that was not surveyed, has environmental conditions that preclude effective archaeological survey, such as near-zero surface visibility due to vegetation cover and the surface of the creek bed itself that would not be a platform for any sustained human activity. However, as discussed in the section below, an archaeological monitor is recommended to be on-site during the construction of Location 190 due to the higher potential for subsurface deposits in the areas above the streambed in flat, alluvial areas at this location. As a result, any deposits or resources that may occur within the project footprint will be more likely identified during the monitoring on-site.

[2] In some cases areas were surveyed that represented culverts that were listed for repair at the time of the survey that are no longer slotted for repair for the purposes of the current project.

No evidence of archaeological deposits was identified throughout the surveys. **Appendix C** contains example photos of the Project areas and surroundings.


La Honda - Pescadero Creek Road | Number: 128.1 (staging)
La Honda - Pescadero Creek Road | Number: 128.1
Pescadero Rd
Pescadero Rd
Project Location APE
Shovel Test Probe
Survey Area
N
0 62.5 125 250 Feet
MONTROSE ENVIRONMENTAL
Haskins Hill
Figure 3
Area of Potential Effects
Page 1 of 12
Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



Figure 3
Area of Potential Effects

Page 2 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

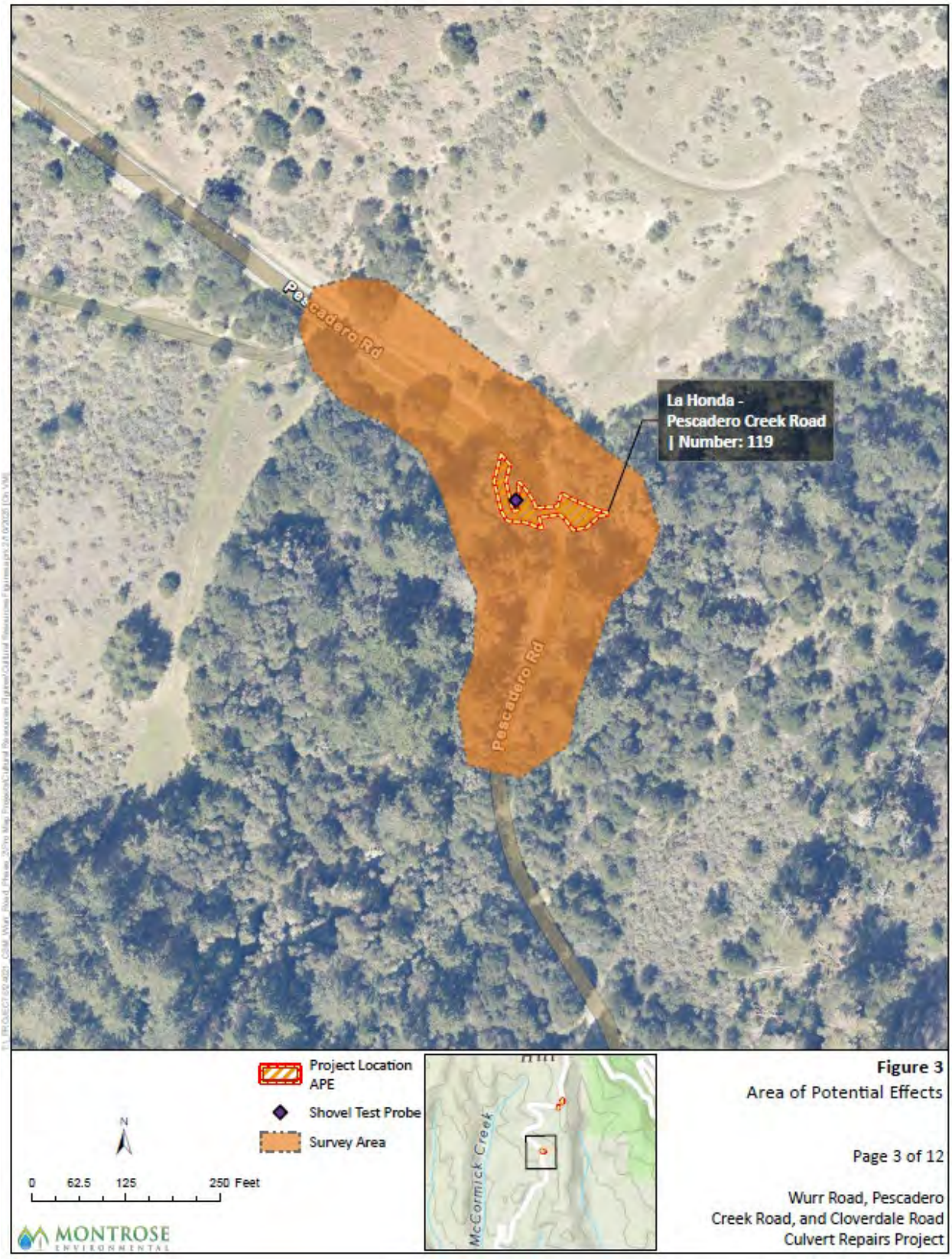


Figure 3
Area of Potential Effects

Page 3 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

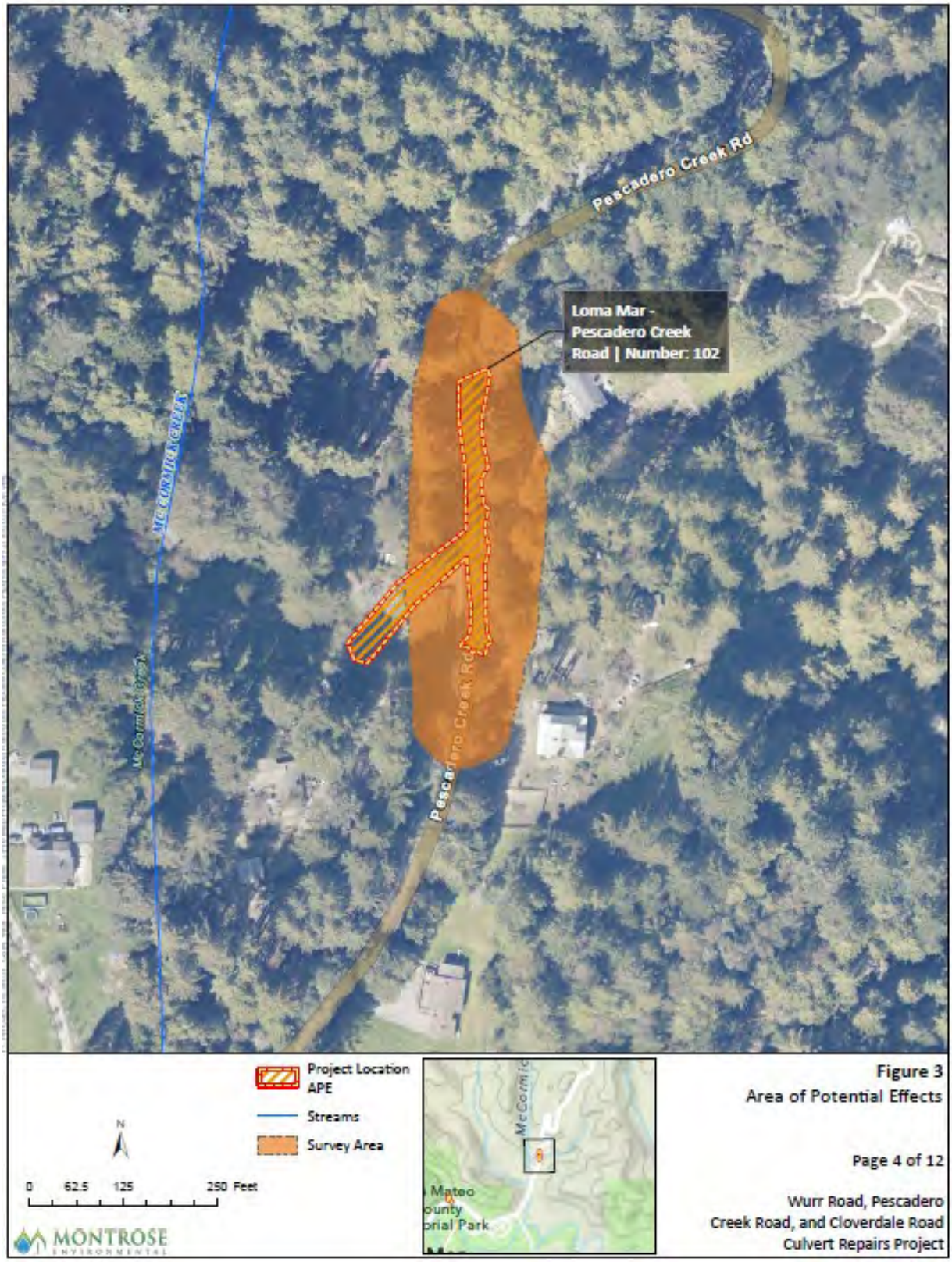


Figure 3
Area of Potential Effects

Page 4 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

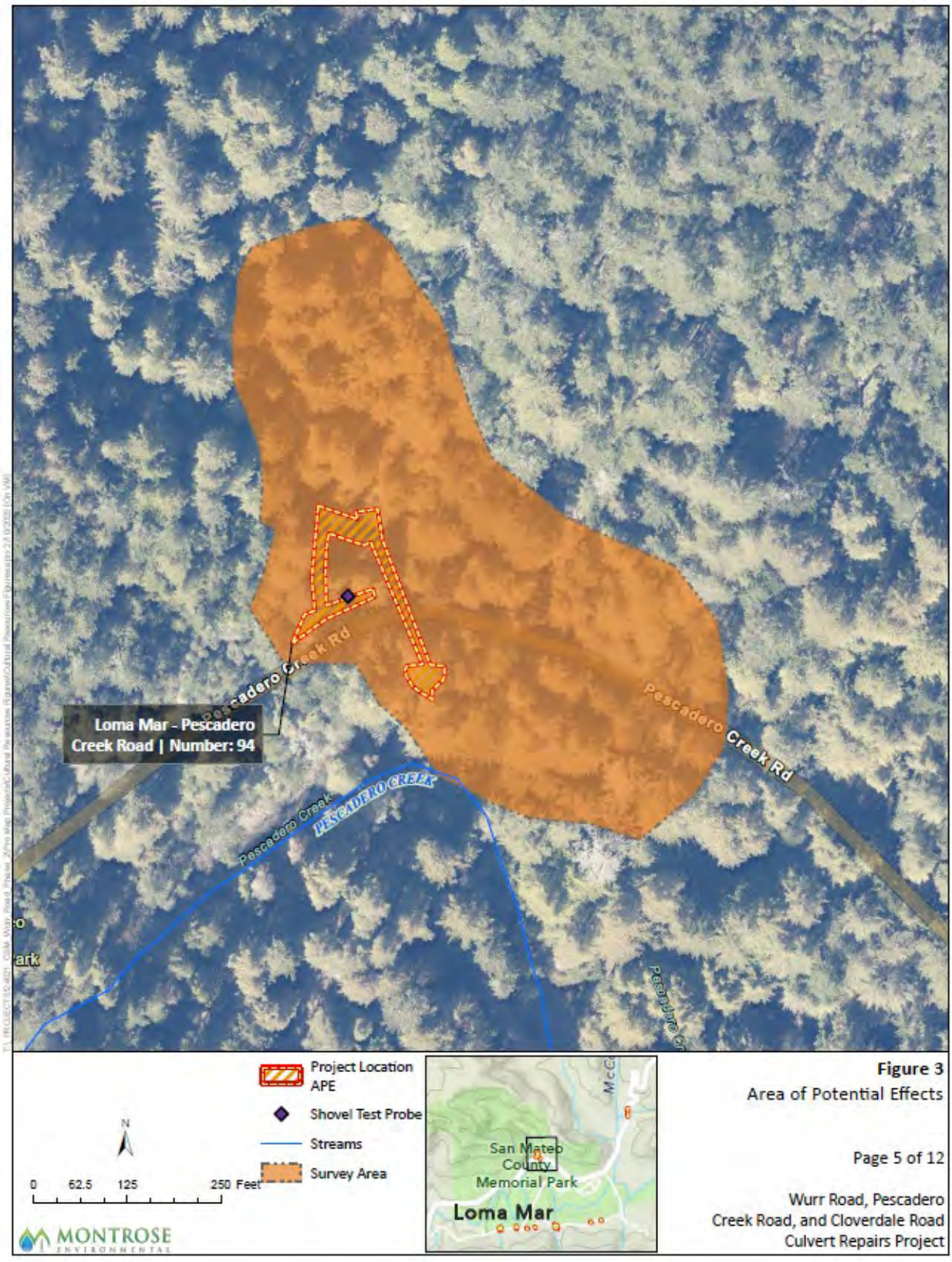


Figure 3
Area of Potential Effects

Page 5 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

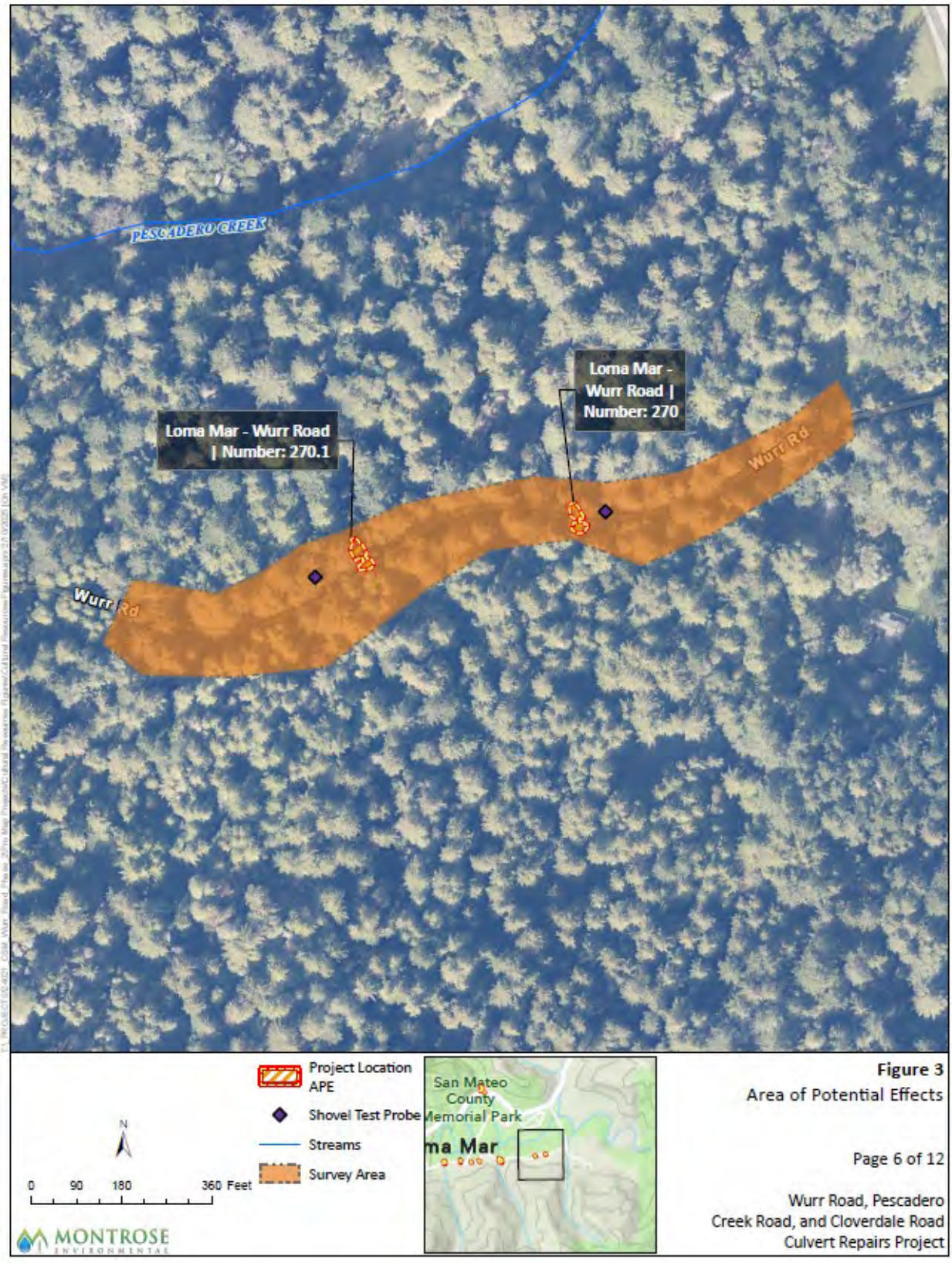


Figure 3
Area of Potential Effects

Page 6 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



Figure 3
Area of Potential Effects

Page 7 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

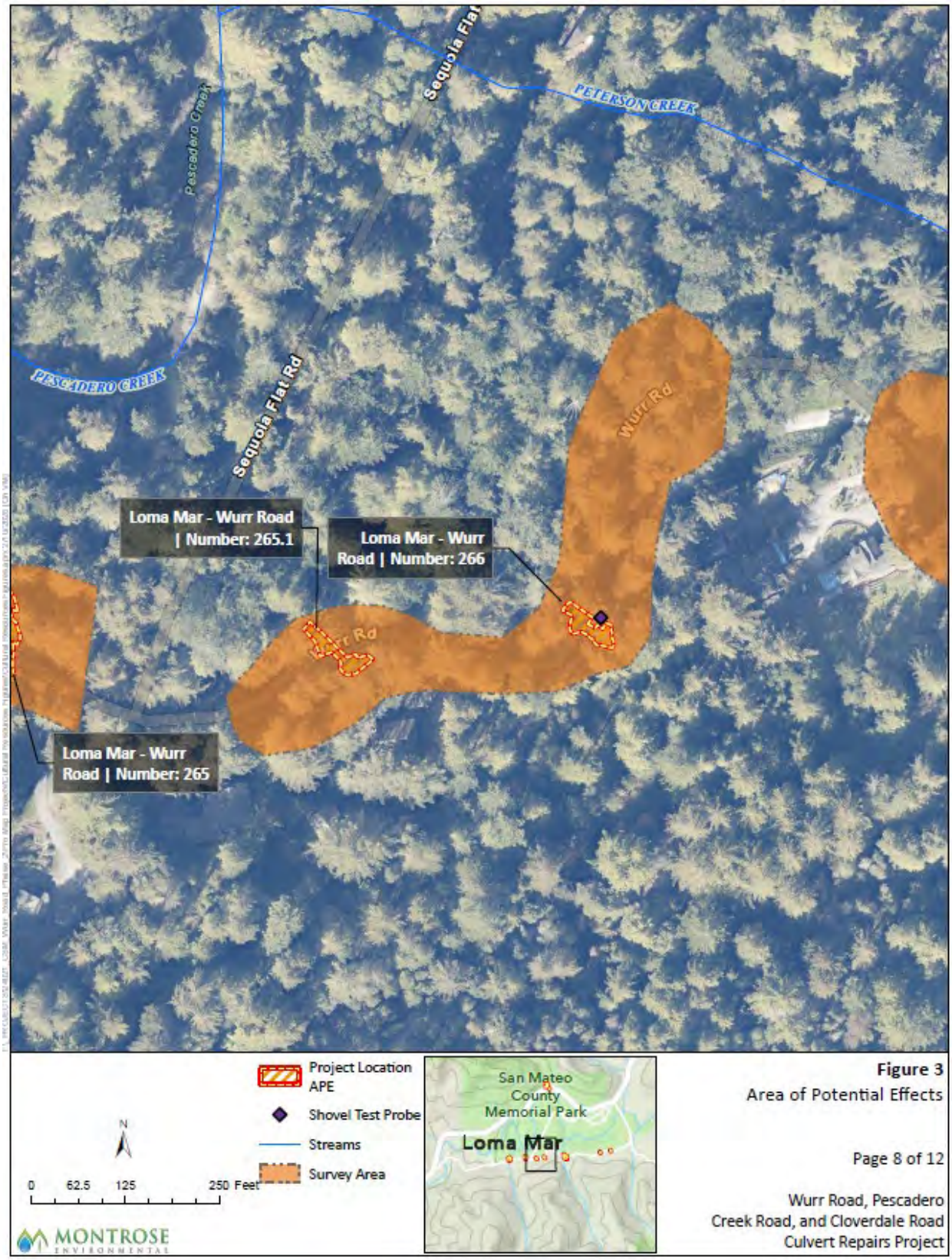
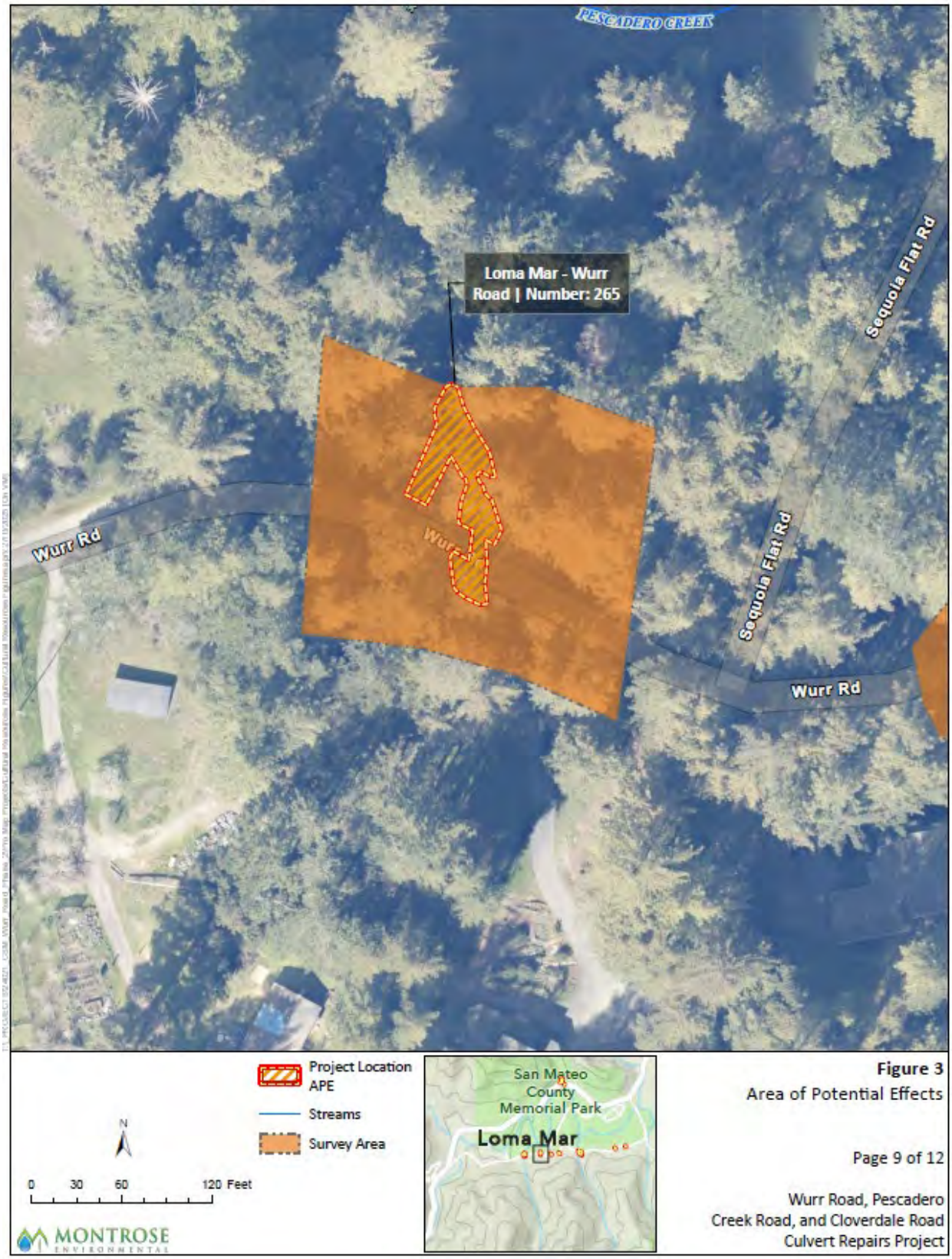


Figure 3
Area of Potential Effects

Page 8 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project


PESCADERO CREEK
Loma Mar - Wurr Road | Number: 265
Sequoia Flat Rd
Sequoia Flat Rd
Wurr Rd
Wurr Rd
Wurr
Project Location APE
Streams
Survey Area
N
0 30 60 120 Feet
MONTROSE ENVIRONMENTAL
San Mateo County Memorial Park
Loma Mar
Figure 3
Area of Potential Effects
Page 9 of 12
Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

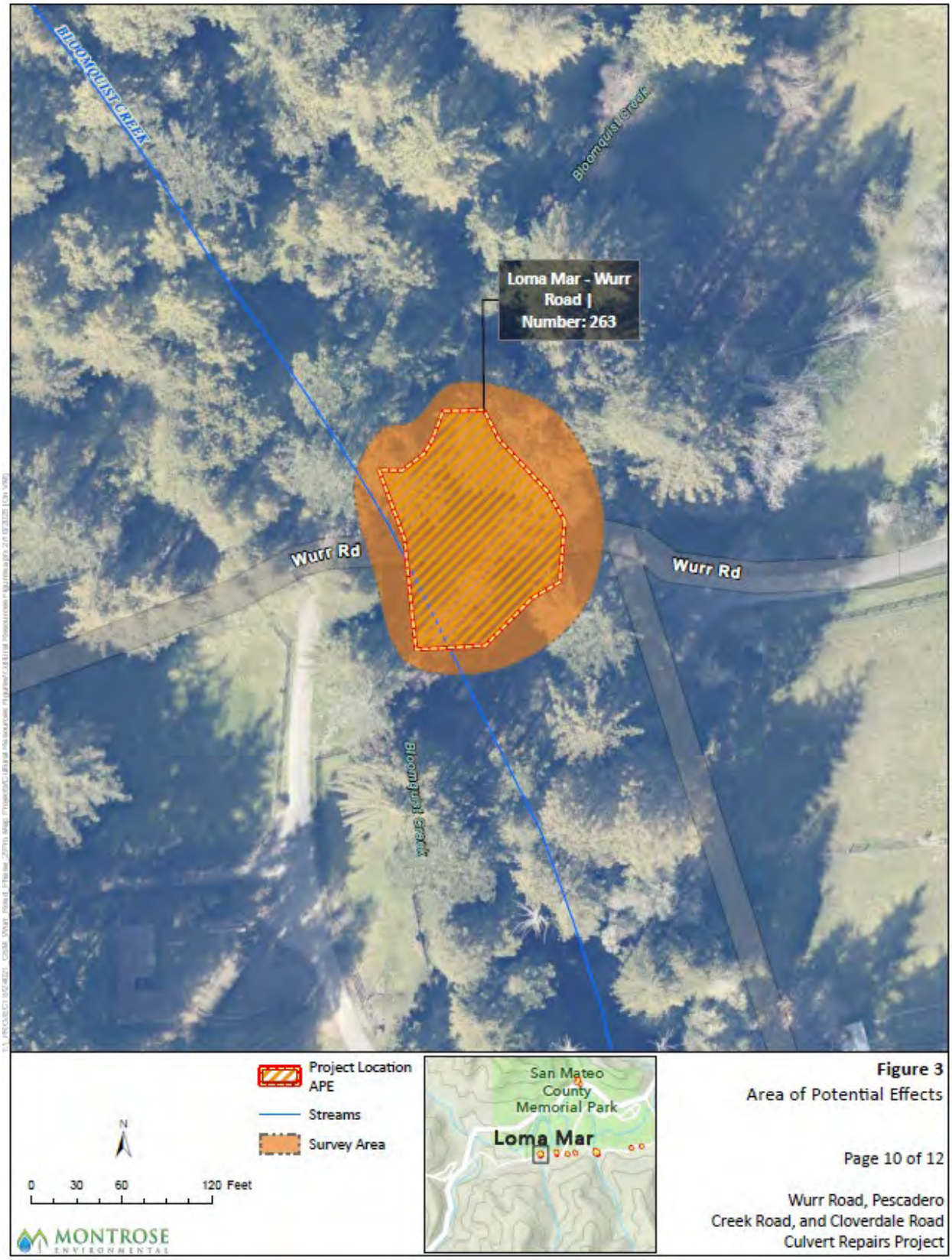


Figure 3
Area of Potential Effects

Page 10 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

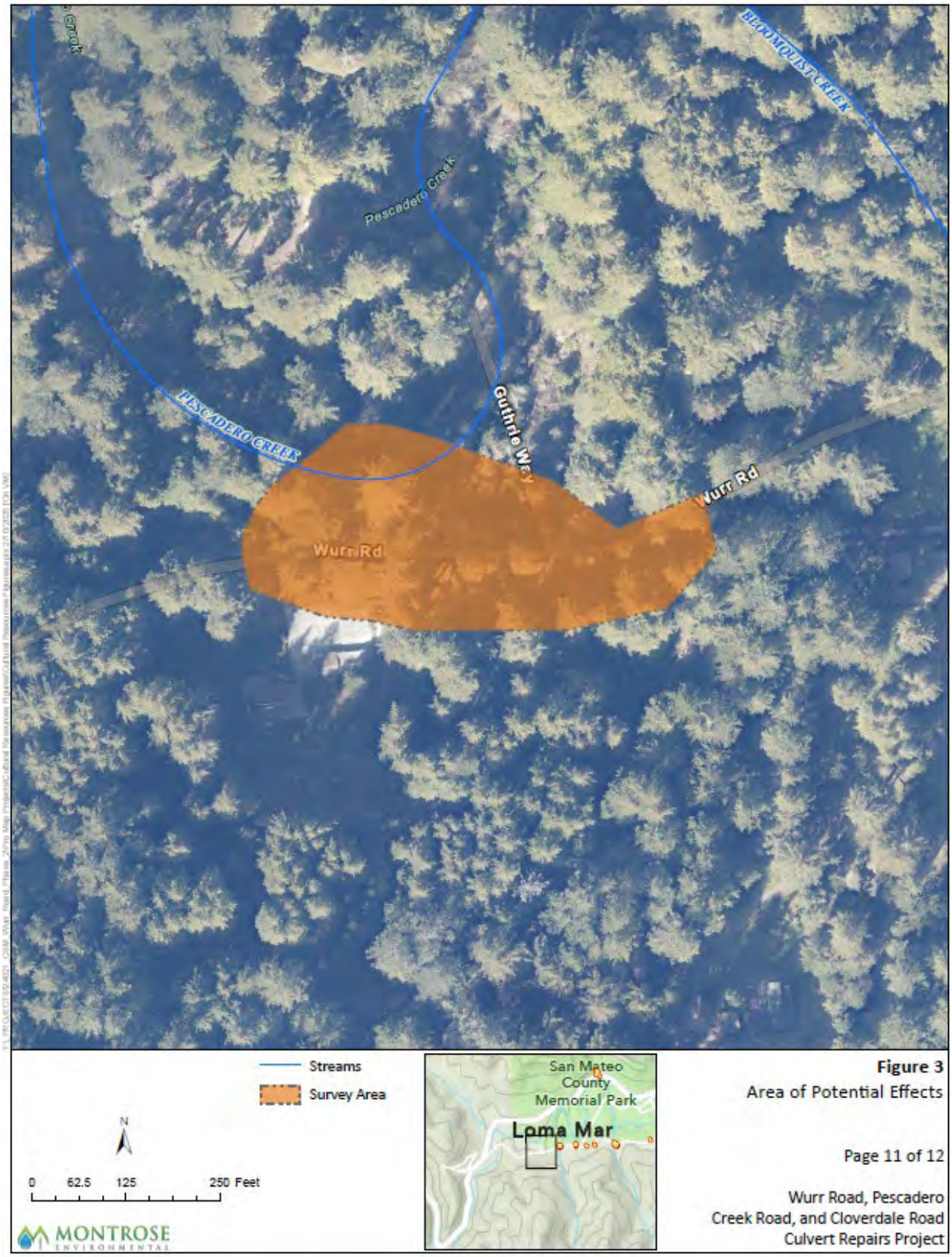


Figure 3
Area of Potential Effects

Page 11 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

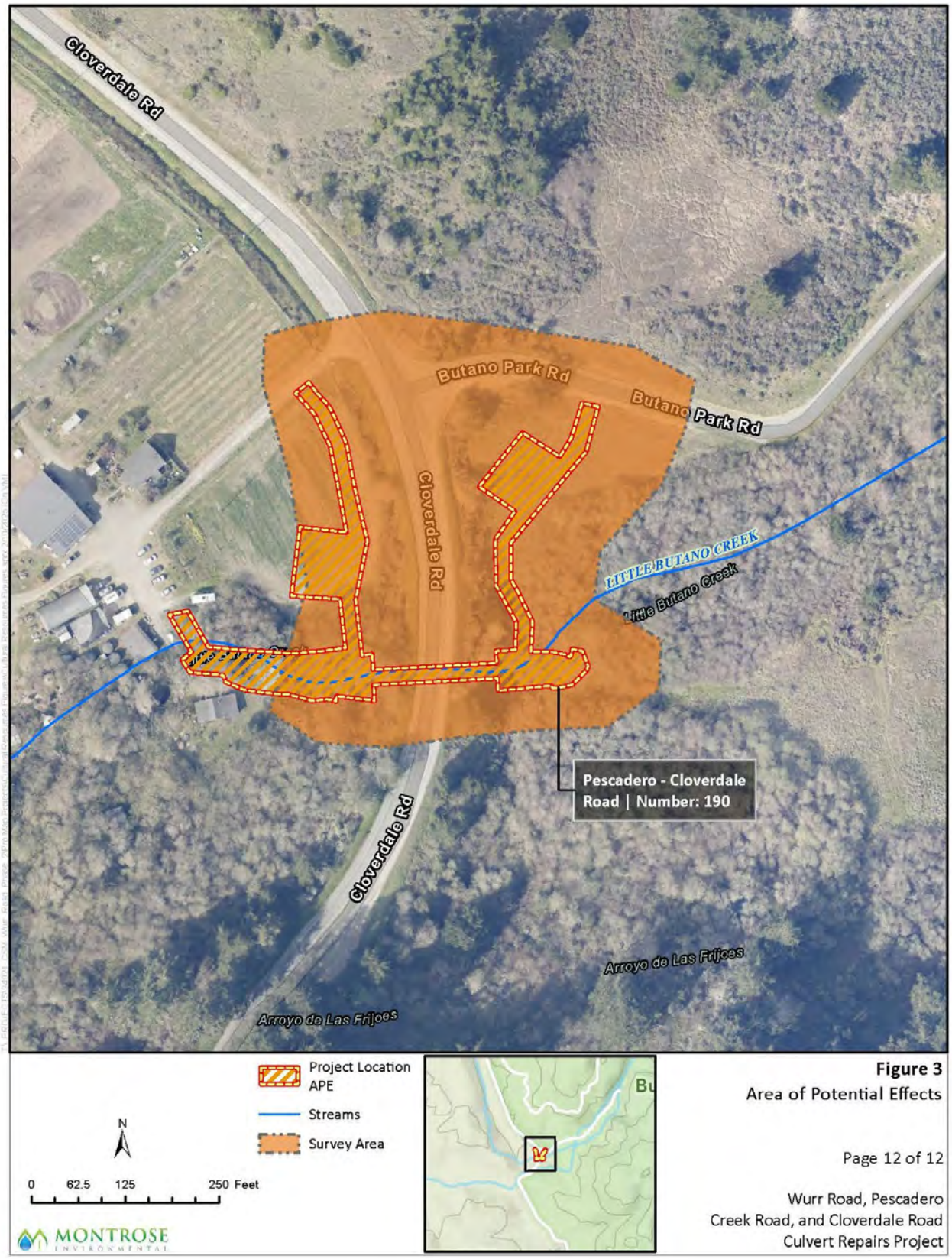


Figure 3
Area of Potential Effects

Page 12 of 12

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

5 Study Findings and Management Recommendations

A cultural resource survey of the Project area was conducted on June 8, 2024, by qualified archaeologist Brian Sanford, B.S. The areas surveyed are substantially altered by roadway hardscaping and channelization; however, areas of exposed native surface were inspected using shovel test pits and trowel scrapes when necessary. No archaeological deposits or built environment resources were identified. As discussed in the geoarchaeological context, most of the individual locations that will be subject to repairs and replacements are located along road cuts and steep slopes within very difficult terrain, which would not suggest that substantial archaeological deposits would be present as well as the potential for buried deposits is considered low.

However, the culvert repairs at the location Cloverdale Road, Site No. 190 (see Figure 3, Sheet 11) would have the highest potential for archaeological deposits due to its location on a stream (Little Butano Creek) and relatively flat, alluvial terrain. The Witter (2006) analysis suggests that this location is underlain by unconsolidated deposits. The proposed actions at this site include to sediment removal from a large box culvert, demolition of existing concrete structures both upstream and downstream of the double box crossing, and channel restoration that would require ground disturbance. As previously discussed in Section 4, approximately 0.25-acres of Site No. 190 were not subject to pedestrian survey. Although the survey of this location was negative, due to the higher sensitivity of this location for both surface and buried archaeological deposits, as well as the overall lack of surface visibility, it is recommended that a qualified archaeologist monitor the ground disturbing activities during the project actions at this location. The monitoring archaeologist will have the authority to discontinue monitoring if the undertaking does not appear to create a mechanism to cause deleterious effects to an unknown archaeological resource.

Based on these results, the Proposed Project will have no adverse effect to historic properties (according to 36 CFR Section 800.4(d)(1)) or an historical resource (per PRC 5024.1(k).

If pre-contact or historic-era materials are encountered during fieldwork, all work in the vicinity should halt until a qualified archaeologist can evaluate the discovery and make recommendations in accordance with 36 CFR Section 800.13(b). Pre-contact materials would most likely include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials might include remains of agricultural implements; stone or concrete footings and walls; and deposits of metal, glass, and/or ceramic refuse.

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered, work must halt in the vicinity of the remains and, as required by law, the San Mateo County coroner must be notified immediately. An archaeologist should also be contacted to evaluate the find. If human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of that determination. Pursuant to California PRC Section 5097.98, the NAHC, in turn, will immediately contact an individual who is most likely descended from the remains (the "Most Likely Descendant"). The Most Likely Descendant has 48 hours from the time access to the finds is granted to inspect the site and recommend treatment of the remains. The landowner is obligated to work with the Most Likely Descendant in good faith to find a respectful resolution to the situation and entertain all reasonable options regarding the Most Likely Descendant's preferences for treatment. The analysis and reporting were carried out by professionals who meet the U.S. Secretary of the Interior's Professional Standards for Archaeology (per Title 48 of the CFR, Section 44716, as amended in 1983).

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Appendix A
Native American Correspondence

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Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

■ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

☐ **General Plan** ☐ **General Plan Element** ☐ **General Plan Amendment**

☐ **Specific Plan** ☐ **Specific Plan Amendment** ☐ **Pre-planning Outreach Activity**

Required Information

Project Title: San Mateo County Wurr Road Culverts Project

Local Government/Lead Agency: San Mateo

Contact Person: Dean Martorana

Street Address: 1 Kaiser Plaza, Suite 340

City: Oakland **Zip:** 94612

Phone: 916-205-6087 **Fax:**

Email: dmartorana@montrose-env.com

Specific Area Subject to Proposed Action

County: San Mateo **City/Community:** Pescadero

Project Description:

The proposed project entails the repair and replacement of various culverts along Pescadero Road.

Additional Request

■ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): La Honda

Township: 7S **Range:** 4W **Section(s):** 26,27,34,4,3

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
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Yokayo Pomo, Yuki, Nomlaki

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Pauma-Yuima Band of Luiseño Indians

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Raymond C. Hitchcock
Miwok, Nisenan

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

June 12, 2024

Dean Martorana
Montrose Environmental

Via Email to: dmartorana@montrose-env.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, San Mateo County Wurr Road Culverts Project, San Mateo County

To Whom It May Concern:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

  All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

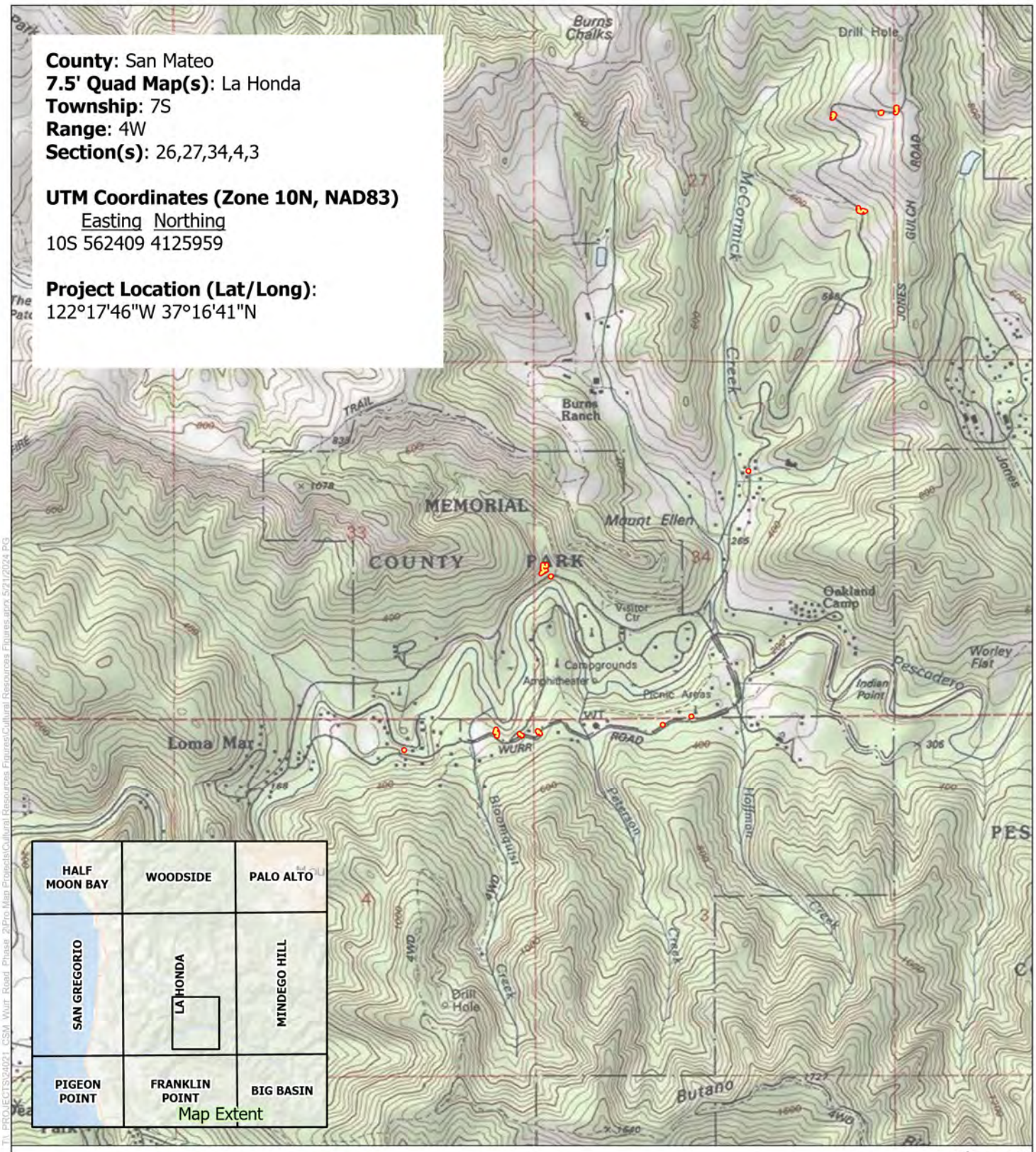


Figure 2
Project Location

MONTROSE ENVIRONMENTAL

County of San Mateo - Wurr Road
Culverts Project

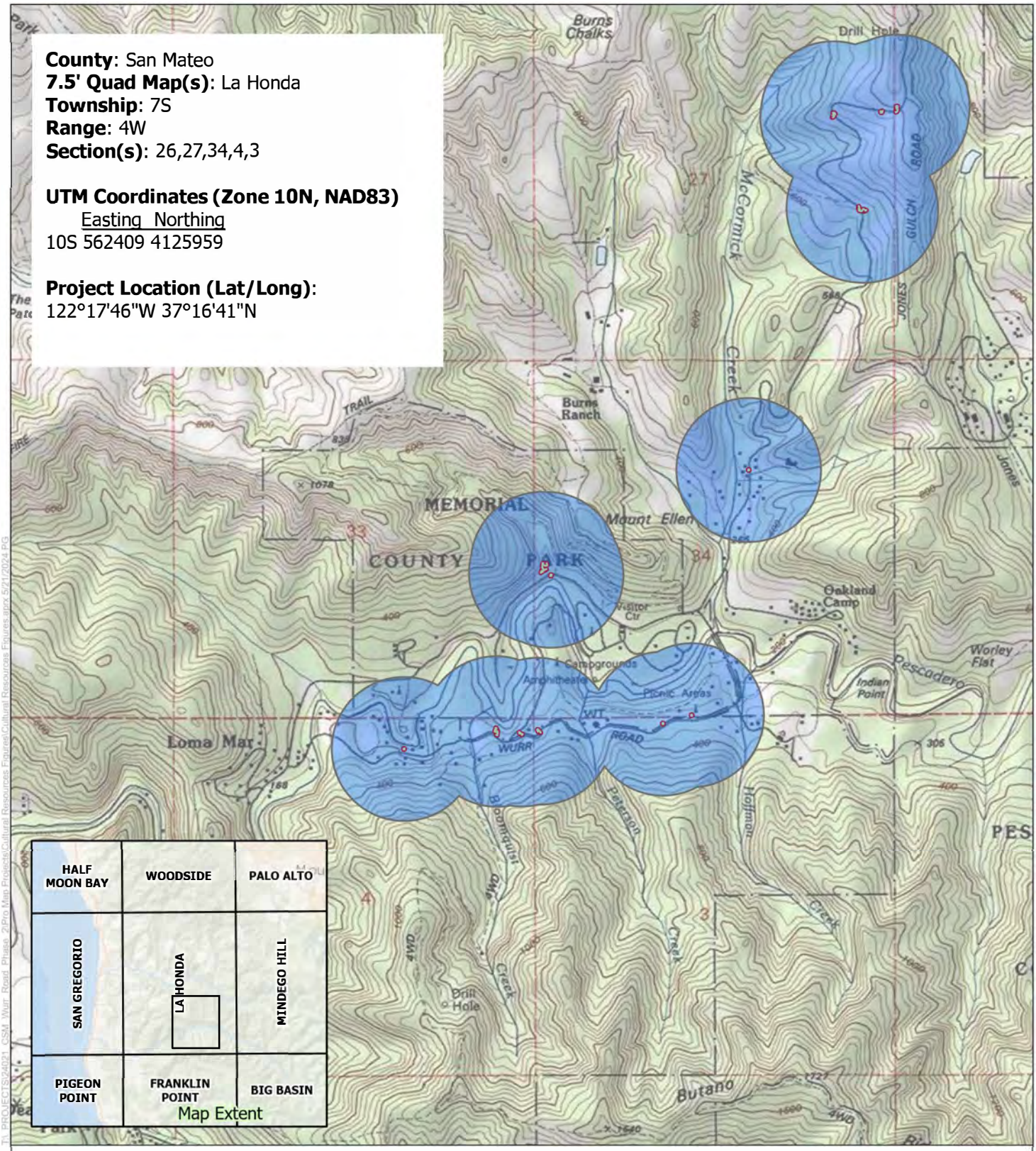


Figure 1 Project Location

MONTROSE ENVIRONMENTAL

County of San Mateo - Wurr Road Culverts Project

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Valentin Lopez, Chairperson

Amah Mutsun Tribal Band

P.O. Box 5272 Galt, CA, 95632

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Valentin Lopez, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

A record search from the Northwest Information Center revealed that no previously recorded pre-contact archaeological resources occur within the proposed culvert repair locations or within the quarter-mile search radius. An archaeological survey was conducted at each location, including an approximately 200-foot buffer, that did not identify any cultural deposits.

A search of the Sacred Lands Files by the Native American Heritage Commission (NAHC) was also conducted for the Project vicinity, which did not identify a sacred site within the vicinity of the project area. The NAHC suggested that local tribes could have information that may not be on file at the NAHC, and your contact information was provided on their List of Native American Contacts for the area as a traditionally and culturally affiliated California Native American tribal representative. We would appreciate hearing any concerns you have regarding tribal cultural resources (as defined by Public Resources Code 21074) within the Project area so that this information can be further incorporated into project planning, and ensure our work avoids impacts to tribal cultural resources. We respectfully request input from you within 30

days of receipt of this letter.

Your comments and concerns are important to us, and we look forward to hearing from you. Please contact me or Sina Oshaghi at (650) 363-4100 if you have any questions. They can also be reached by e-mail at:

wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

F:\Users\design\C3D\E5084000_Wurr Rd and Pescadero Creek Rd Culverts\10 Environmental Permits\Tribal Letter\ Montrose_Tribal Letter_CSM Wurr_Pescadero_Cloverdale Road Culvert Repair.DOCX

Enclosures: Figure 1 - Location Map

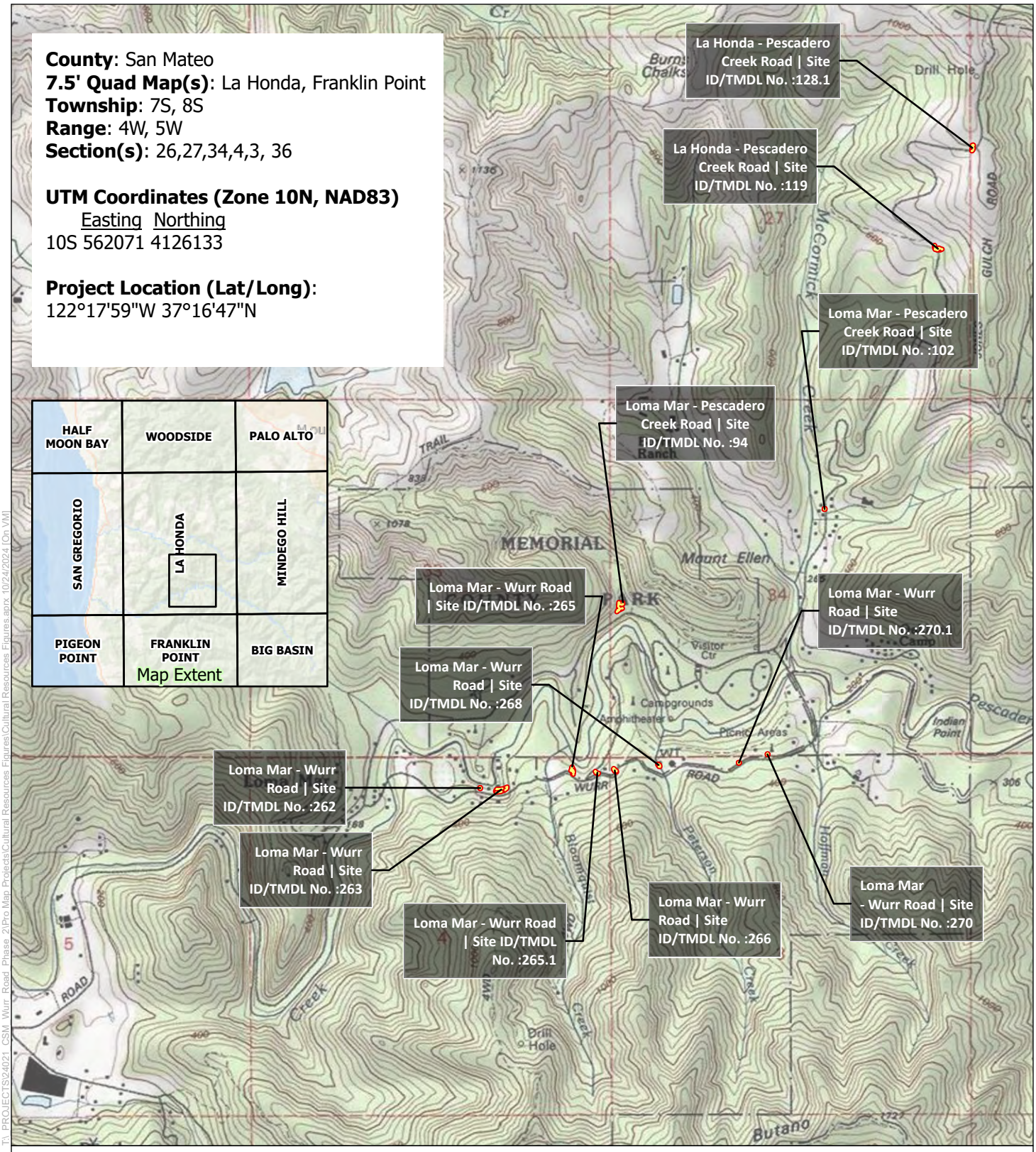
Cc: Krzysztof Lisaj, Deputy Director, Engineering and Resource Protection
Carter Choi, Principal Civil Engineer, Engineering and Construction
Sina Oshaghi, Associate Engineer, Project Development and Design
Julie Casagrande, Natural Resource Manager, Utilities
Melia Green, Natural Resource Specialist, Utilities

County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562071	4126133

Project Location (Lat/Long):
122°17'59"W 37°16'47"N



T:_PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 (On VM)

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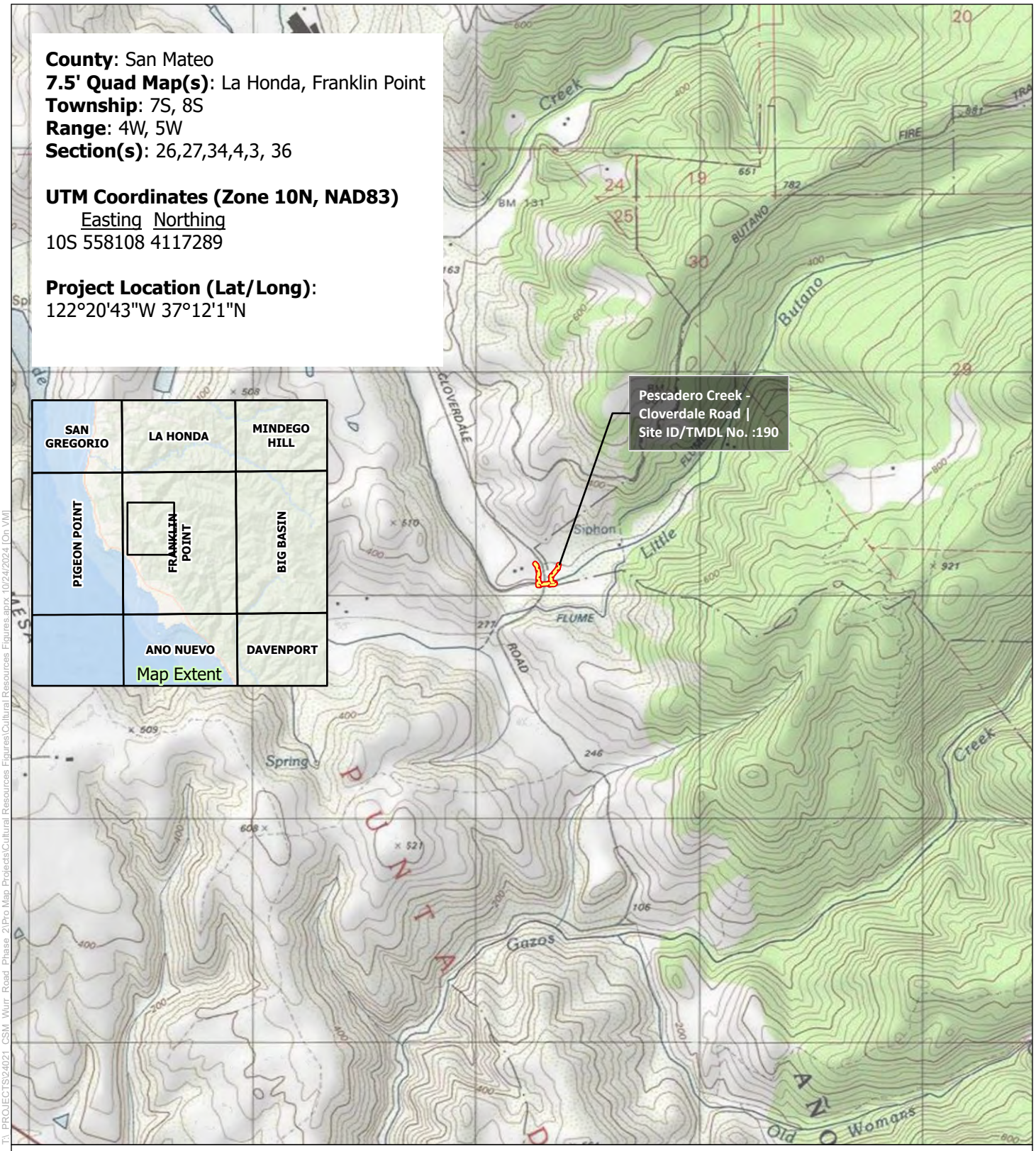
Project Areas

USGS Quad Index

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



T:\PROJECTS\2021 CSM Wurr Road Phase 2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 [On VM]

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Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Irene Zwierlein, Chairperson

Amah MutsunTribal Band of Mission San Juan Bautista

3030 Soda Bay Road Lakeport, CA, 95453

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Irene Zwierlein, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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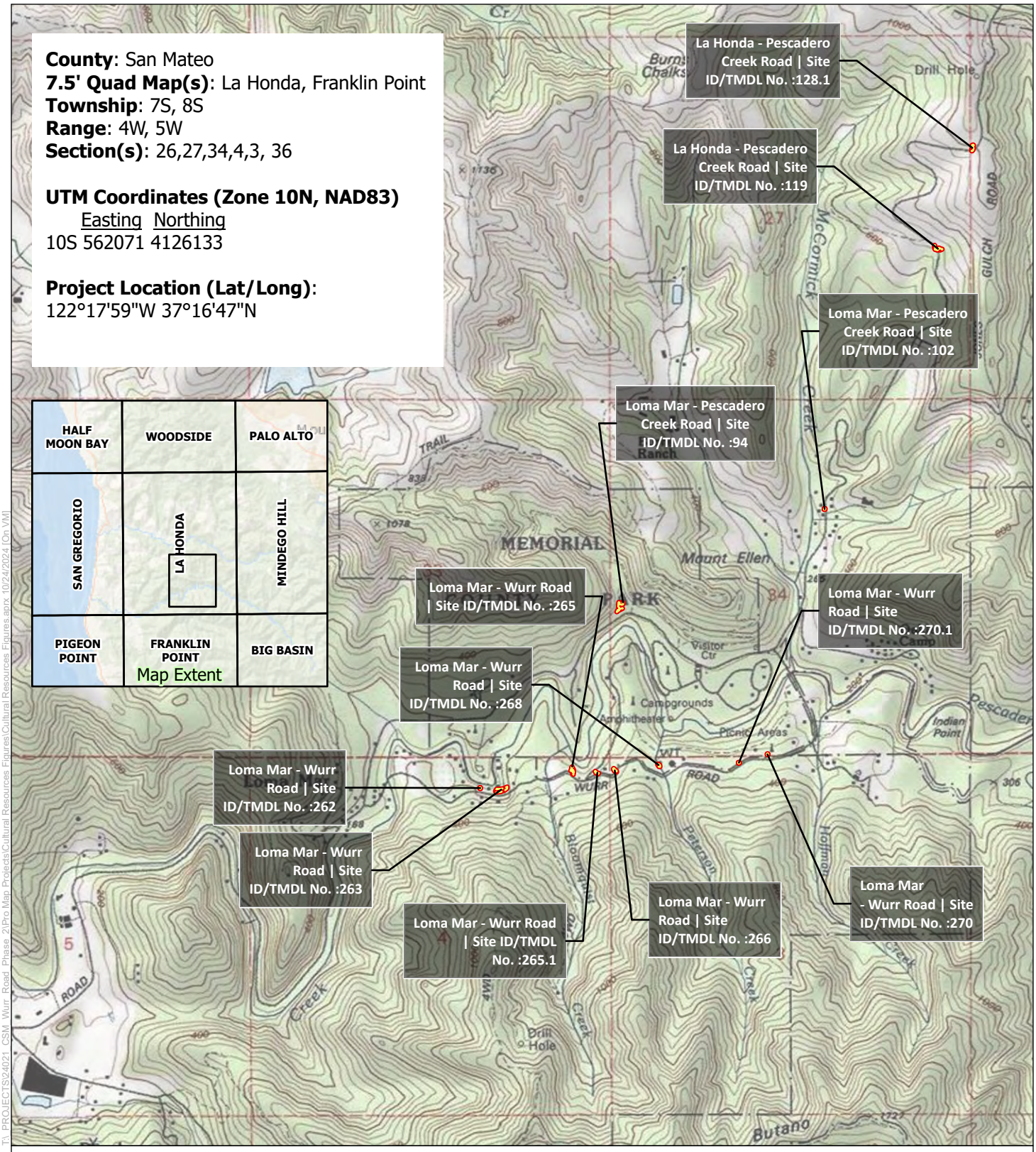
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Carter Choi, Principal Civil Engineer, Engineering and Construction
Sina Oshaghi, Associate Engineer, Project Development and Design
Julie Casagrande, Natural Resource Manager, Utilities
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County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
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Project Location (Lat/Long):
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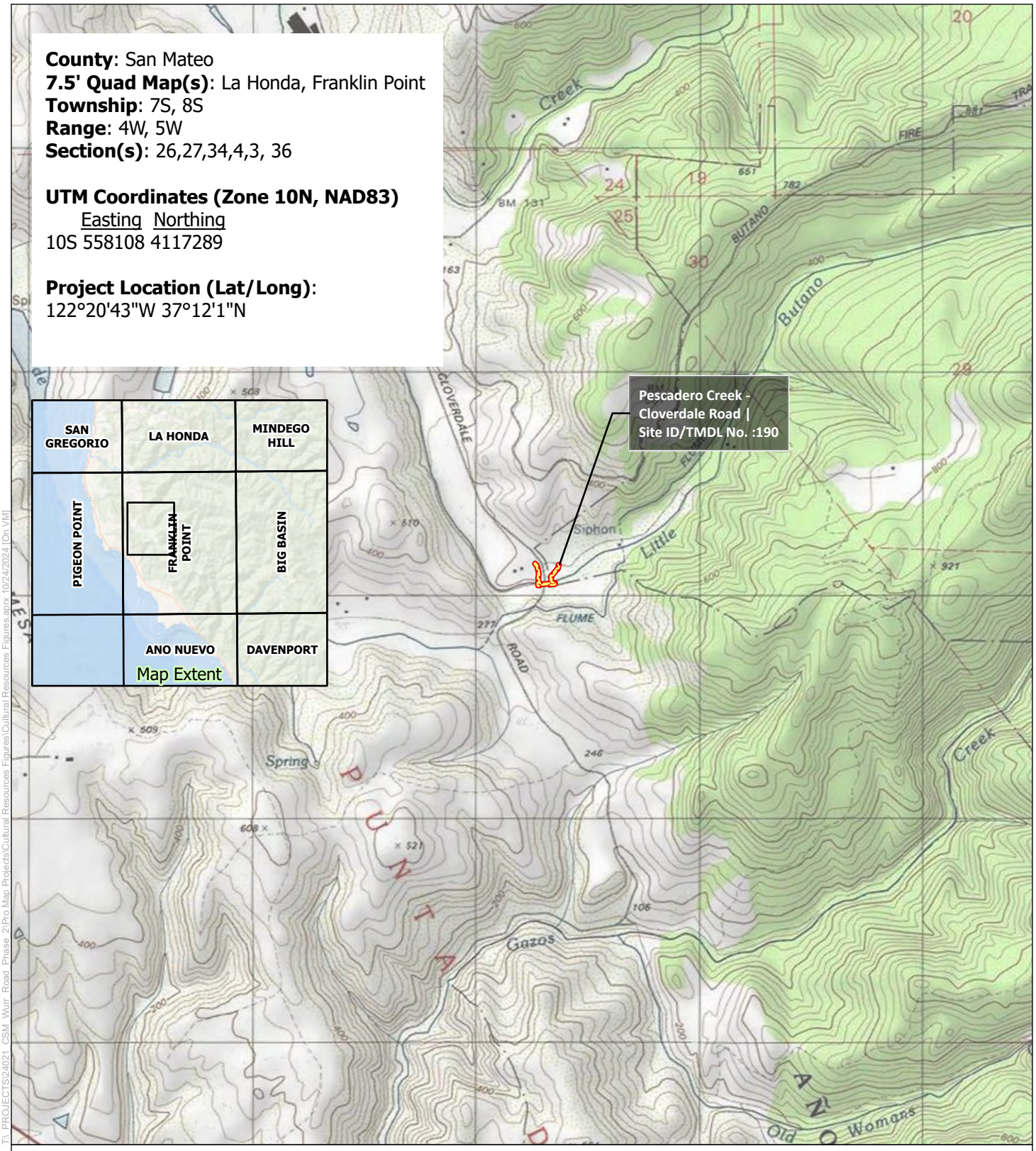
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MONTROSE ENVIRONMENTAL



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Ann M. Stillman
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www.smcgov.org

October 28, 2024

Carla Munoz, Tribal Council

Costanoan Rumsen Carmel Tribe

P.O. BOX 29352 SAN FRANCISCO CA 94129

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Carla Munoz, Tribal Council,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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Carter Choi, Principal Civil Engineer, Engineering and Construction
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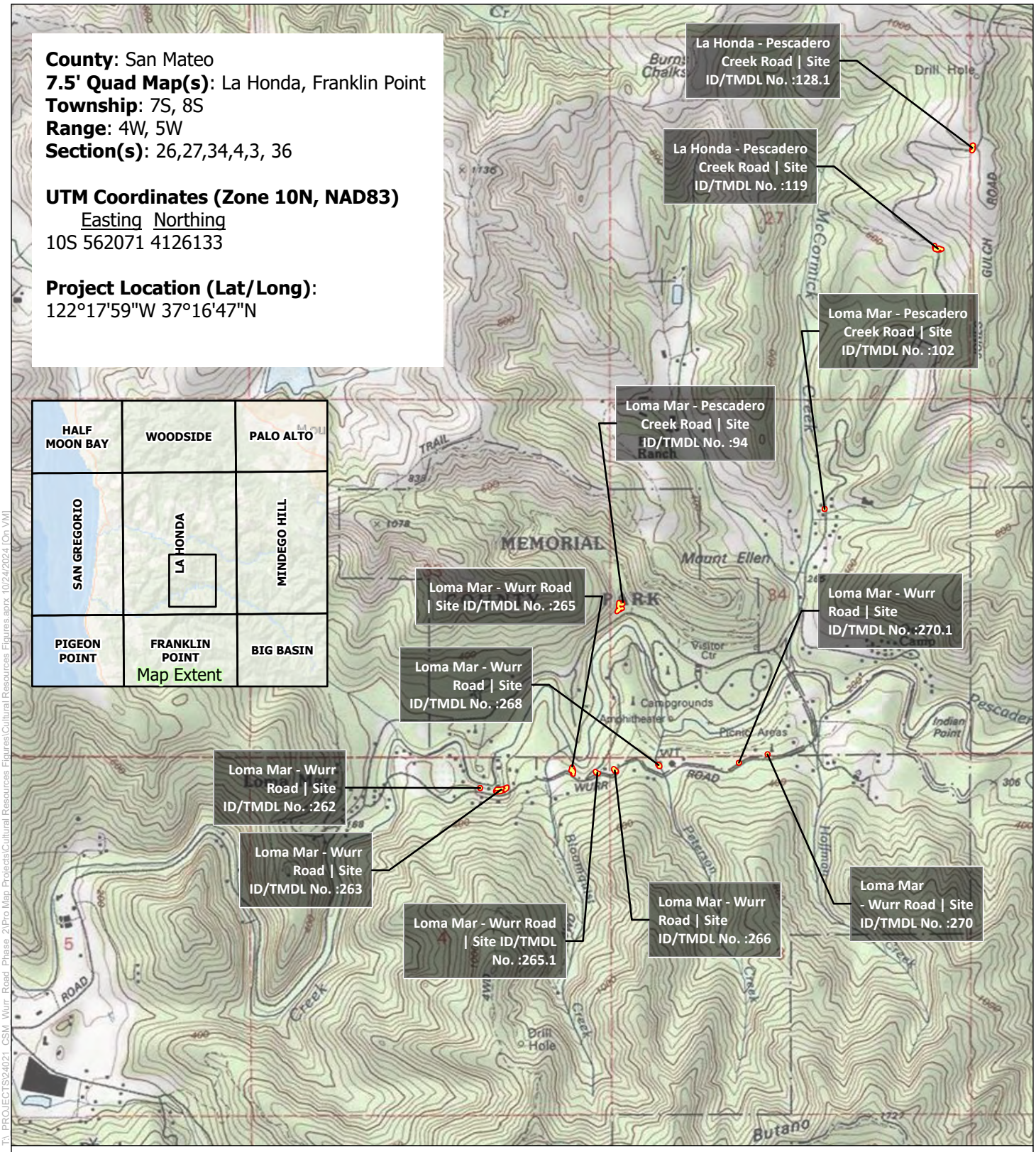
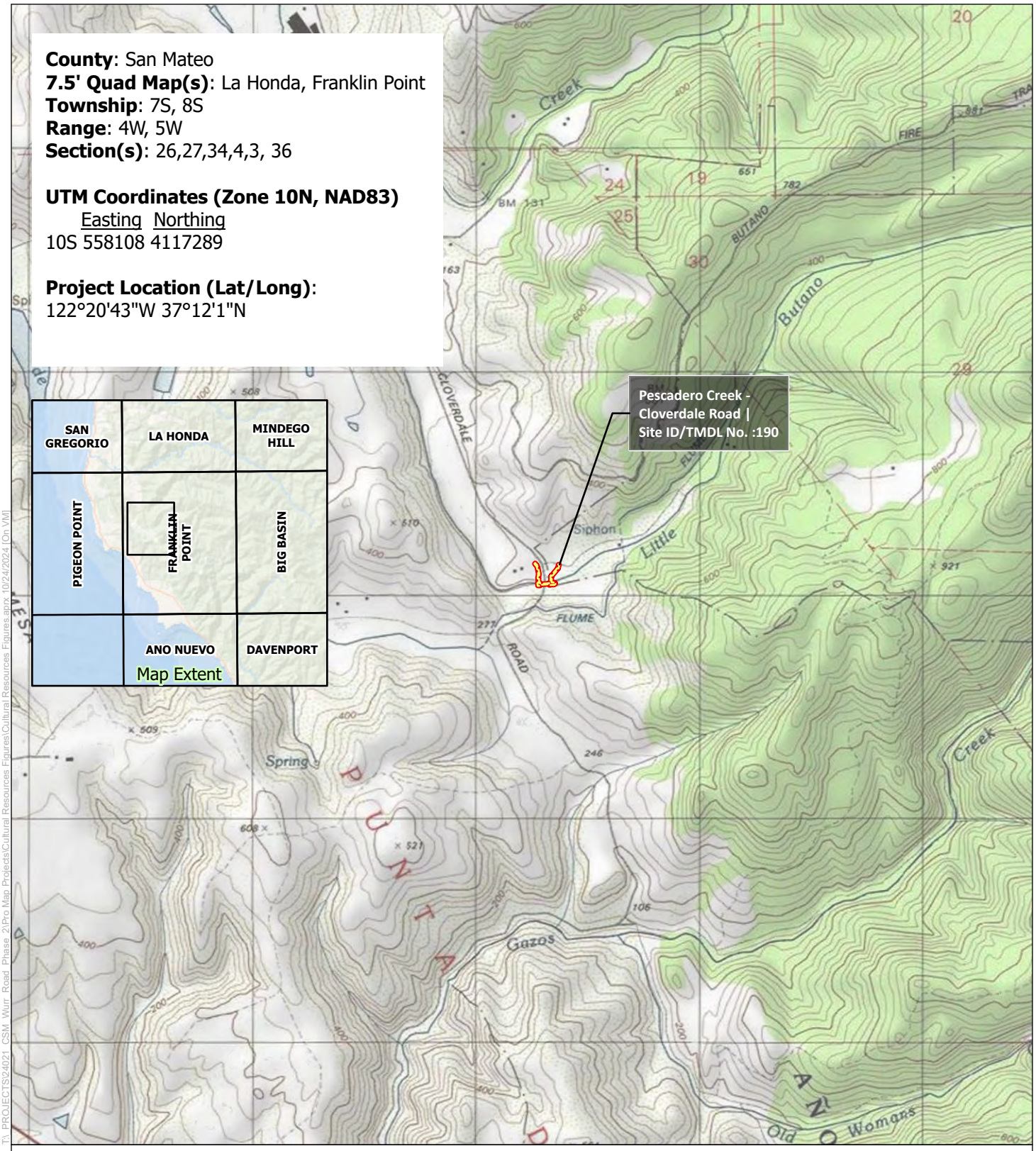


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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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Ann M. Stillman
Director

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www.smcgov.org

October 28, 2024

Desiree Munoz, Tribal Liaison

Costanoan Rumsen Carmel Tribe

P.O. BOX 29352 SAN FRANCISCO CA 94129

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Desiree Munoz, Tribal Liaison,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
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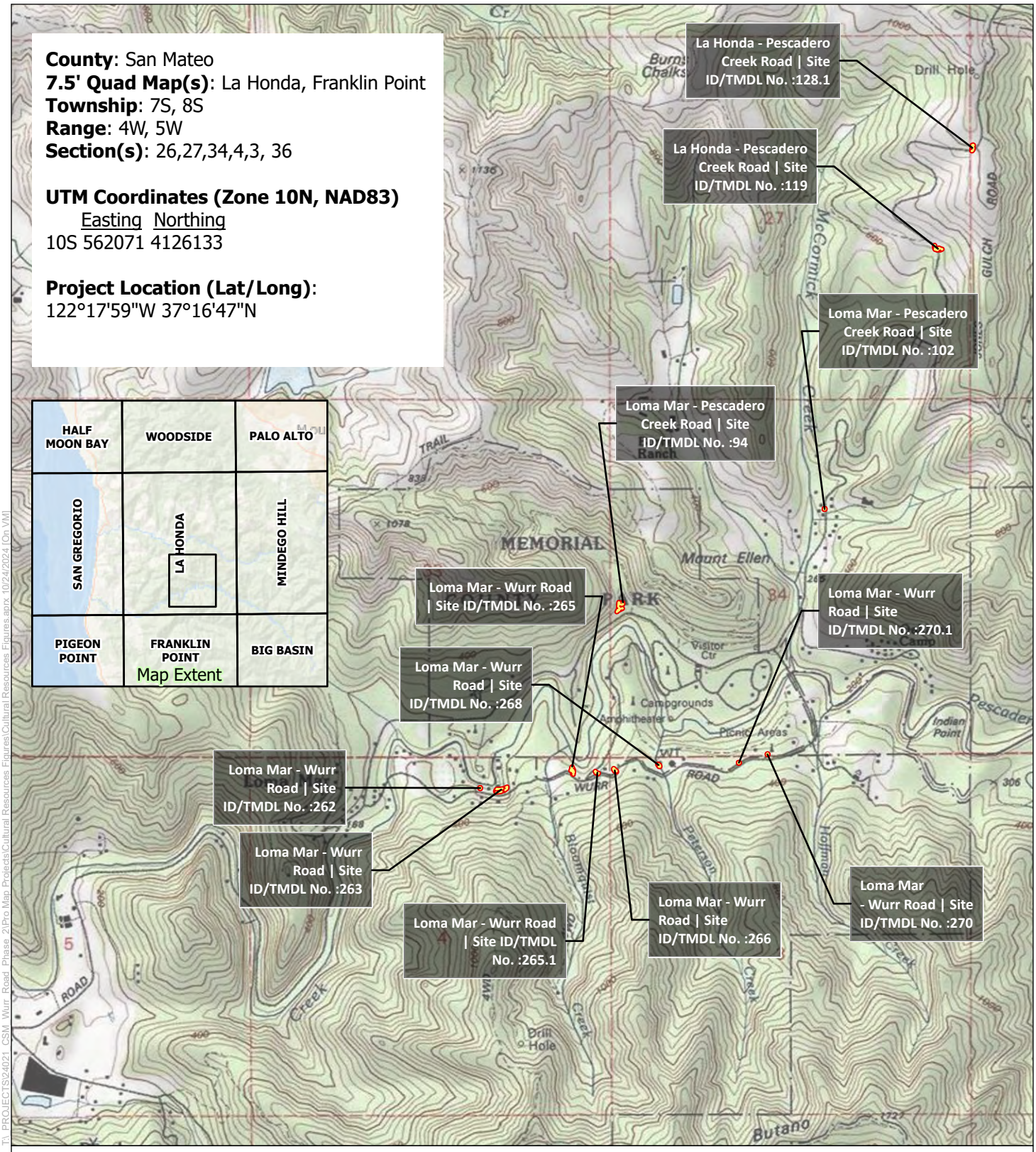
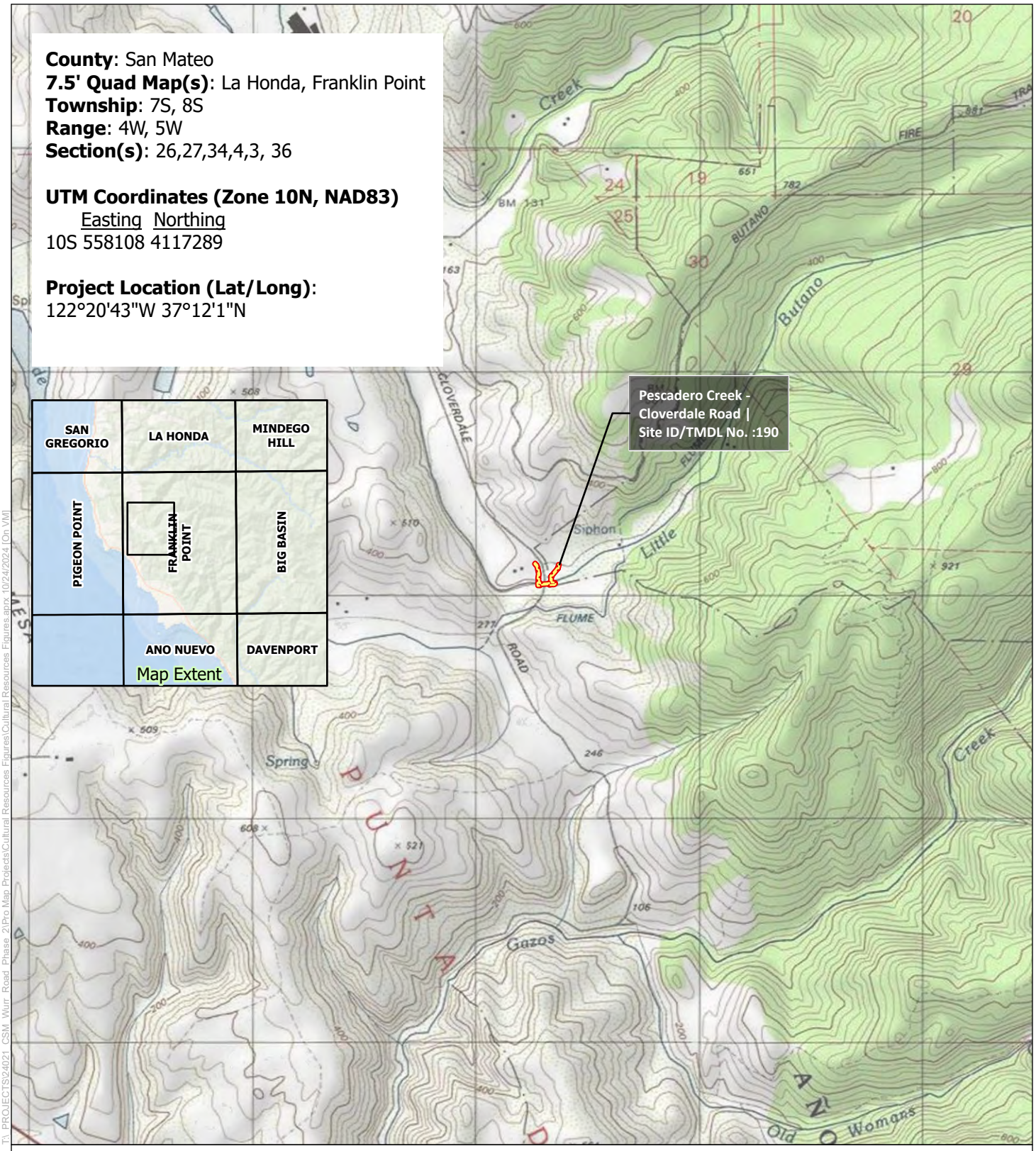


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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

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650-361-8220 F
www.smcgov.org

October 28, 2024

Henry Muñoz

Costanoan Rumsen Carmel Tribe

P.O. BOX 29352 SAN FRANCISCO CA 94129

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Henry Muñoz,

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Sincerely,



Wency Ng
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Department of Public Works

WN:SO

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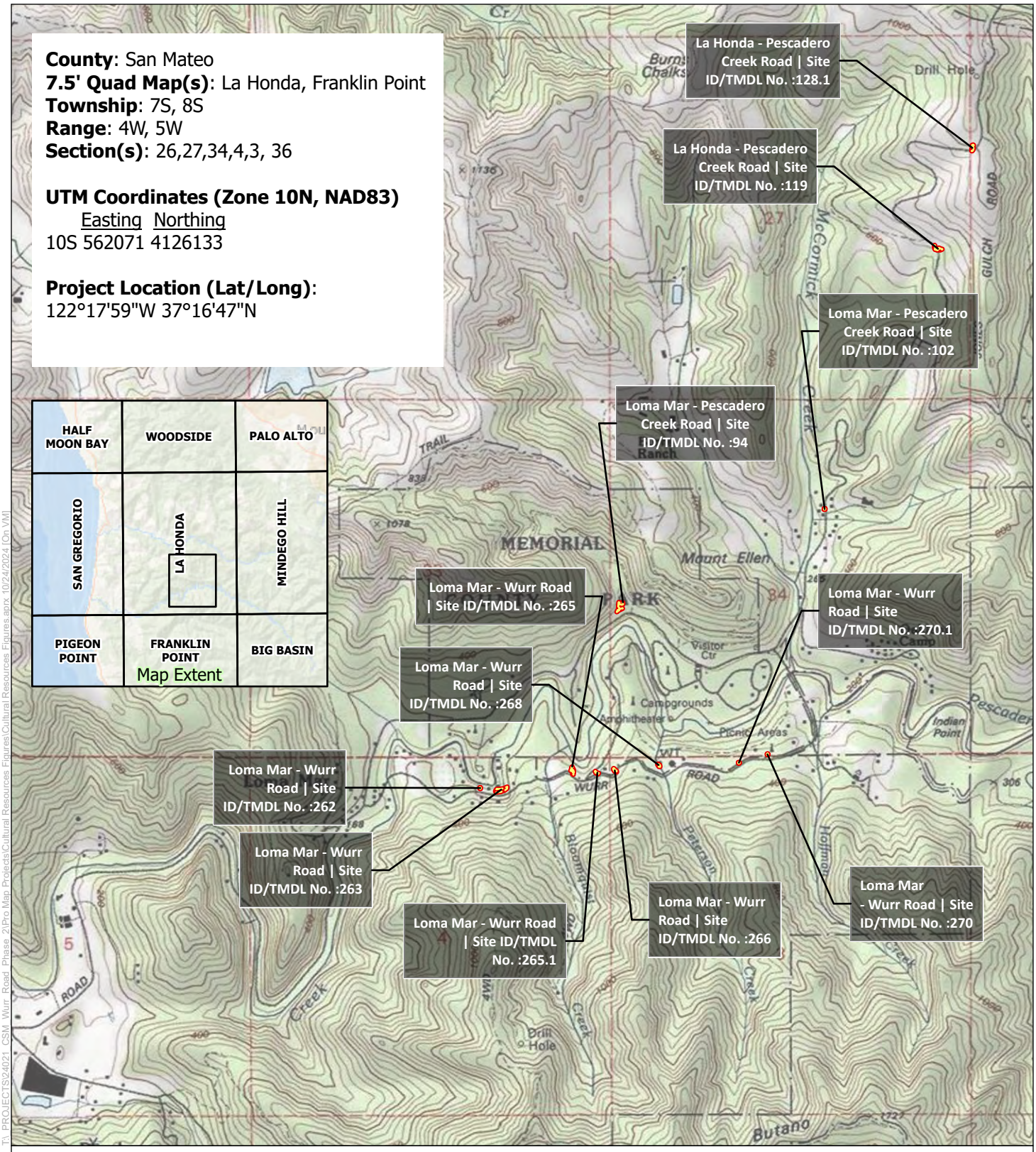
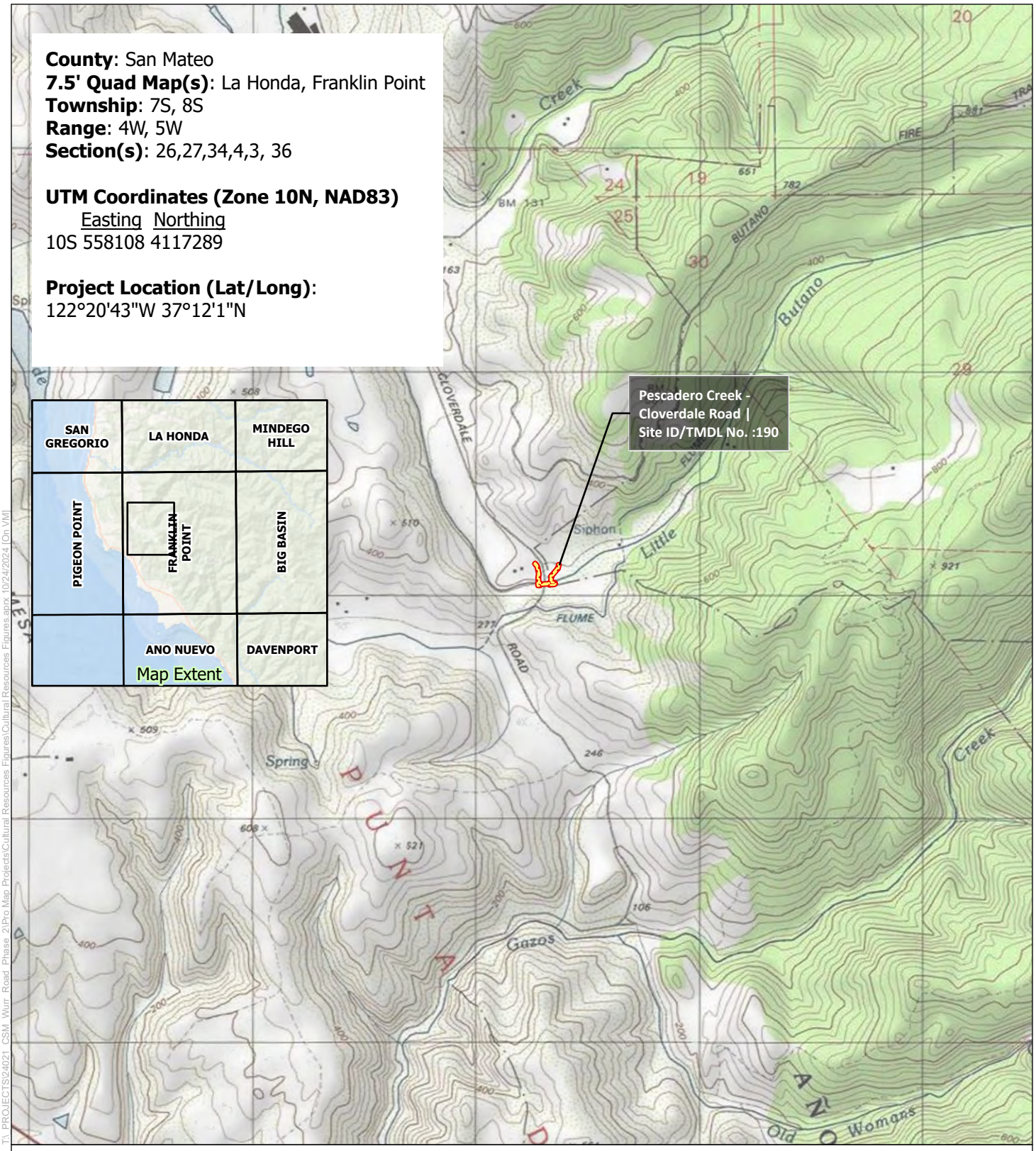


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650-363-4100 T
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October 28, 2024

Samuel Rodriguez

Costanoan Rumsen Carmel Tribe

P.O. BOX 29352 SAN FRANCISCO CA 94129

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Samuel Rodriguez,

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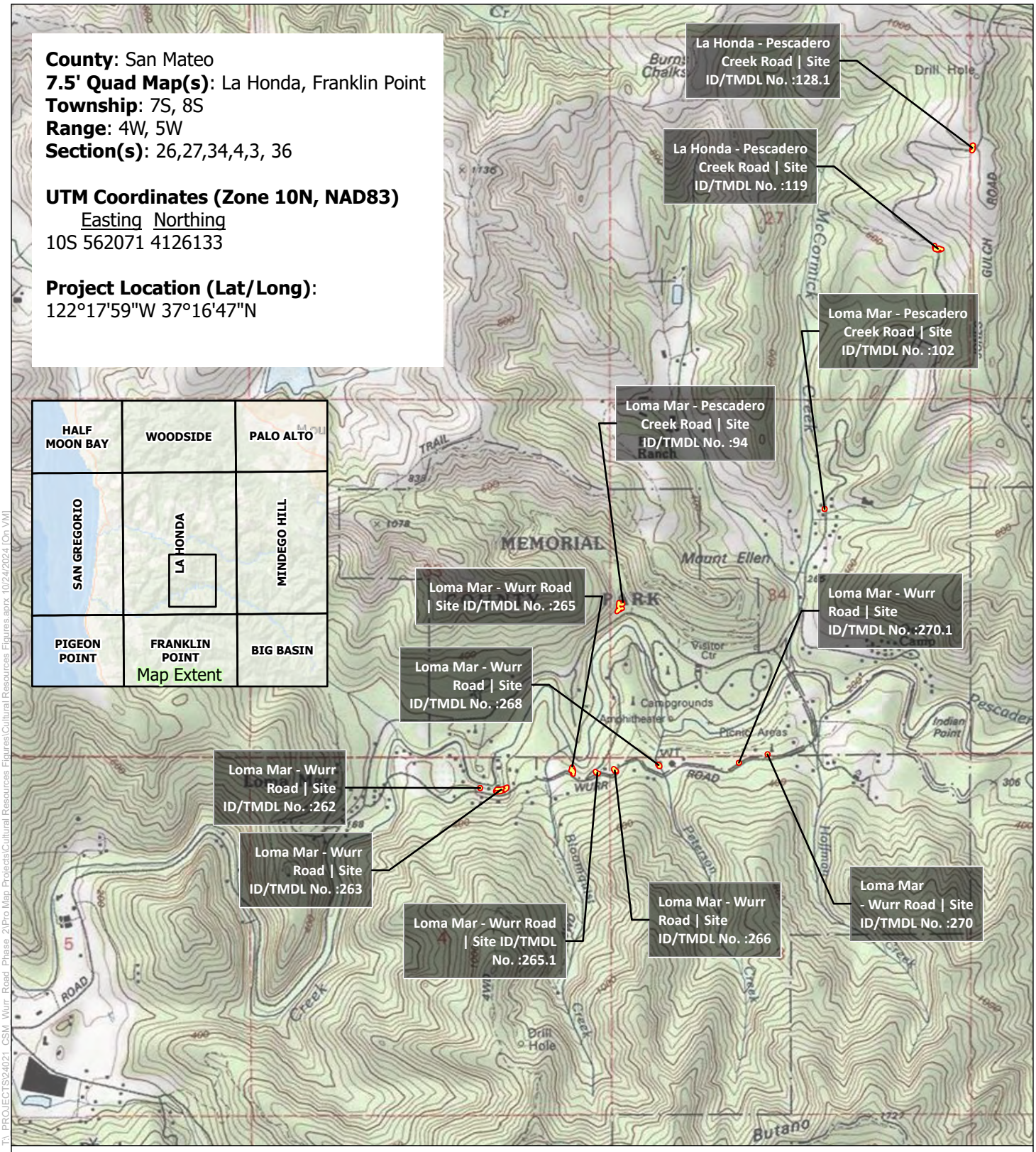
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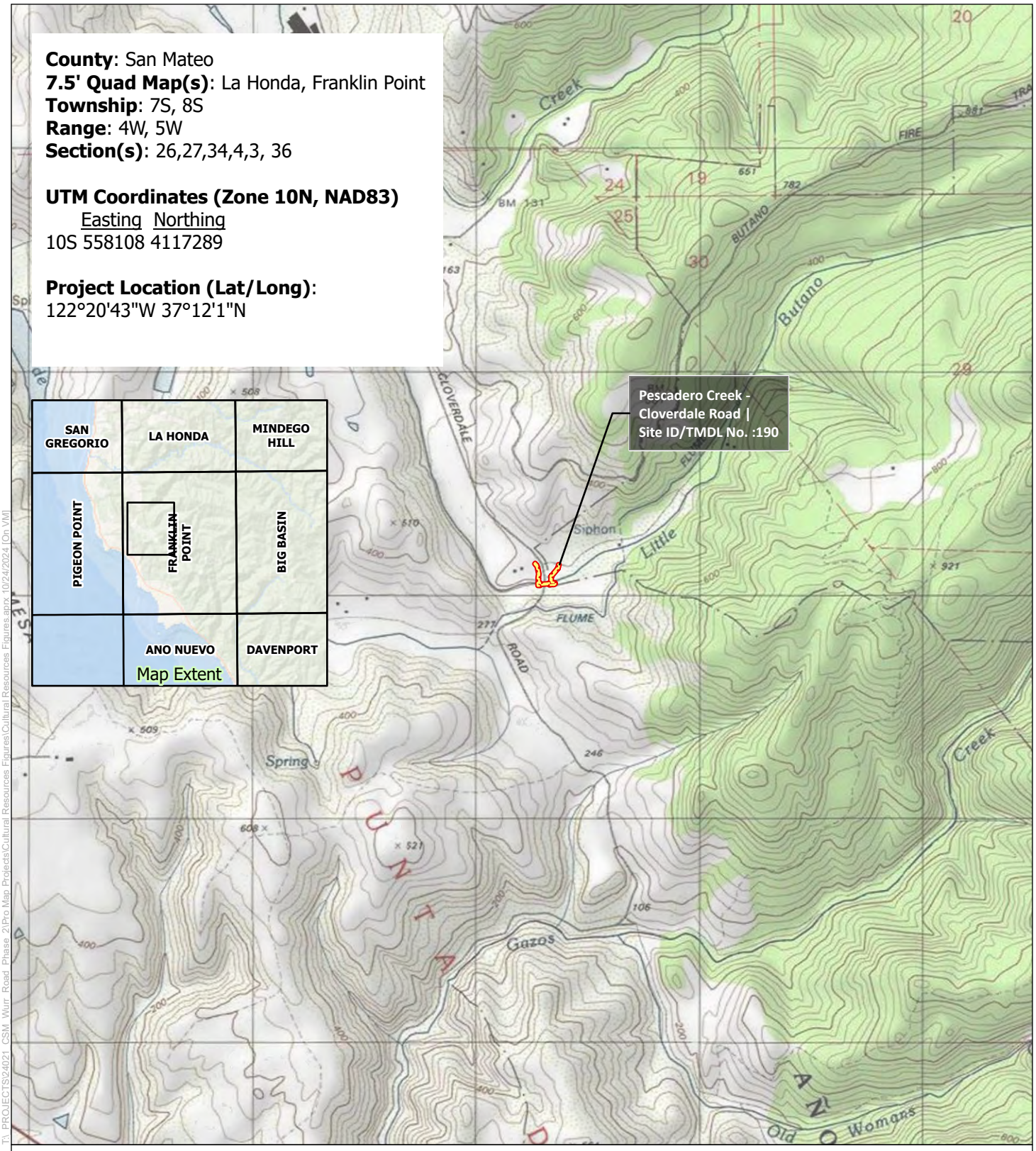
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October 28, 2024

Kanyon Sayers-Roods, MLD Contact

Indian Canyon Mutsun Band of Costanoan

1615 Pearson Court San Jose, CA, 95122

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Kanyon Sayers-Roods, MLD Contact,

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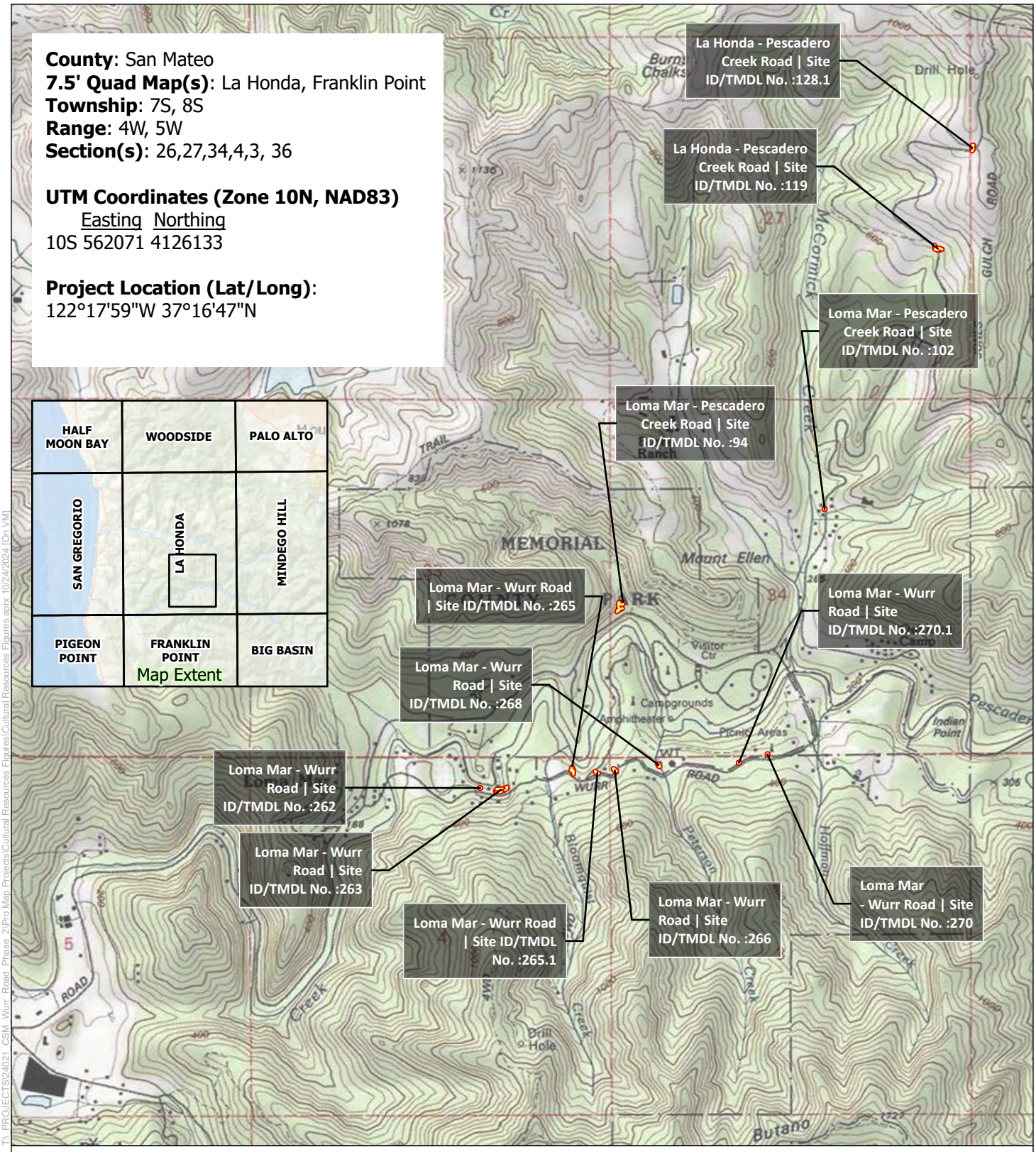
Cc: Krzysztof Lisaj, Deputy Director, Engineering and Resource Protection
Carter Choi, Principal Civil Engineer, Engineering and Construction
Sina Oshaghi, Associate Engineer, Project Development and Design
Julie Casagrande, Natural Resource Manager, Utilities
Melia Green, Natural Resource Specialist, Utilities

County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562071	4126133

Project Location (Lat/Long):
122°17'59"W 37°16'47"N



T:_PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 (On VM)

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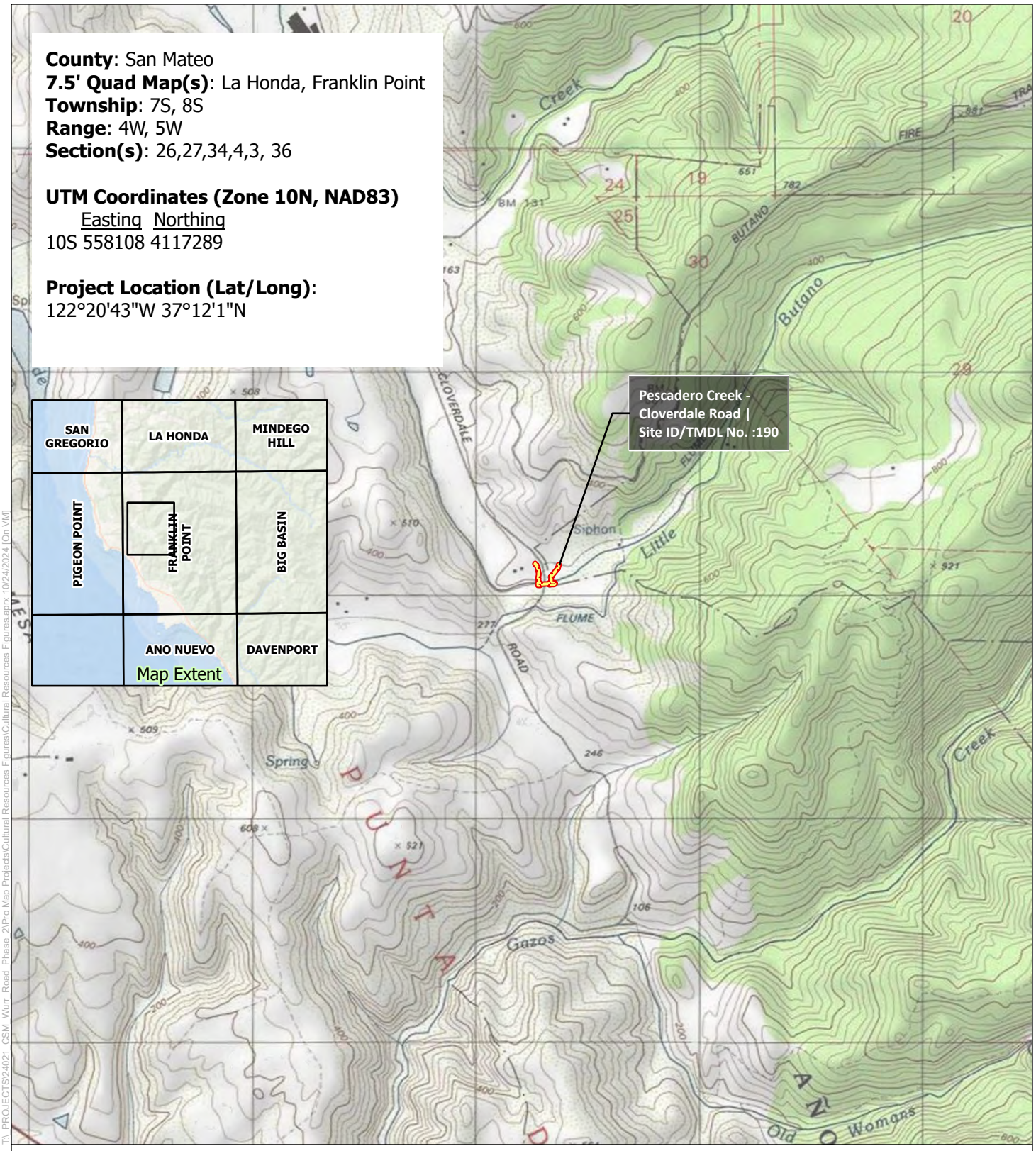
Project Areas

USGS Quad Index

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



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Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Ann Marie Sayers, Chairperson

Indian Canyon Mutsun Band of Costanoan

P.O. Box 28 Hollister, CA, 95024

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Ann Marie Sayers, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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days of receipt of this letter.

Your comments and concerns are important to us, and we look forward to hearing from you. Please contact me or Sina Oshaghi at (650) 363-4100 if you have any questions. They can also be reached by e-mail at:

wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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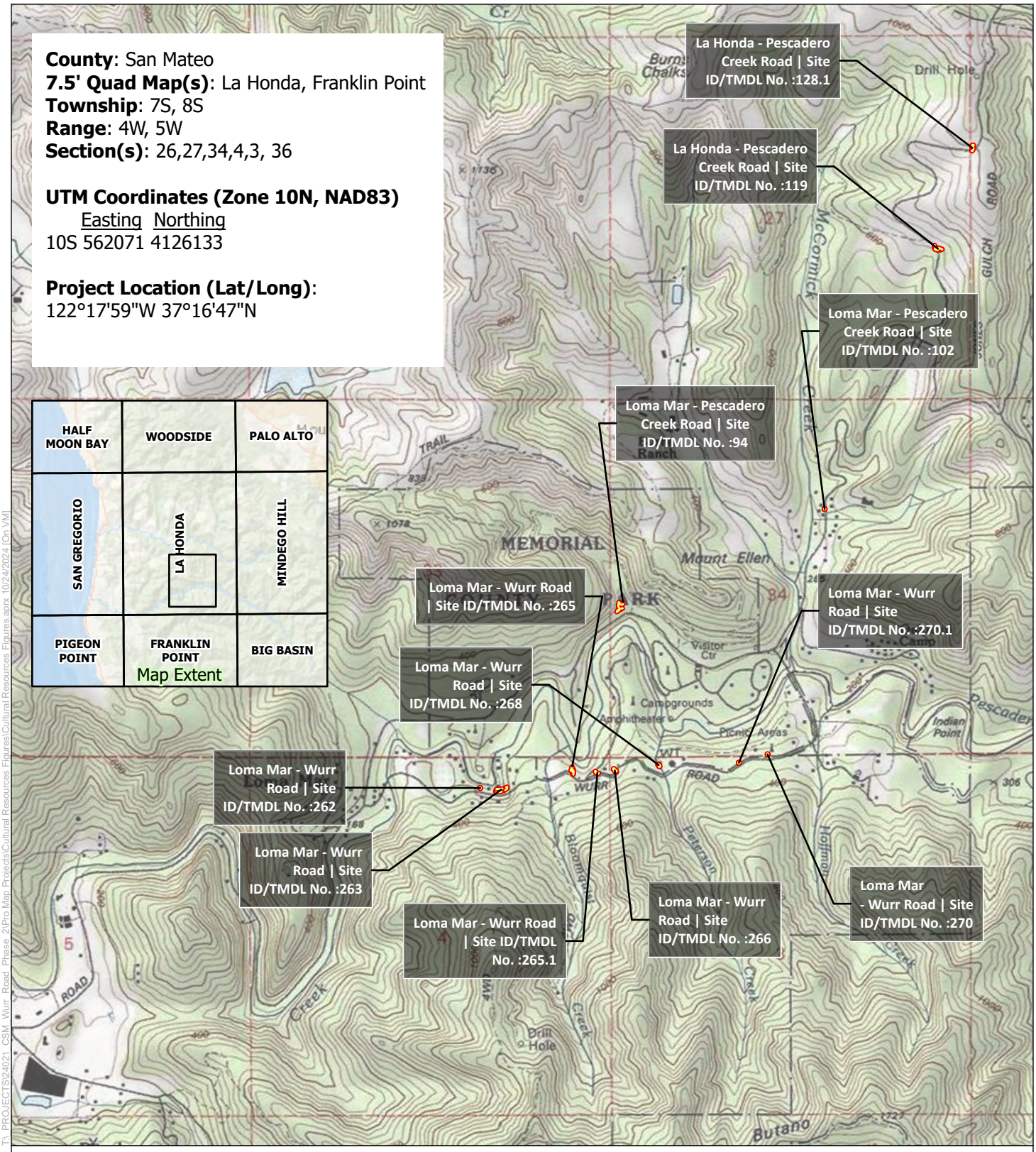
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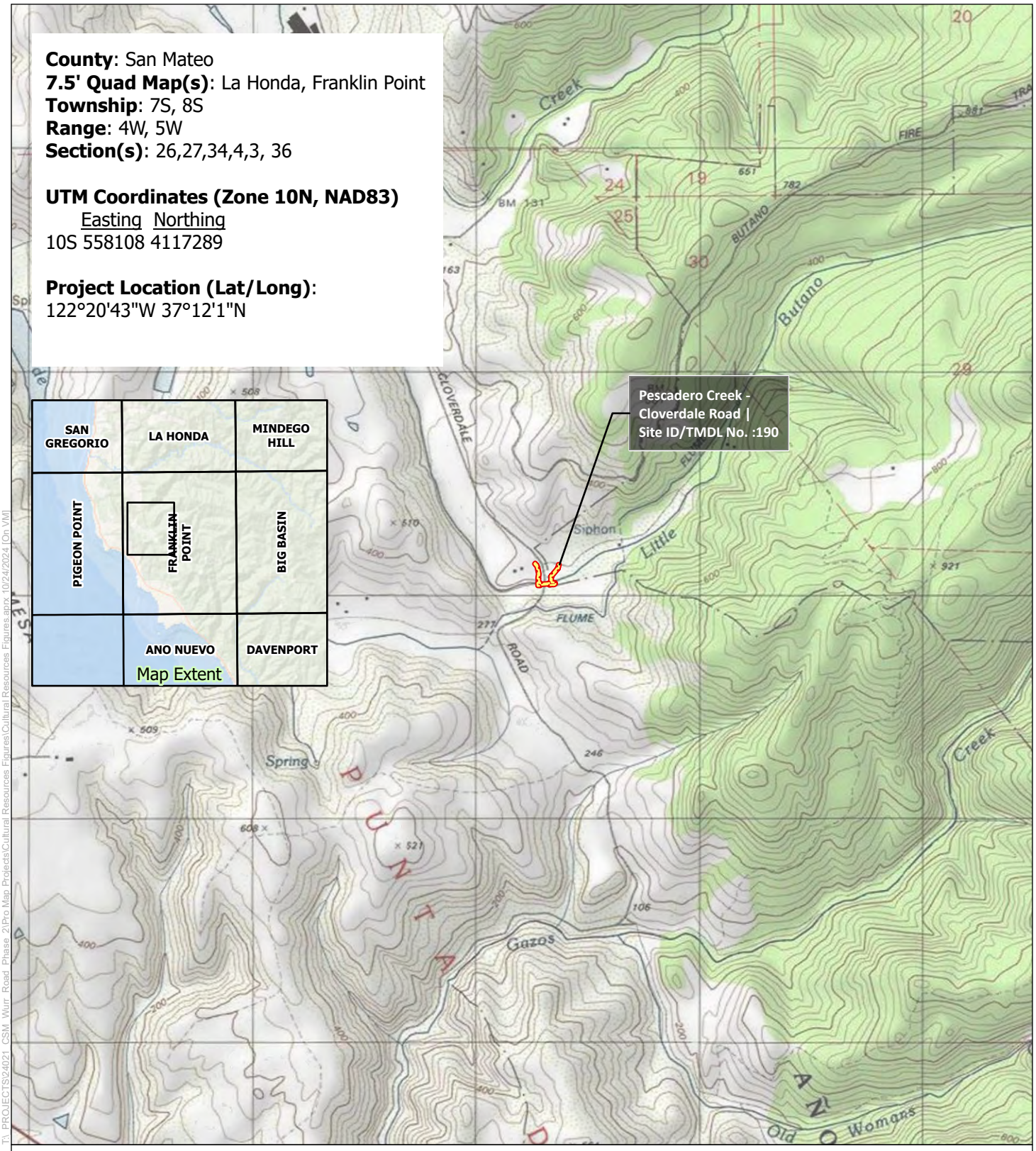
Project Areas

USGS Quad Index

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Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



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Figure 1
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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
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650-361-8220 F
www.smcgov.org

October 28, 2024

Charlene Nijmeh, Chairperson

Muwekma Ohlone Tribe of the SF Bay Area

1169 S. Main Street, Ste. 336 Manteca, CA, 95377

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Charlene Nijmeh, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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days of receipt of this letter.

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wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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Carter Choi, Principal Civil Engineer, Engineering and Construction
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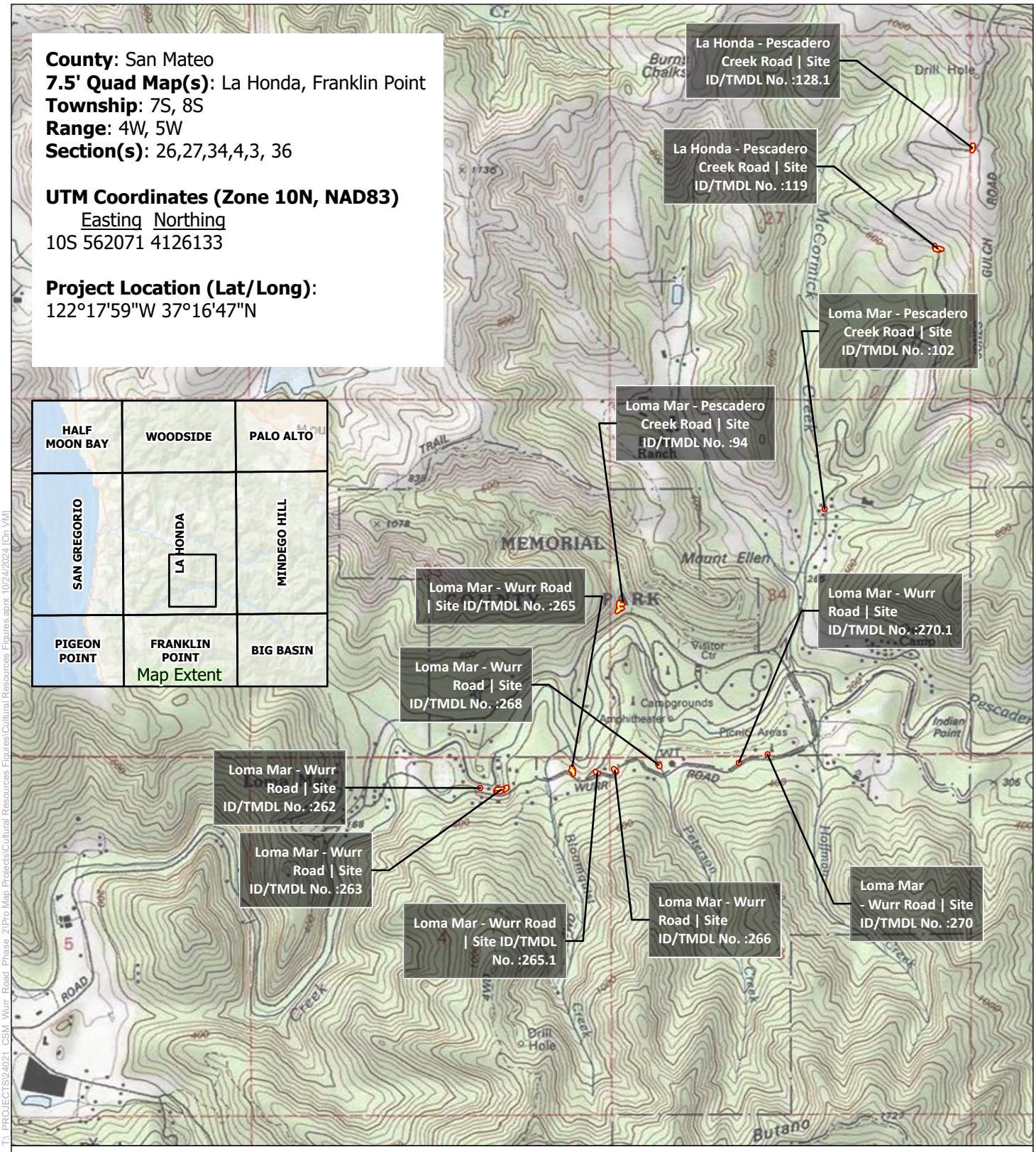
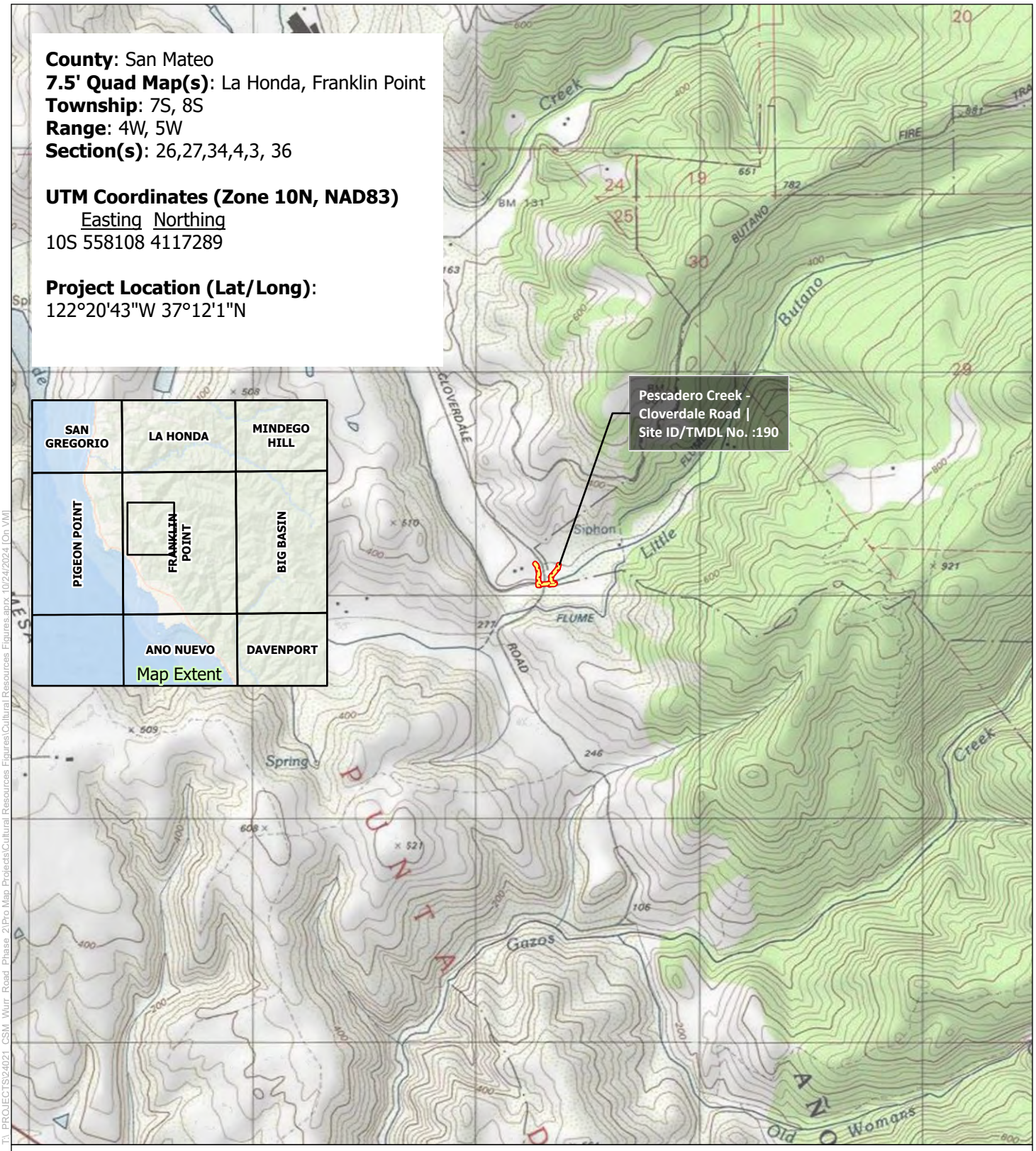


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Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

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www.smcgov.org

October 28, 2024

Richard Massiatt, Councilmember/MLD Tribal Rep.

Muwekma Ohlone Tribe of the SF Bay Area

1169 S. Main Street, Ste. 336 Manteca, CA, 95377

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Richard Massiatt, Councilmember/MLD Tribal Rep.,

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wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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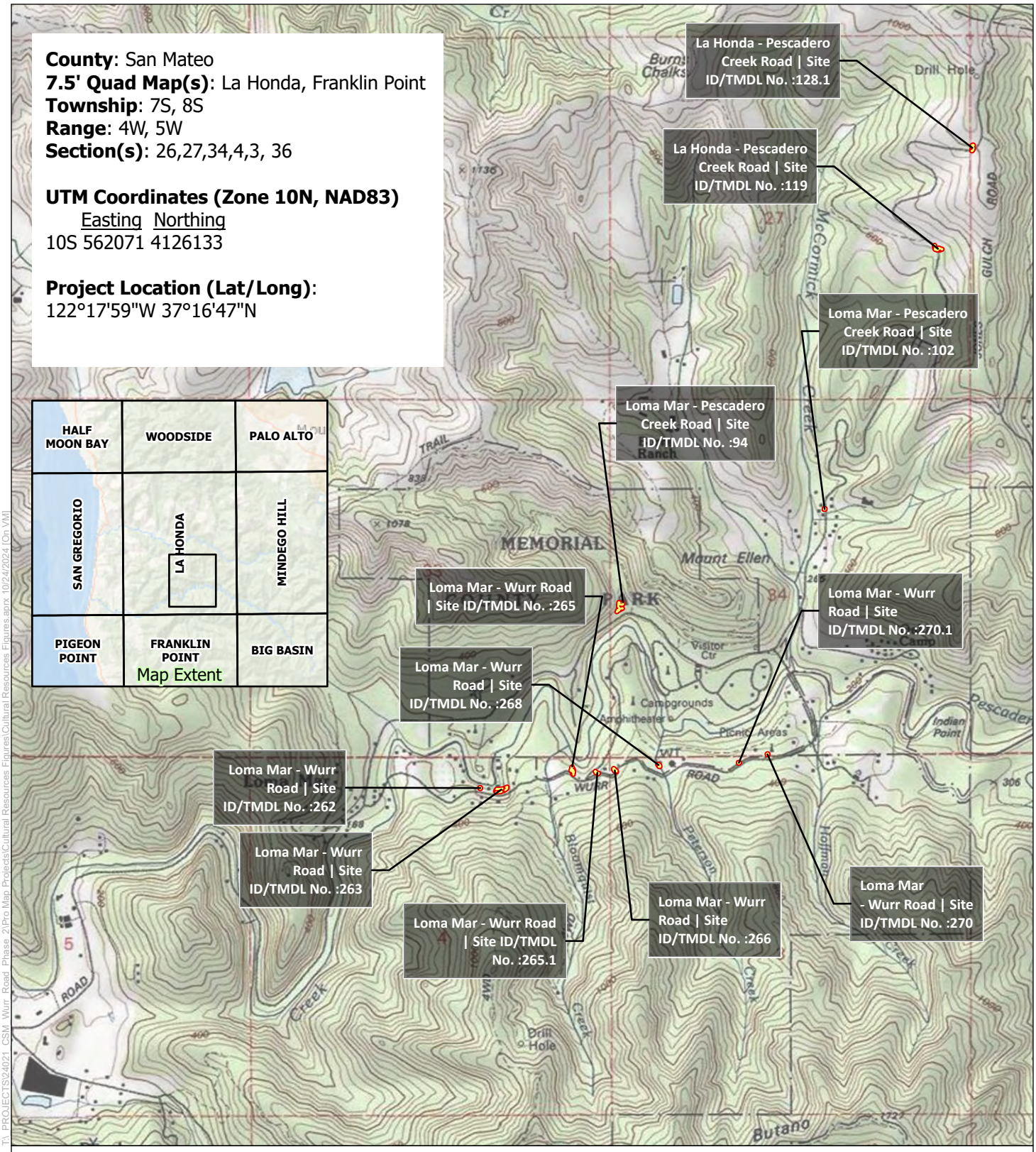
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UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
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Project Location (Lat/Long):
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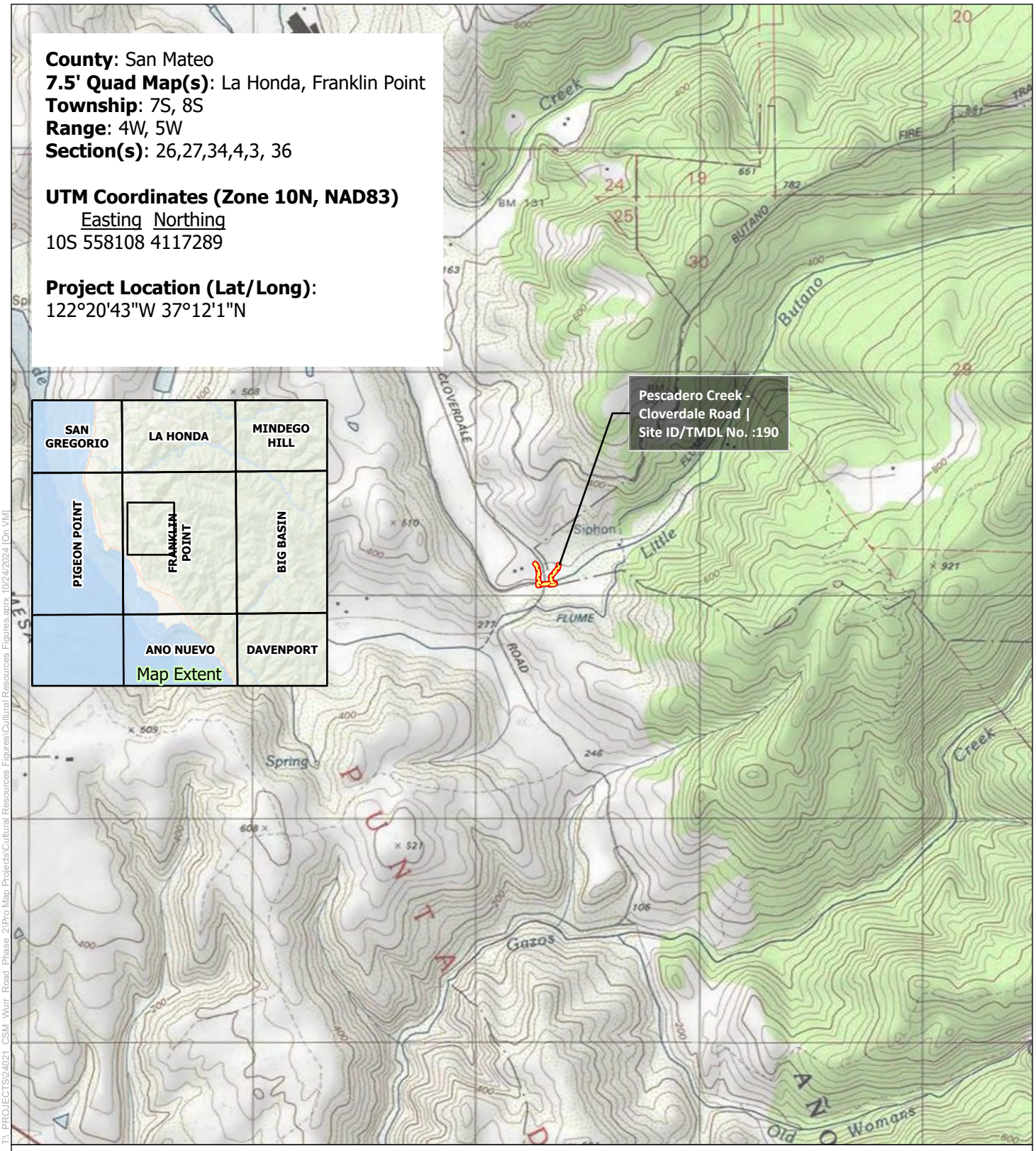
Project Areas

USGS Quad Index

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



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Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Andrew Galvan, Chairperson

The Ohlone Indian Tribe

P.O. Box 3388 Fremont, CA, 94539

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Andrew Galvan, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

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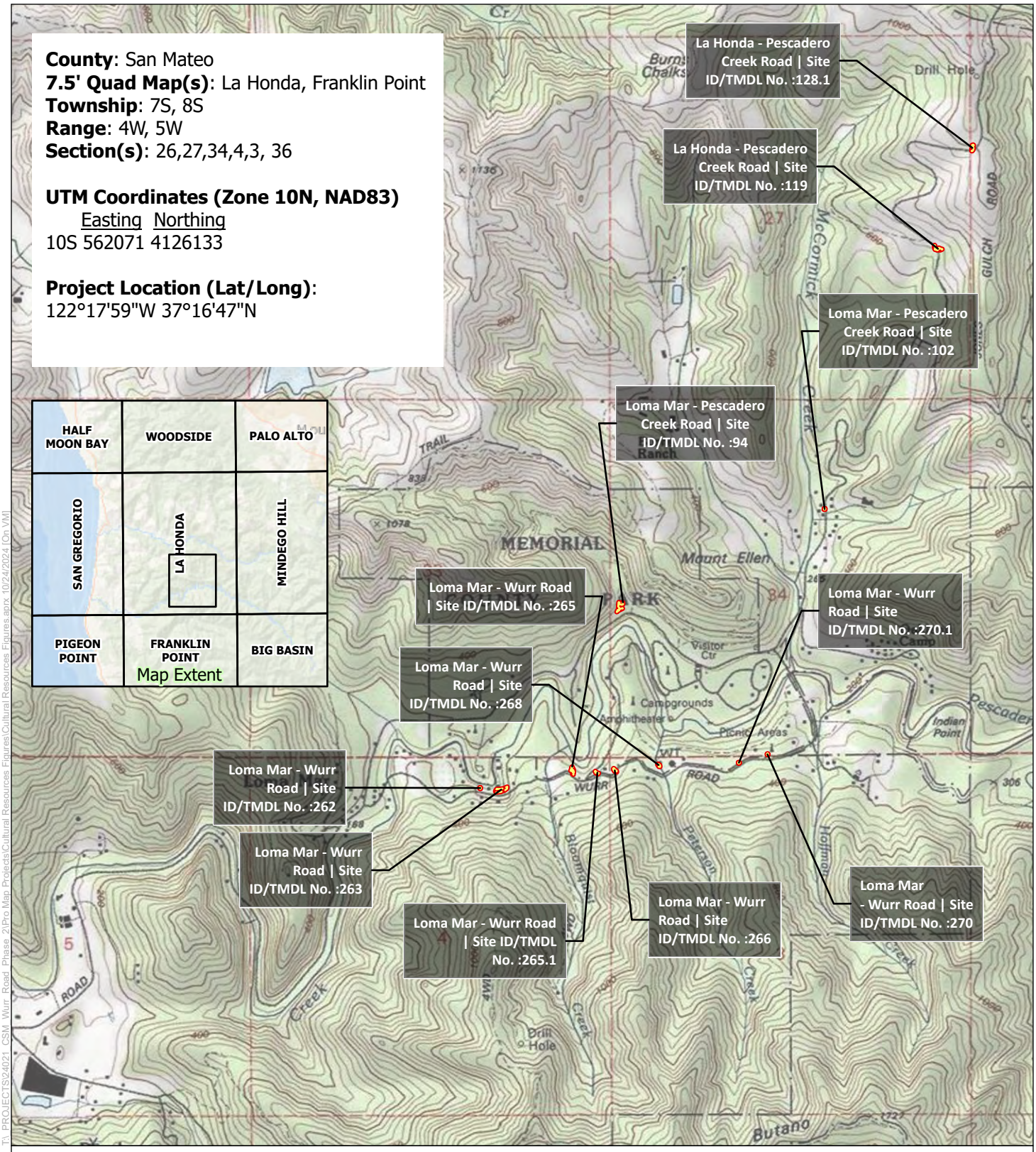
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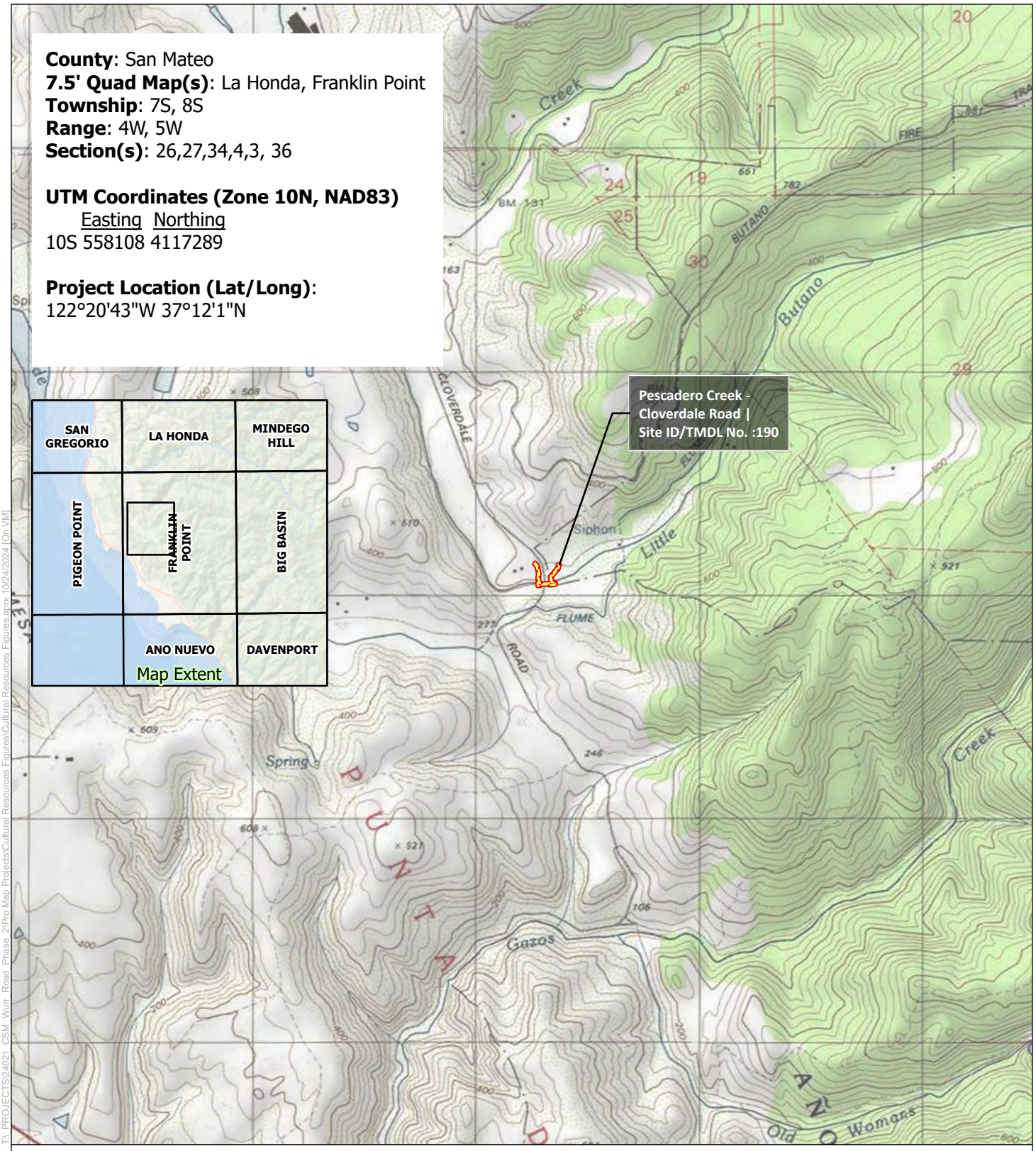
Project Areas

USGS Quad Index

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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

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555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Desiree Vigil, THPO

The Ohlone Indian Tribe

259 Winwood Avenue Pacifica, CA, 94044

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Desiree Vigil, THPO,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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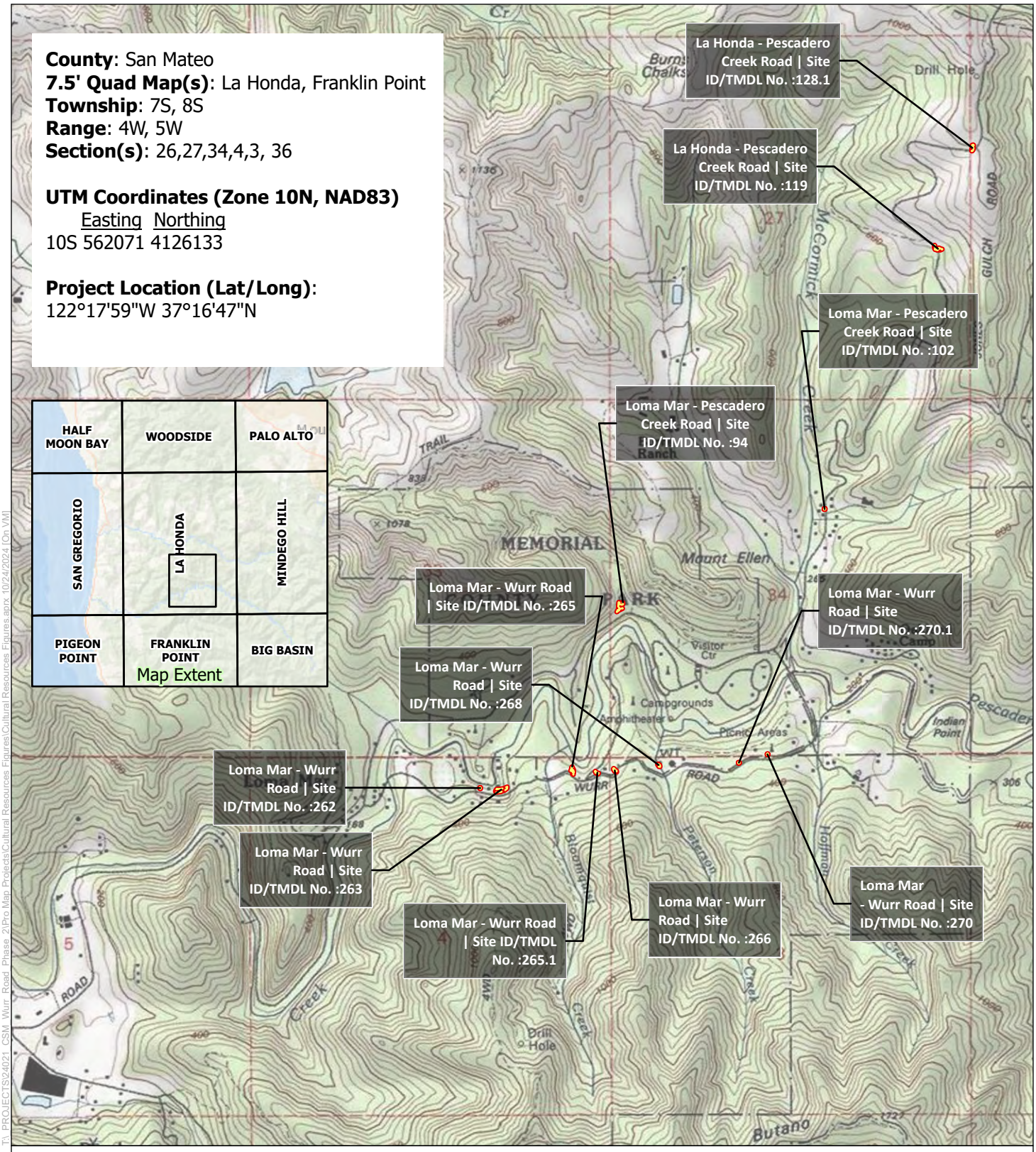
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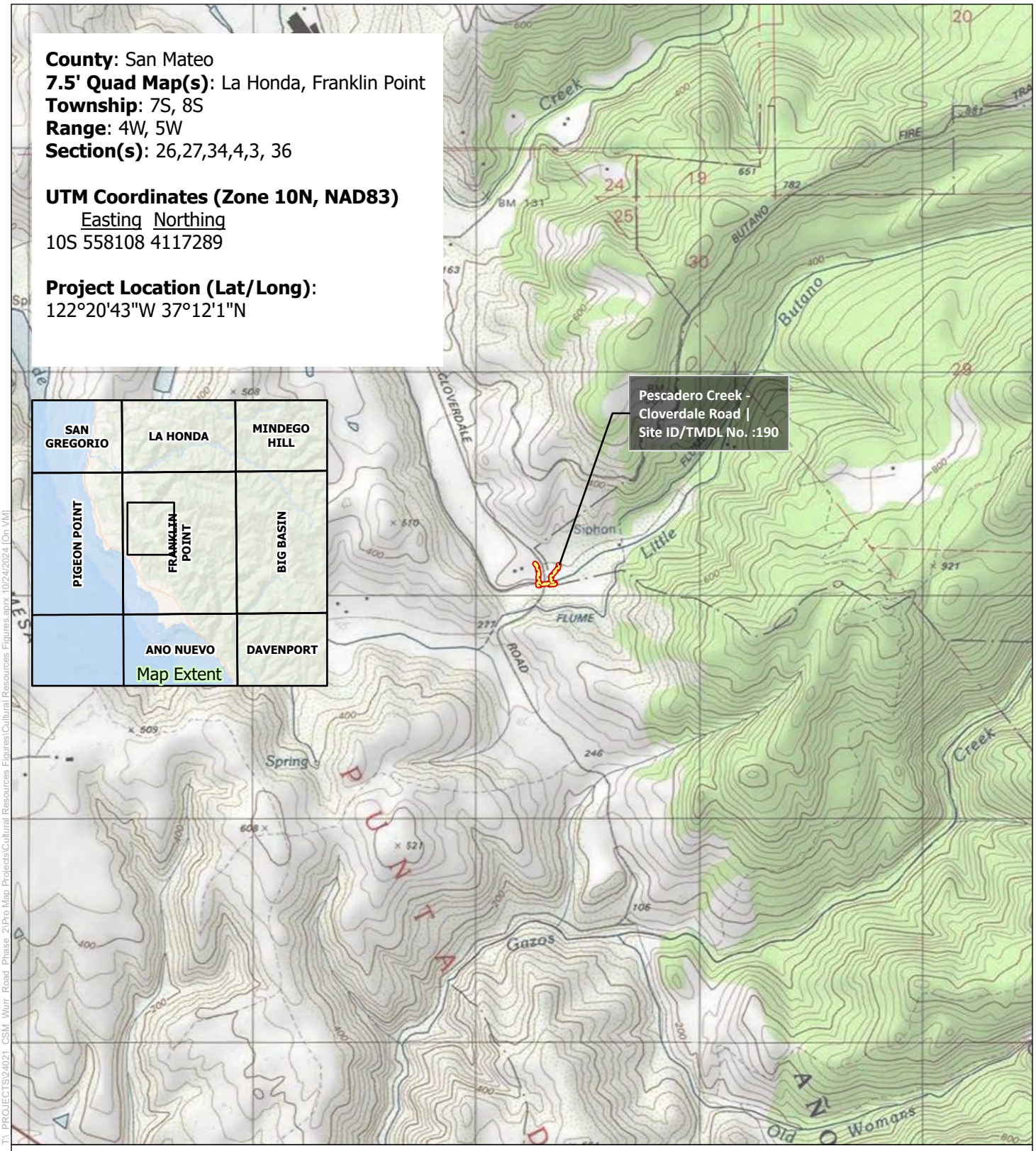
Project Areas

USGS Quad Index

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Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



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MONTROSE ENVIRONMENTAL

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Director

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October 28, 2024

Vincent Medina, Cultural Leader

The Ohlone Indian Tribe

17365 Via Del Rey San Lorenzo, CA, 94580

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Vincent Medina, Cultural Leader,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

A record search from the Northwest Information Center revealed that no previously recorded pre-contact archaeological resources occur within the proposed culvert repair locations or within the quarter-mile search radius. An archaeological survey was conducted at each location, including an approximately 200-foot buffer, that did not identify any cultural deposits.

A search of the Sacred Lands Files by the Native American Heritage Commission (NAHC) was also conducted for the Project vicinity, which did not identify a sacred site within the vicinity of the project area. The NAHC suggested that local tribes could have information that may not be on file at the NAHC, and your contact information was provided on their List of Native American Contacts for the area as a traditionally and culturally affiliated California Native American tribal representative. We would appreciate hearing any concerns you have regarding tribal cultural resources (as defined by Public Resources Code 21074) within the Project area so that this information can be further incorporated into project planning, and ensure our work avoids impacts to tribal cultural resources. We respectfully request input from you within 30

days of receipt of this letter.

Your comments and concerns are important to us, and we look forward to hearing from you. Please contact me or Sina Oshaghi at (650) 363-4100 if you have any questions. They can also be reached by e-mail at:

wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

F:\Users\design\C3D\E5084000_Wurr Rd and Pescadero Creek Rd Culverts\10 Environmental Permits\Tribal Letter\ Montrose_Tribal Letter_CSM Wurr_Pescadero_Cloverdale Road Culvert Repair.DOCX

Enclosures: Figure 1 - Location Map

Cc: Krzysztof Lisaj, Deputy Director, Engineering and Resource Protection
Carter Choi, Principal Civil Engineer, Engineering and Construction
Sina Oshaghi, Associate Engineer, Project Development and Design
Julie Casagrande, Natural Resource Manager, Utilities
Melia Green, Natural Resource Specialist, Utilities

County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562071	4126133

Project Location (Lat/Long):
122°17'59"W 37°16'47"N

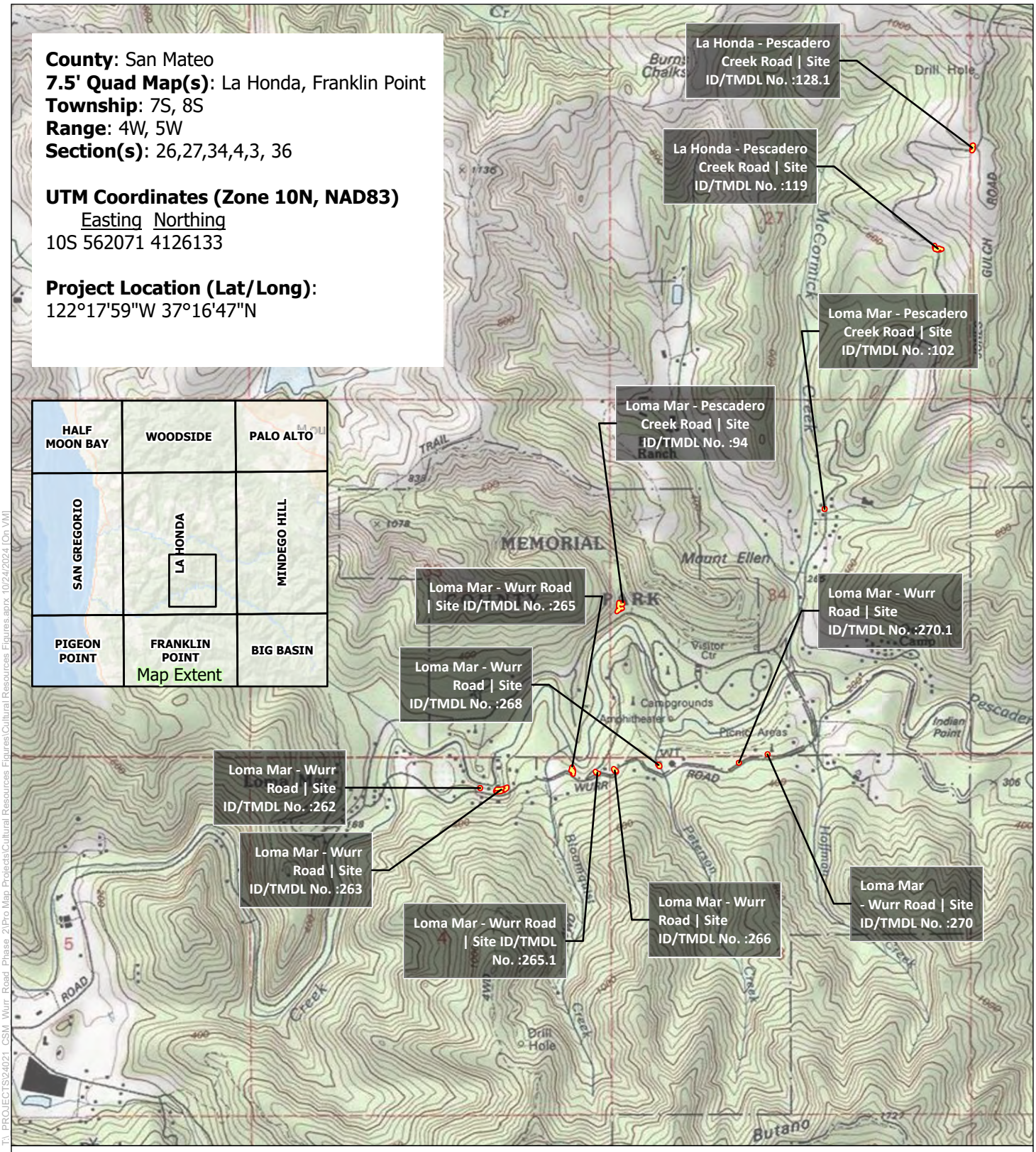
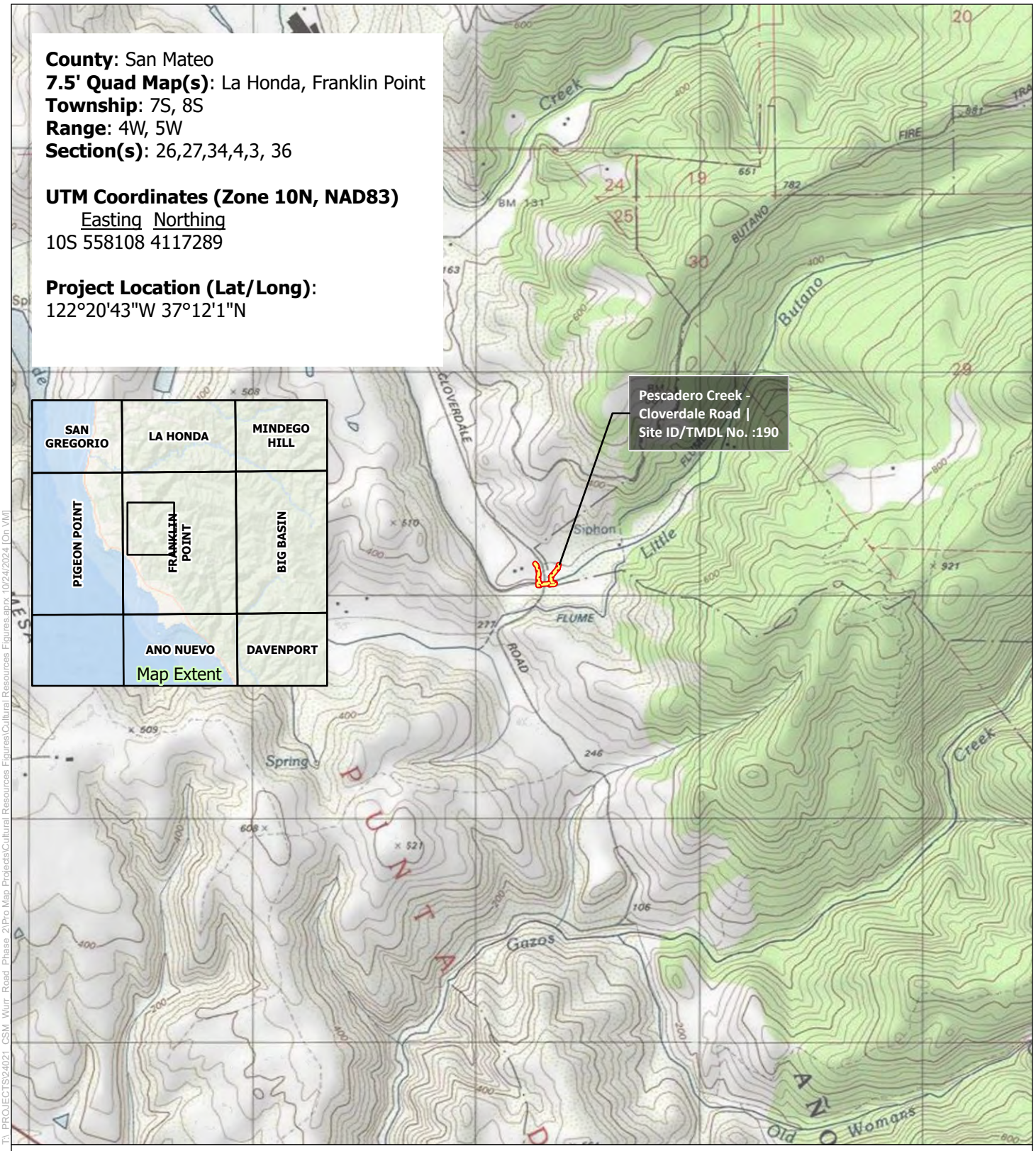


Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

T:_PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 (On VM)



T:\PROJECTS\2021 CSM Wurr Road Phase 2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 [On VM]

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

October 28, 2024

Kenneth Woodrow, Chairperson

Wuksachi Indian Tribe/Eshom Valley Band

1179 Rock Haven Ct. Salinas, CA, 93906

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Kenneth Woodrow, Chairperson,

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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days of receipt of this letter.

Your comments and concerns are important to us, and we look forward to hearing from you. Please contact me or Sina Oshaghi at (650) 363-4100 if you have any questions. They can also be reached by e-mail at:

wng@smcgov.org
aoshaghi@smcgov.org

Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

WN:SO

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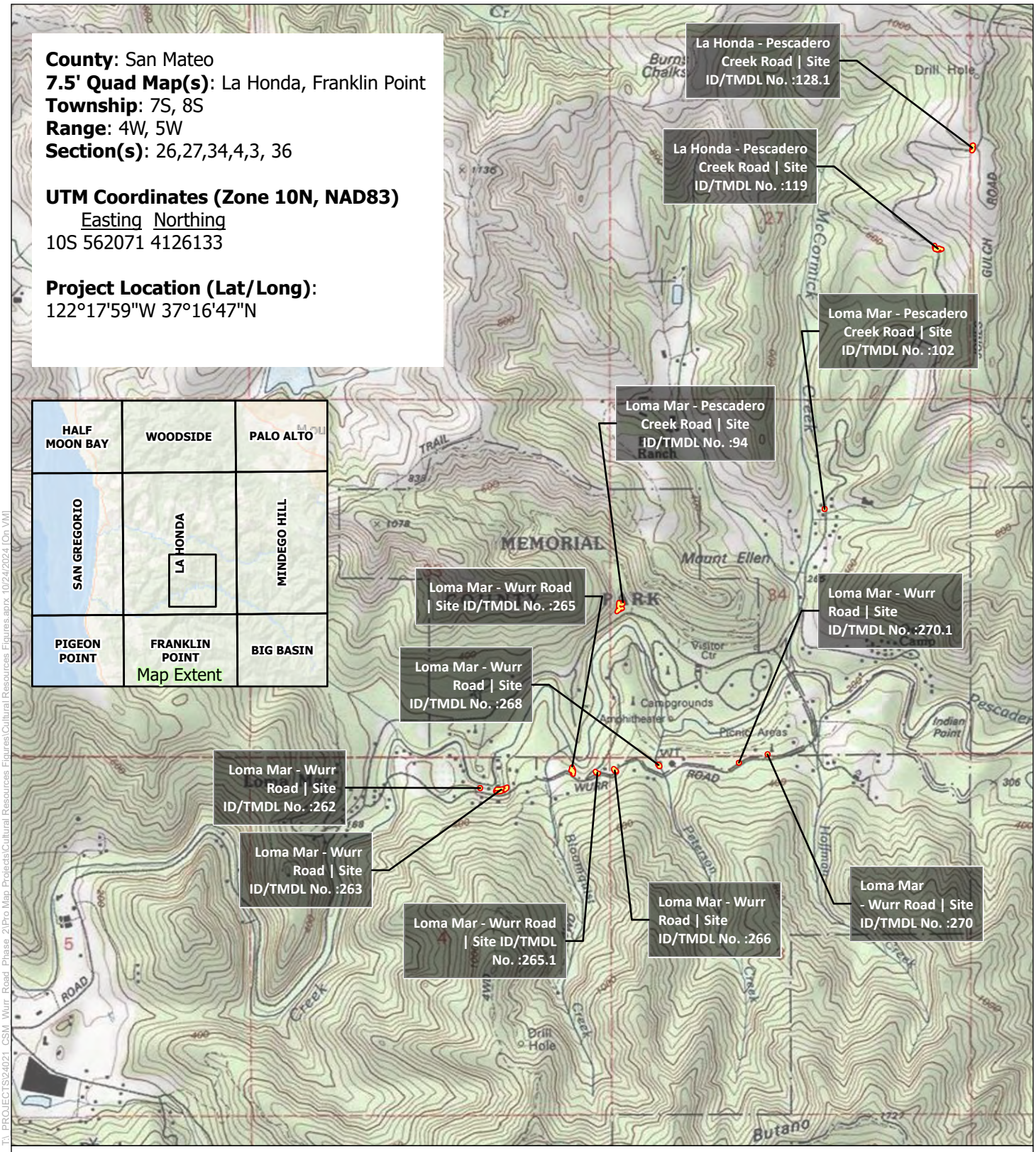
Cc: Krzysztof Lisaj, Deputy Director, Engineering and Resource Protection
Carter Choi, Principal Civil Engineer, Engineering and Construction
Sina Oshaghi, Associate Engineer, Project Development and Design
Julie Casagrande, Natural Resource Manager, Utilities
Melia Green, Natural Resource Specialist, Utilities

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7.5' Quad Map(s): La Honda, Franklin Point
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Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562071	4126133

Project Location (Lat/Long):
122°17'59"W 37°16'47"N



T:_PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 (On VM)

N

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Miles

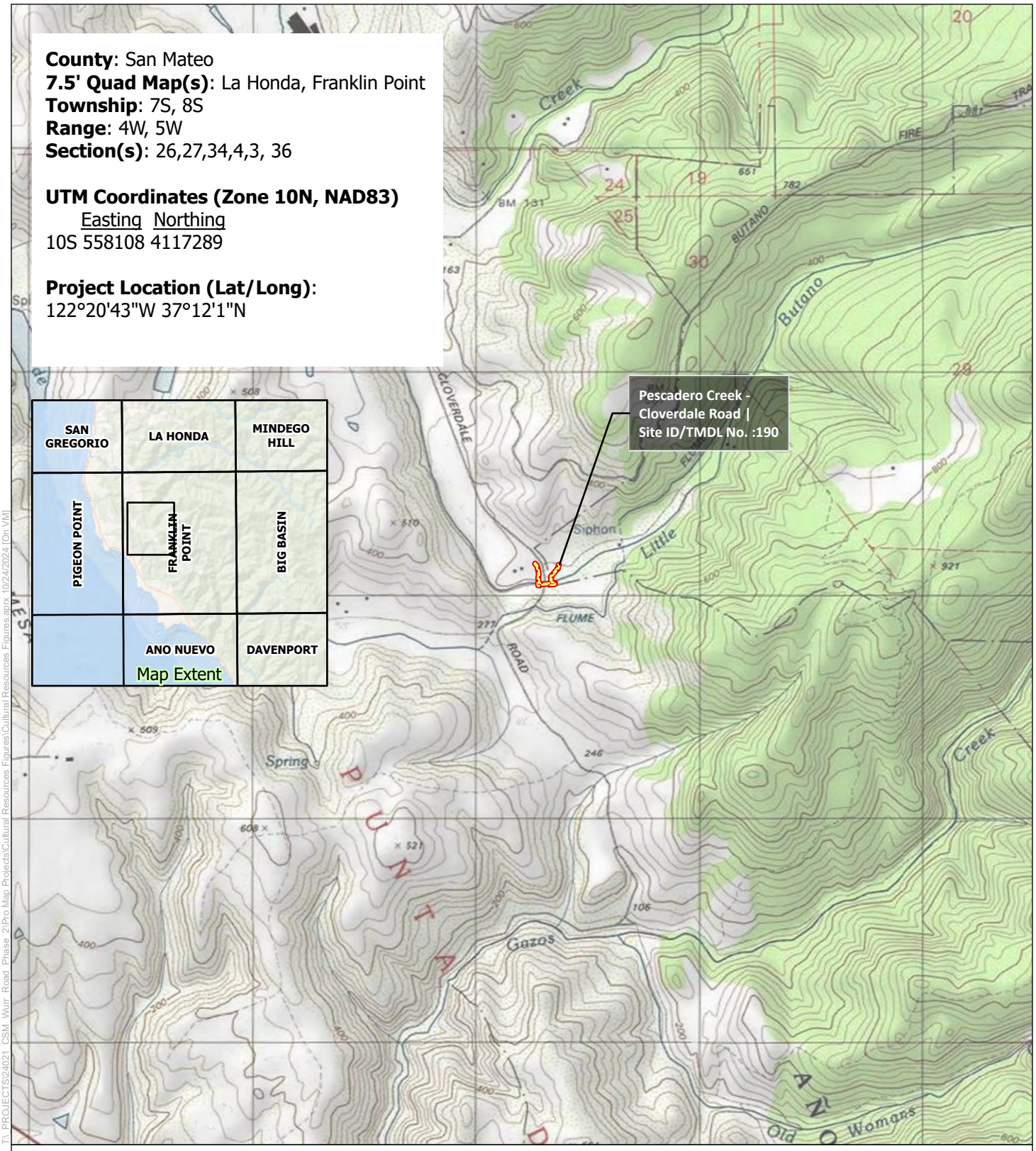
Project Areas

USGS Quad Index

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



T:\PROJECTS\2021 CSM Wurr Road Phase 2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 [On VM]

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Ann M. Stillman
Director

County Government Center
555 County Center, 5th Floor
Redwood City, CA 94063
650-363-4100 T
650-361-8220 F
www.smcgov.org

November 1, 2024

Ed Ketchum, Vice-Chairperson

Amah Mutsun Tribal Band

Sent via email

Re: AB 52 Formal Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project, San Mateo County, California

Dear Ed Ketchum, Vice-Chairperson

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Proposed Project or Project) to improve stormwater conveyance at thirteen (13) road crossings along Wurr Road and Pescadero Creek Road and Cloverdale Road. This includes installing three (3) new culverts and replacing remaining existing culverts. In addition, the Proposed Project would remove segments of existing sacked concrete banks and accumulated sediment inside and directly adjacent to the box culvert at Cloverdale Road. The anticipated work at Cloverdale Road will include demolition of existing concrete structures upstream of the crossing to provide unimpeded fish passage, as well as developing access downstream of the site to remove accumulated sediments and obstructive vegetation. See Figure 1 for the Project Location Map.

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Sincerely,



Wency Ng
Senior Civil Engineer
Department of Public Works

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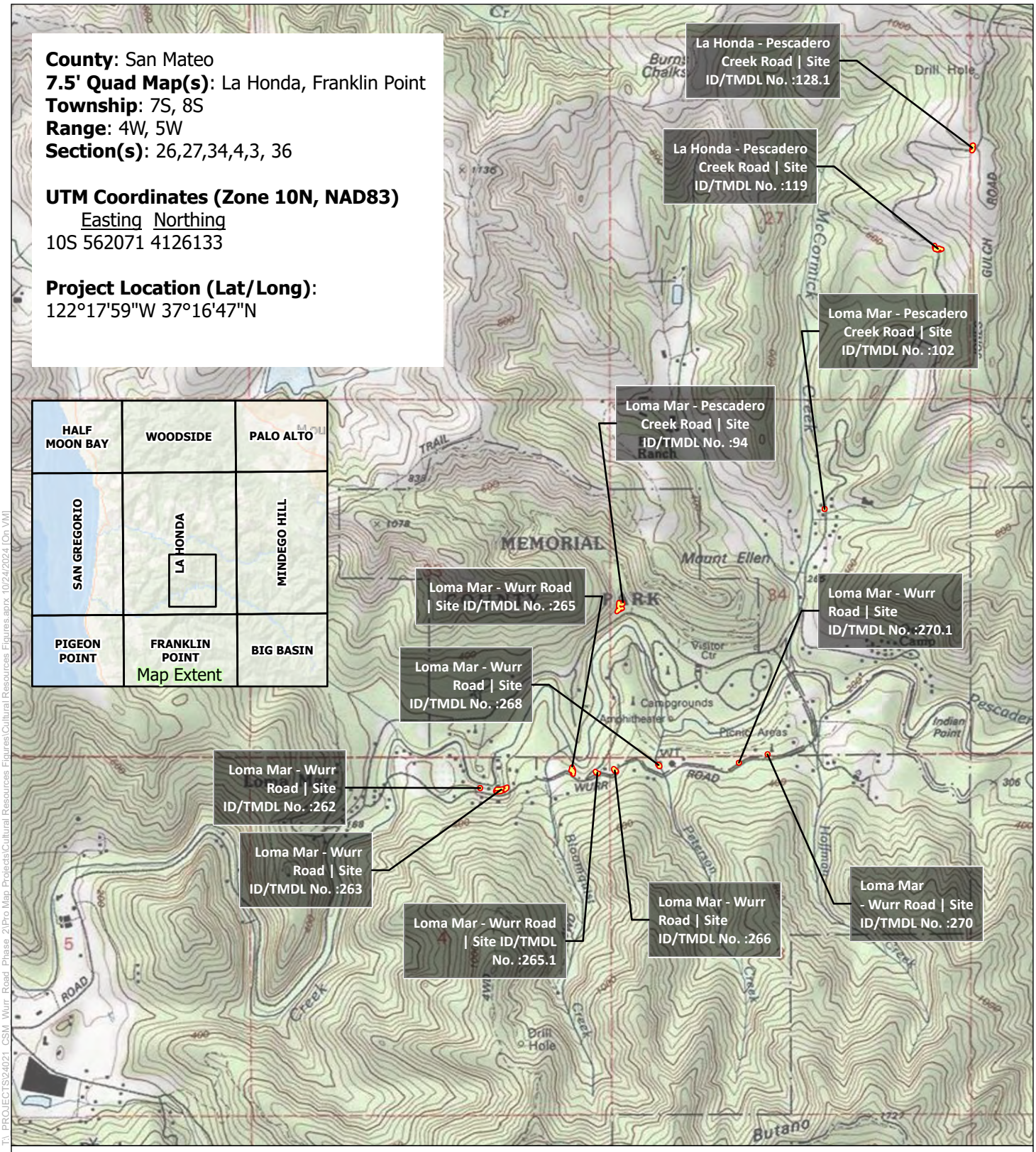
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Miles

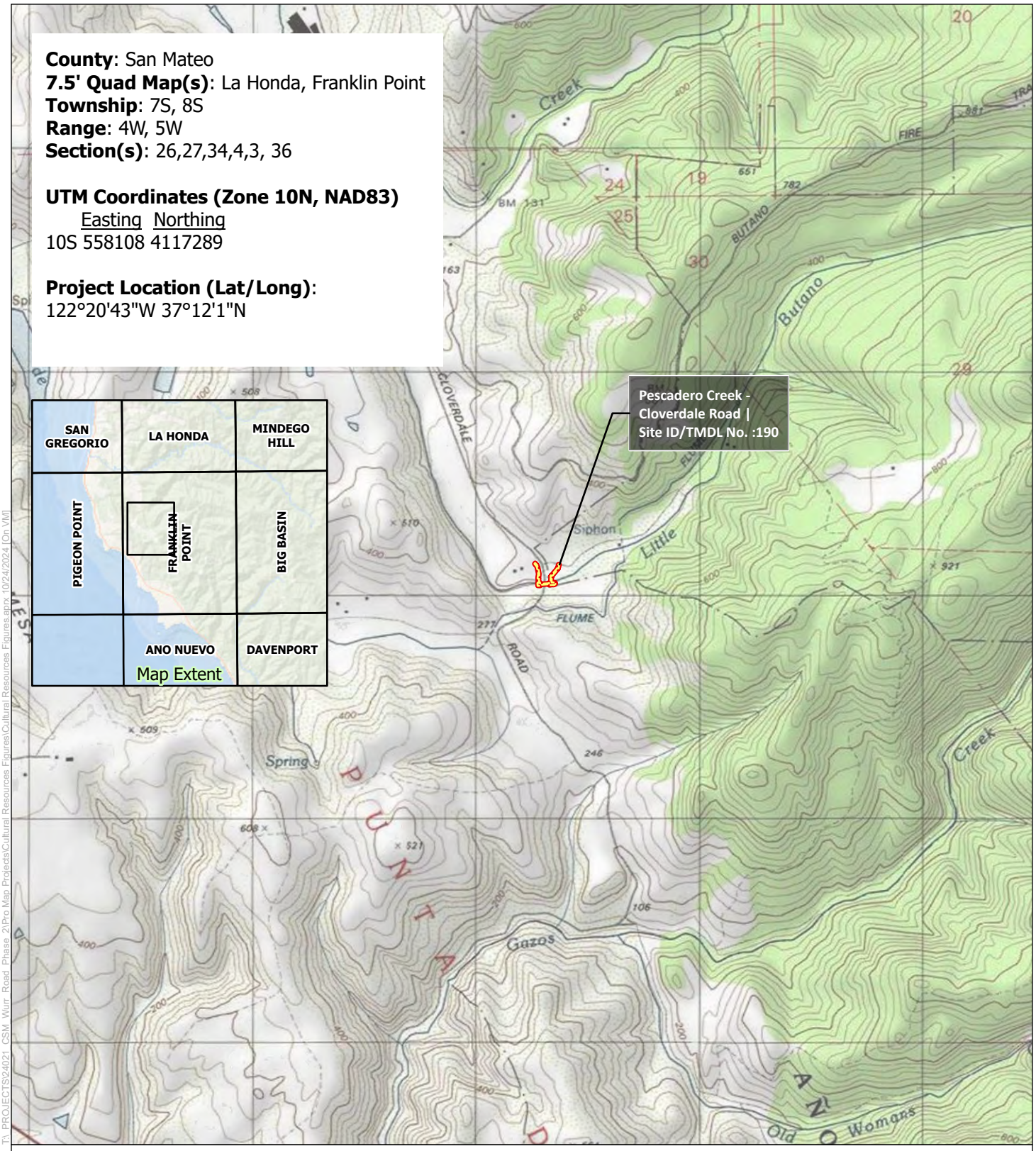
Project Areas

USGS Quad Index

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Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



T:\PROJECTS\2021 CSM Wurr Road Phase 2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 10/24/2024 [On VM]

Figure 1
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To vjltestingcenter@aol.com <vjltestingcenter@aol.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Lopez_Wurr_AB52_102824.pdf;

Dear Valentin Lopez, Chairperson,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

Please find attached the copies of the notification letter and location maps sent via Certified Mail on October 28, 2024.

If you have any questions or comments regarding the project, please contact Wency Ng or Sina Oshaghi at the County of San Mateo Department of Public Works. Their contact info is listed below:

Wency Ng
Senior Civil Engineer
(650) 363-4100
wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To carlamarieohlone@gmail.com <carlamarieohlone@gmail.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
CMunoz_Wurr_AB52_102824.pdf; Figure 1 Location Map_Wurr.pdf;

Dear Carla Munoz, Tribal Council,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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(650) 363-4100
wng@smcgov.org

Sina Oshaghi
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aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
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Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To ohlonesisters@gmail.com <ohlonesisters@gmail.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
DMunoz_Wurr_AB52_102824.pdf; Figure 1 Location Map_Wurr.pdf;

Dear Desiree Munoz, Tribal Liaison,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To henrymunoz425@yahoo.com <henrymunoz425@yahoo.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; HMunoz_Wurr_AB52_102824.pdf;

Dear Henry Muñoz,

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Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

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To samthunder.sr@gmail.com <samthunder.sr@gmail.com>
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Figure 1 Location Map_Wurr.pdf; Rodriguez_Wurr_AB52_102824.pdf;

Dear Samuel Rodriguez,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Sayers_Wurr_AB52_102824.pdf;

Dear Ann Marie Sayers, Chairperson,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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Dear Kanyon Sayers-Roods, MLD Contact,

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Dear Richard Massiatt, Councilmember/MLD Tribal Rep.,

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If you have any questions or comments regarding the project, please contact Wency Ng or Sina Oshaghi at the County of San Mateo Department of Public Works. Their contact info is listed below:

Wency Ng
Senior Civil Engineer
(650) 363-4100
wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To cnijmeh@muwekma.org <cnijmeh@muwekma.org>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Nijmeh_Wurr_AB52_102824.pdf;

Dear Charlene Nijmeh, Chairperson,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To vincent.d.medina@gmail.com <vincent.d.medina@gmail.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Medina_Wurr_AB52_102824.pdf;

Dear Vincent Medina, Cultural Leader,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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wng@smcgov.org

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(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To dirwin0368@yahoo.com <dirwin0368@yahoo.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Vigil_Wurr_AB52_102824.pdf;

Dear Desiree Vigil, THPO,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Bridget Parry <BridgetParry@montrose-env.com>
Date Fri 11/1/2024 10:45 AM
To kwood8934@aol.com <kwood8934@aol.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; jcasagrande@smcgov.org <jcasagrande@smcgov.org>; aoshaghi@smcgov.org <aoshaghi@smcgov.org>; wng@smcgov.org <wng@smcgov.org>

2 attachments (3 MB)
Figure 1 Location Map_Wurr.pdf; Woodrow_Wurr_AB52_102824.pdf;

Dear Kenneth Woodrow, Chairperson,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

Outlook

[External] - RE: Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Julie Casagrande <jcasagrande@smcgov.org>
Date Wed 12/11/2024 8:24 AM
To andrew galvan <chochenyo@aol.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; Sina Oshaghi <aoshaghi@smcgov.org>; Wency Ng <wng@smcgov.org>; Bridget Parry <bridgetparry@montrose-env.com>; Melia Green <mgreen@smcgov.org>

1 attachment (595 KB)
NAHC Response_AB52 No San Mateo County Wurr Road Culverts Project 6.12.2024 (1).pdf;

Hello,

Thank you for your response. As requested, attached is the NAHC response letter with results of the SLF search (#3 - negative) and the contact list.

Feel free to reach out if you have any additional questions about the proposed project.

Thanks,

JULIE

From: andrew galvan <chochenyo@aol.com>
Sent: Saturday, November 02, 2024 1:16 PM
To: Bridget Parry <bridgetparry@montrose-env.com>
Cc: Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; Julie Casagrande <jcasagrande@smcgov.org>; Sina Oshaghi <aoshaghi@smcgov.org>; Wency Ng <wng@smcgov.org>
Subject: Re: Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

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Hi there,

Could you and would you provide me a copy of the SLF search from the NAHC?

Also, could you include the CONTACT LIST provided by the NAHC

Thank you,

Andrew Galvan

An Ohlone Man
The Ohlone Indian Tribe

On Friday, November 1, 2024, 10:45:35 AM PDT, Bridget Parry <bridgetparry@montrose-env.com> wrote:

Dear Andrew Galvan, Chairperson,

I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.

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Senior Civil Engineer
(650) 363-4100
wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

Bridget Parry, M.A.
Project Archaeologist
Montrose Environmental
Mobile: 925-286-9405

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Outlook

RE: [External] - Re: Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

From Julie Casagrande <jcasagrande@smcgov.org>
Date Wed 12/11/2024 9:40 AM
To Amah Mutsun <amahmutsuntribal@gmail.com>
Cc Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; Sina Oshaghi <aoshaghi@smcgov.org>; Wency Ng <wng@smcgov.org>; Bridget Parry <BridgetParry@montrose-env.com>; Melia Green <mgreen@smcgov.org>

2 attachments (781 KB)

CSM Wurr Cultural Methods and Results.pdf; NAHC Response_AB52 No San Mateo County Wurr Road Culverts Project 6.12.2024 (1).pdf;

Hi Lorelei,

Thank you for your response and recommendations for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project.

As stated in our project notification letter, a record search from the Northwest Information Center of the California Historical Resources Information System (CHRIS) was conducted and revealed that no previously recorded pre-contact archaeological resources occur within the proposed culvert repair locations or within the quarter-mile search radius. A search of the Sacred Lands Files by the Native American Heritage Commission (NAHC) was also conducted for the project vicinity, which did not identify any sacred site within the vicinity of the project area (NAHC response letter attached).
The project will include Best Management Practices (BMPs) to avoid and minimize potential impacts to cultural resources. BMPs will include cultural sensitivity awareness training, construction monitoring by a qualified archaeologist at the Cloverdale Road site (#190), and protocols should any resources be discovered during project implementation. We will also take the additional recommendations regarding treatment of ancestral remains, grave regalia and subsurface feature discoveries outlined in your Letter of Response into consideration as we continue to develop the project.

We are currently preparing a cultural resources report for the project. The report will include a detailed summary of the cultural resources review process, the cultural sensitivity of each site, BMPs, site specific recommendations, and detail on the protocols should human remains be discovered during project implementation. Please note this project will include work at several locations, some of which will not involve excavation outside the existing road prism.

I have attached a summary of our cultural review process and results to date. If you have additional questions or concerns, feel free to reach out. We are happy to set up a meeting to review our process and provide more details on the proposed work, sites, etc.

Thank you,

JULIE

Julie Casagrande

Natural Resource Manager
County of San Mateo
Department of Public Works
555 County Center, 5th floor
Redwood City, CA 94063-1665
ph:(650) 599-1457
jcasagrande@smcgov.org

From: Bridget Parry <BridgetParry@montrose-env.com>
Sent: Friday, November 01, 2024 1:13 PM
To: Amah Mutsun <amahmutsuntribal@gmail.com>
Cc: Dean Martorana <dmartorana@montrose-env.com>; Kathlyn Osagie <kaosagie@montrose-env.com>; Julie Casagrande <jcasagrande@smcgov.org>; Sina Oshaghi <aoshaghi@smcgov.org>; Wency Ng <wng@smcgov.org>
Subject: Re: [External] - Re: Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

CAUTION: This email originated from outside of San Mateo County. Unless you recognize the sender's email address and know the content is safe, do not click links, open attachments or reply.

Dear Lorelei,

Thank you for your response regarding the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. Please direct any future correspondence to the County of San Mateo Department of Public Works. I have included the County's representatives, Wency Ng and Sina Oshaghi, on this email and their contact information is also listed below.

Wency Ng
Senior Civil Engineer
(650) 363-4100
wng@smcgov.org

Sina Oshaghi
Associate Engineer
(650) 363-4100
aoshaghi@smcgov.org

Best,
Bridget Parry

From: Amah Mutsun <amahmutsuntribal@gmail.com>
Sent: Friday, November 1, 2024 10:56 AM
To: Bridget Parry <BridgetParry@montrose-env.com>
Subject: [External] - Re: Notification for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

Hello Bridget,

Thank you for the information and please see the attached documents with our recommendations. If you have any questions, or would like to set up a meeting for consultation,

please give us a call at 650-851-7489 or email us at amtbinc21@gmail.com.

Thank you,

Lorelei Alli

AMTB Inc.

On Fri, Nov 1, 2024 at 10:45 AM Bridget Parry <BridgetParry@montrose-env.com> wrote:

> Dear Irene Zwierlein, Chairperson,
>
> I hope this email finds you well. On behalf of the County of San Mateo Department of Public Works (County), I am writing to inform you of the upcoming Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. In line with the cultural resources assessment for projects under CEQA and Assembly Bill 52 (AB 52), the County invites your Tribe to share any concerns you may have about cultural resources and tribal cultural resources significant to your community that could be affected by the project.
>
> Please find attached the copies of the notification letter and location maps sent via Certified Mail on October 28, 2024.
>
> If you have any questions or comments regarding the project, please contact Wency Ng or Sina Oshaghi at the County of San Mateo Department of Public Works. Their contact info is listed below:
>
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> Senior Civil Engineer
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> wng@smcgov.org
>
> Sina Oshaghi
> Associate Engineer
> (650) 363-4100
> aoshaghi@smcgov.org
>
> Best,
> Bridget Parry
>
> **Bridget Parry, M.A.**
> Project Archaeologist
> Montrose Environmental
> Mobile: 925-286-9405
>
> CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are intended solely for the addressee(s) and may contain confidential, proprietary and/or privileged information and may be legally protected from disclosure. If you are not the intended recipient of this message or their agent, or if this message has been addressed to you in error, please immediately alert the sender by reply email and then delete this message and any attachments and the reply from your system. If you are not the intended recipient, you are hereby notified that any disclosure, use, dissemination, copying, or storage of this message or its attachments is strictly prohibited.

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Appendix B
Records Search Results
[Confidential Information Redacted]

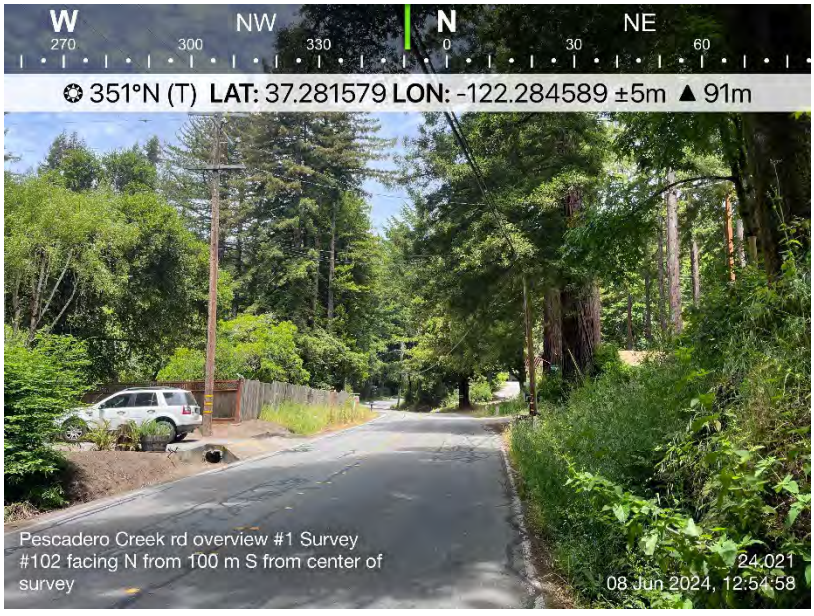
This page intentionally left blank.

Appendix C
Photographic Record

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Attachment C. Photographic Record

Photo No. 1	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #94	

Photo No. 2	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #102	

Attachment C. Photographic Record

Photo No. 3	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #119	

Photo No. 4	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #119 STP	

Attachment C. Photographic Record

Photo No. 5	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #128-1	

Photo No. 6	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #128	

Photo No. 7	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #128 STP	



Photo No. 8	Date: 6/08/2024
Description: Pescadero Creek Road, Site Location #126	



Attachment C. Photographic Record

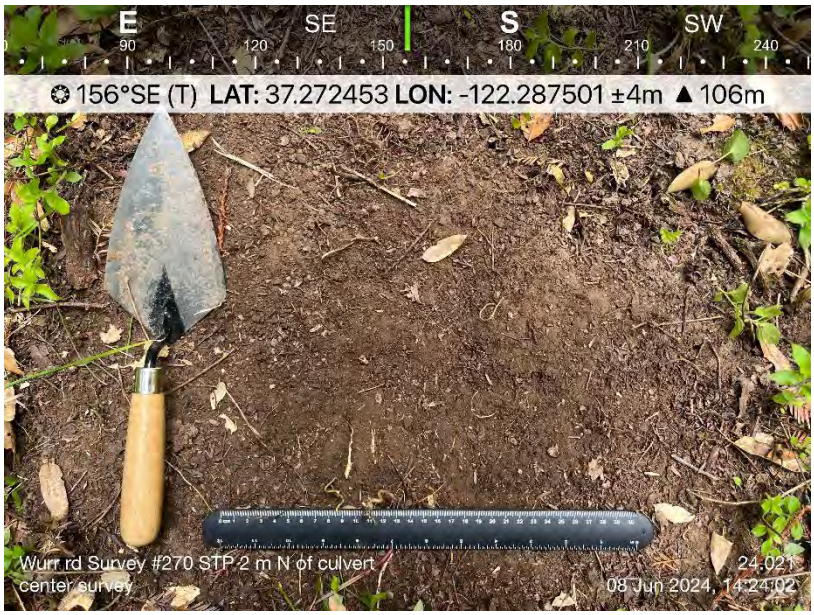
Photo No. 9	Date: 6/08/2024
Description: Wurr Road, Site Location #270 STP	

Photo No. 10	Date: 6/08/2024
Description: Wurr Road, Site Location #270-1 STP	

Attachment C. Photographic Record

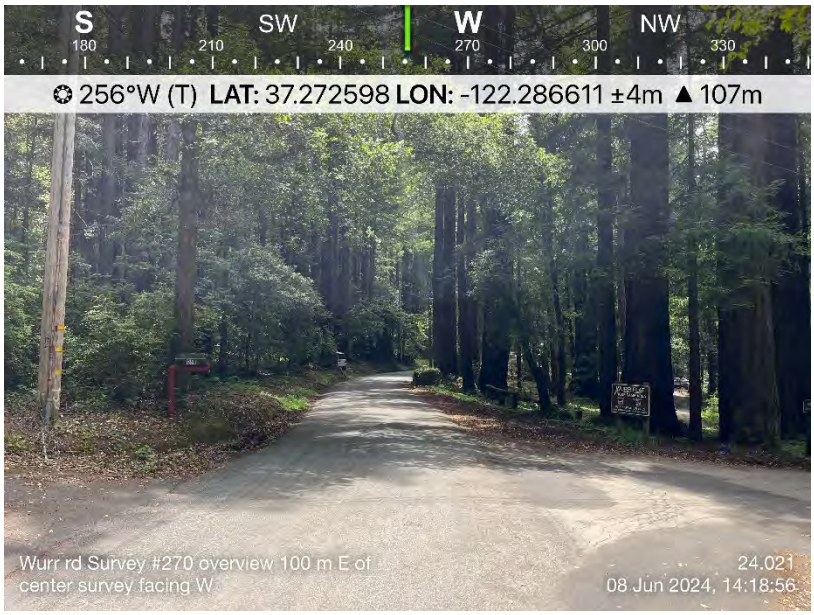
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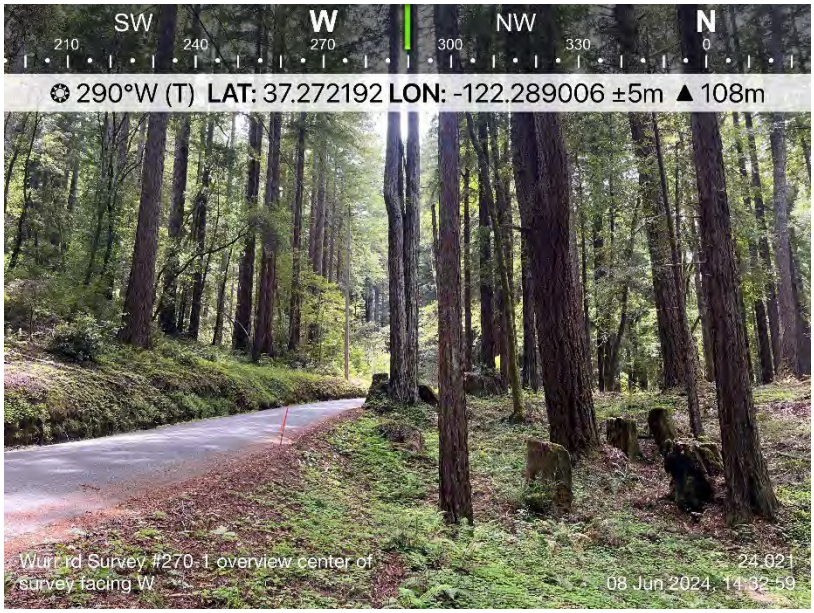
Photo No. 12	Date: 6/08/2024
Description: Wurr Road, Site Location #270-1	

Photo No. 13	Date: 6/08/2024
Description: Wurr Road, Site Location #268	



Photo No. 14	Date: 6/08/2024
Description: Wurr Road, Site Location #266 STP	



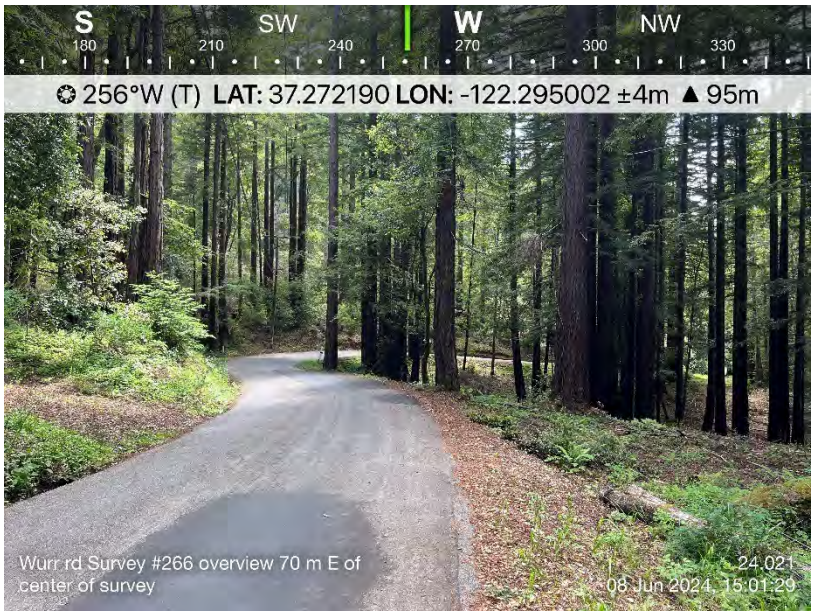
Photo No. 15	Date: 6/08/2024
Description: Wurr Road, Site Location #266	

Photo No. 16	Date: 6/08/2024
Description: Wurr Road, Site Location #265/265-1	

Photo No. 17	Date: 6/08/2024
Description: Wurr Road, Site Location #265-1	



Photo No. 18	Date: 6/08/2024
Description: Wurr Road, Site Location #263/262	



Attachment C. Photographic Record

Photo No. 19	Date: 6/08/2024
Description: Wurr Road, Site Location #262	

Photo No. 20	Date: 5/31/2024
Description: Cloverdale Road overview	

Appendix E

Biological Conditions Report

Draft Technical Report

BIOLOGICAL CONDITIONS REPORT
WURR ROAD, PESCADERO CREEK ROAD, AND CLOVERDALE ROAD CULVERT REPAIRS PROJECT
SAN MATEO COUNTY, CA

September 2025

Prepared for:

County of San Mateo Department of Public Works
555 County Center, 5th Floor
Redwood City, CA 94063

Prepared by:

Montrose Environmental
1 Kaiser Plaza, Suite 340
Oakland, CA 94612
Contact: Zachary Cornejo
ZacharyCornejo@montrose-env.com

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Appendices

Appendix A Site Photographs
Appendix B USFWS, CNDDB, and CNPS Species Lists
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Appendix E County of San Mateo, Routine Maintenance Program, Best Management Practices

Figures

Figure 1 Project Vicinity
Figure 2 Project Location
Figure 3 Special-status Plant Species Occurrences
Figure 4 Special-status Wildlife Species Occurrences

Acronyms and Abbreviations

BMP	best management practice
CDFW	California Department of Fish and Wildlife
County	County of San Mateo
CCR	California Code of Regulations
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
DPW	Department of Public Works
ESA	Endangered Species Act
FR	Federal register
IPaC	Information for Planning and Conservation
LF	linear feet
MBTA	Migratory Bird Treaty Act
Montrose	Montrose Environmental
NAVD 88	North American Vertical Datum 1988
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
Project	Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
°F	degrees Fahrenheit

1 Introduction

1.1 Project Overview

The County of San Mateo (County) proposes the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project (Project) to improve and repair twelve (12) culverts along Wurr Road, Pescadero Creek Road, and Cloverdale Road (see **Figure 1** and **Figure 2**). The Project is located near the communities of Pescadero and Loma Mar in unincorporated San Mateo County. An assessment of the existing drainage infrastructure and a hydrologic conditions study determined improvements at each proposed site were needed to address drainage infrastructure deficiencies and provide adequate conveyance capacity commensurate with the site hydrology.

The Project includes installation of three (3) new culverts, replacement of two (2) culverts, upsizing five (5) culverts, the addition of trash/debris racks at one (1) location, and additional improvements such as new headwalls and rock inlet protection and outfall energy dissipation. Additionally, the Project will remove sediment and enhance habitat at one (1) location along Cloverdale Road. The anticipated work at Cloverdale Road will include removing accumulated sediment and obstructive vegetation, demolishing existing concrete structures that impede fish passage near the double box culvert, and restoring streambed habitat both upstream and downstream of the crossing. The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Waterways 2022) and will help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load (TMDL) for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (California Regional Water Quality Control Board 2018).

The Project's objectives include maintaining and improving local flood protection along Wurr Road and Pescadero Creek Road; improving water quality by repairing failing culverts and stabilizing eroding outfall areas; restoring anadromous fish passage at Little Butano Creek; and enhancing aquatic habitat along creek and tributary sites.

1.2 Location and Study Area

The site locations and IDs (as identified in the TMDL road inventory) are as follows:

- **Pescadero Creek Road**, four (4) sites: Sites 94, 102, 119, and 128.1.
- **Wurr Road**, seven (7) sites. Sites: 263, 265, 265.1, 266, 268, 270, and 270.1
- **Cloverdale Road**, one (1) site: Site 190.

For the purposes of this report, "Project area" refers to the locations where work activities would occur, including all construction areas, staging areas, access points, and areas that would be temporarily or permanently disturbed. "Study area" refers to the geographic extent of environmental changes (i.e., the physical, chemical and biotic effects) that may result directly and indirectly from the action. For this Project, the study area includes the Project area with a 300-foot buffer to account for temporary construction-related noise.

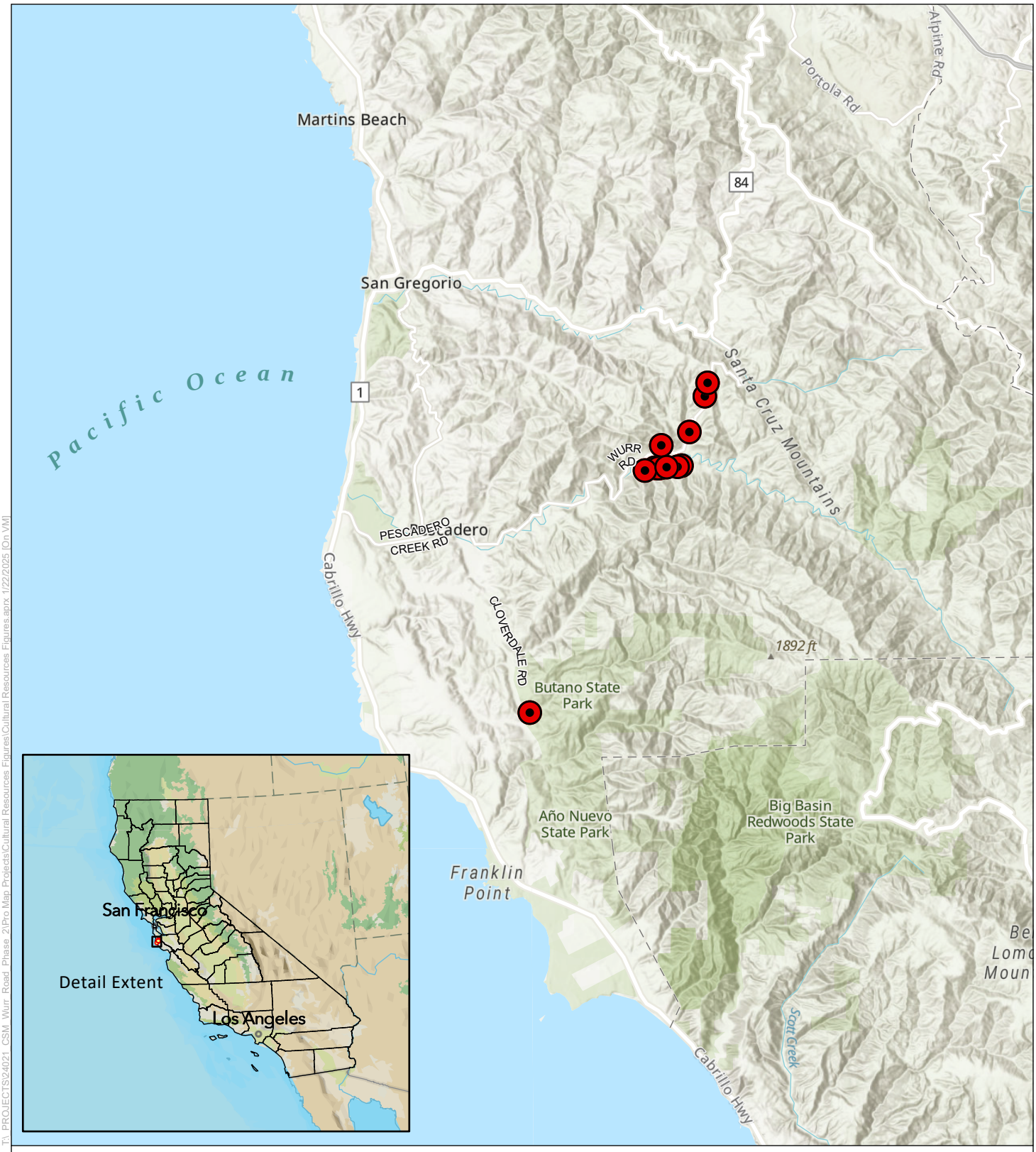
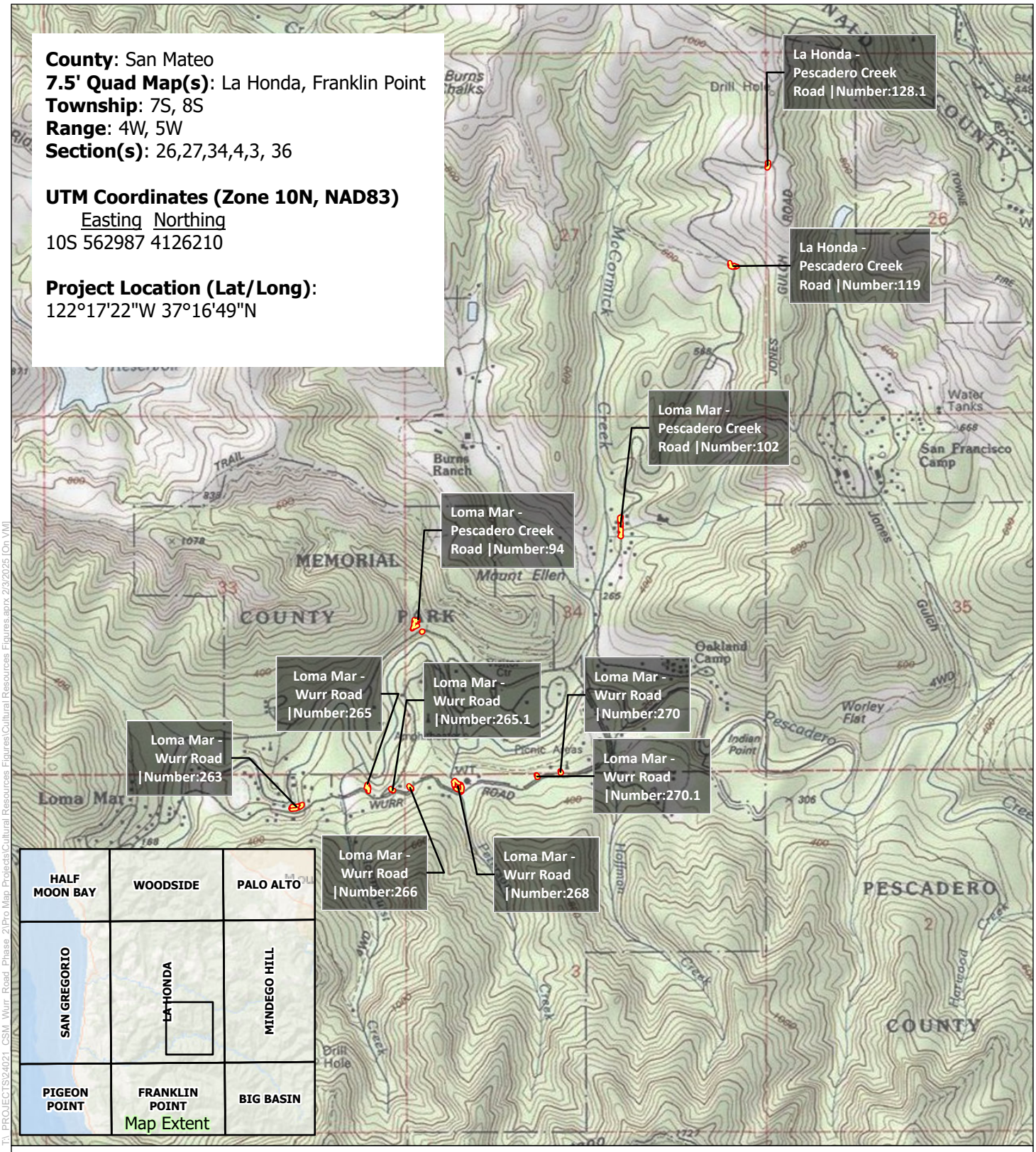


Figure 1
Project Vicinity

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

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County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562987	4126210

Project Location (Lat/Long):
122°17'22"W 37°16'49"N

Figure 2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

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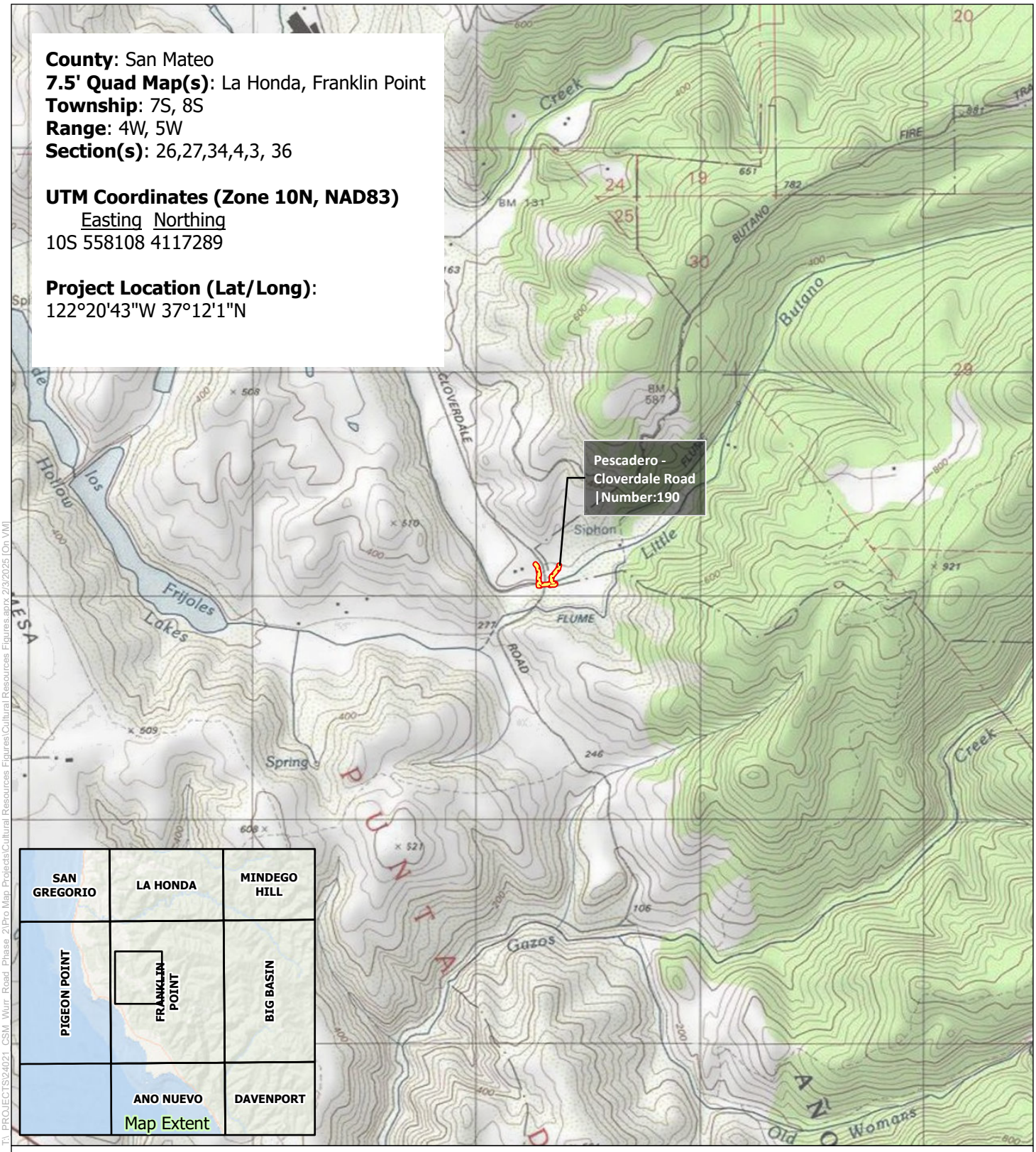


Figure 2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

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2 Study Area Description

2.1 Environmental Setting

2.1.1 Watershed and Topography

The study area is located within the Pescadero-Butano watershed. The watershed has two principal streams, Pescadero Creek and Butano Creek, which have their confluence in Pescadero Marsh. The watershed drains approximately 81 square miles within the Santa Cruz Mountains and the coastal valleys into the Pacific Ocean near the Town of Pescadero. The headwaters of Pescadero and Butano creeks originate within the Santa Cruz Mountains before transitioning to a more gradually sloped alluvial valley and relatively flat coastal terrace at the confluence in Pescadero Marsh Natural Preserve and eventually flowing into the Pacific Ocean. The Project area ranges from approximately 1,000 feet (Sites 128.1 on Pescadero Creek Road) to 210 feet (Site 190 at Cloverdale Road) in elevation.

Culvert sites are located along perennial and intermittent streams, including Little Butano Creek, Peterson Creek, Bloomquist Creek, and unnamed intermittent and ephemeral drainages to Pescadero Creek. Bloomquist and Peterson Creeks are tributaries of Pescadero Creek, flowing south to north and draining to Pescadero Creek in Memorial County Park. Existing stormwater infrastructure within the Project area includes roadside ditches and culverts that convey stormwater to ephemeral channels and/or tributary creeks to Pescadero Creek. The Project sites are located in a rural and sparsely inhabited area that is not served by a municipal storm sewer system.

The study area also includes Little Butano Creek at Cloverdale Road (Site 190), a main tributary to Butano Creek. Little Butano Creek originates in Butano State Park and passes through the Project area at Cloverdale Road, flowing north parallel to the west side of Cloverdale Road before discharging to Butano Creek near Eden W Road approximately 1.5 miles north of the Project area.

2.1.2 Climate

The study area exhibits a Mediterranean climate with mild, wet winters and warm, dry summers. Regional climatic conditions are moderated by a cooler, moist marine layer from the Pacific Ocean with precipitation patterns influenced by the orographic effects of the relatively steep Santa Cruz Mountains. Average annual precipitation in the study area may range from 22-29 inches of precipitation along the Pacific Coast, and 42-50 inches in the upper watershed areas, with the majority of precipitation occurring from November through April (WRCC 2024). Temperatures are strongly influenced by the Pacific Ocean to the west, and the Santa Cruz Mountains, which results in a variety of microclimates. The coast side region has a stronger maritime influence on its climate, characterized by cool, foggy summers and moist winters (NRCS 2024a).

2.1.3 Soils

Eleven (11) soil types are present within the study area (NRCS 2025a). These soil mapping units are listed in **Table 1**. Due to the dispersed nature of the study area, only soils within 50 feet of the individual project sites were included in the table below. Two soil types mapped within the study area were included on the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) list of Hydric Soils, these soils were: (1) Mixed alluvial land, and (2) Lockwood loam, nearly level, imperfectly drained (NRCS 2025b).

Table 1. NRCS Soil Types Mapped in the Study Area

Map Unit Symbol	Map Unit Name	Map Unit Details	Hydric Soil	Site
LIE2	Lobitos loam	steep, eroded	No	128.1
LID2	Lobitos loam	moderately steep, eroded	No	128
HuF	Hugo and Josephine loams	very steep	No	119, 94
HuD2	Hugo and Josephine loams	moderately steep, eroded	No	102
HuD	Hugo and Josephine loams	moderately steep	No	94
HvC	Hugo and Josephine loams	very deep, sloping	No	94
HzD	Hugo and Josephine sandy loams	very deep, moderately steep	No	263, 265, 265.1, 266, 268, 270, 270.1
HyF	Hugo and Josephine sandy loams	very steep	No	266
Ma	Mixed alluvial land	--	Yes	190
LmB	Lockwood loam	gently sloping	No	190
LoA	Lockwood loam	nearly level, imperfectly drained	Yes	190

2.1.4 Land Use

The study area is located in the Santa Cruz Mountains near the communities of Loma Mar and Pescadero in unincorporated San Mateo County. The upper watershed area is undeveloped, forested, natural watershed lands. The study area generally consist of parklands and open space areas, rural residential communities, and rural County roadways. Several sites are adjacent to Memorial County Park and one is adjacent to Butano State Park.

3 Existing Biological Resources

3.1 Inventory Methods

Baseline biological resources in the study area were evaluated by reviewing pertinent literature and conducting a field survey in order to supplement background information with representative site-specific data. The methods are described below.

3.1.1 Literature Reviewed

Biological resource information in the study area was evaluated by reviewing the following data sources:

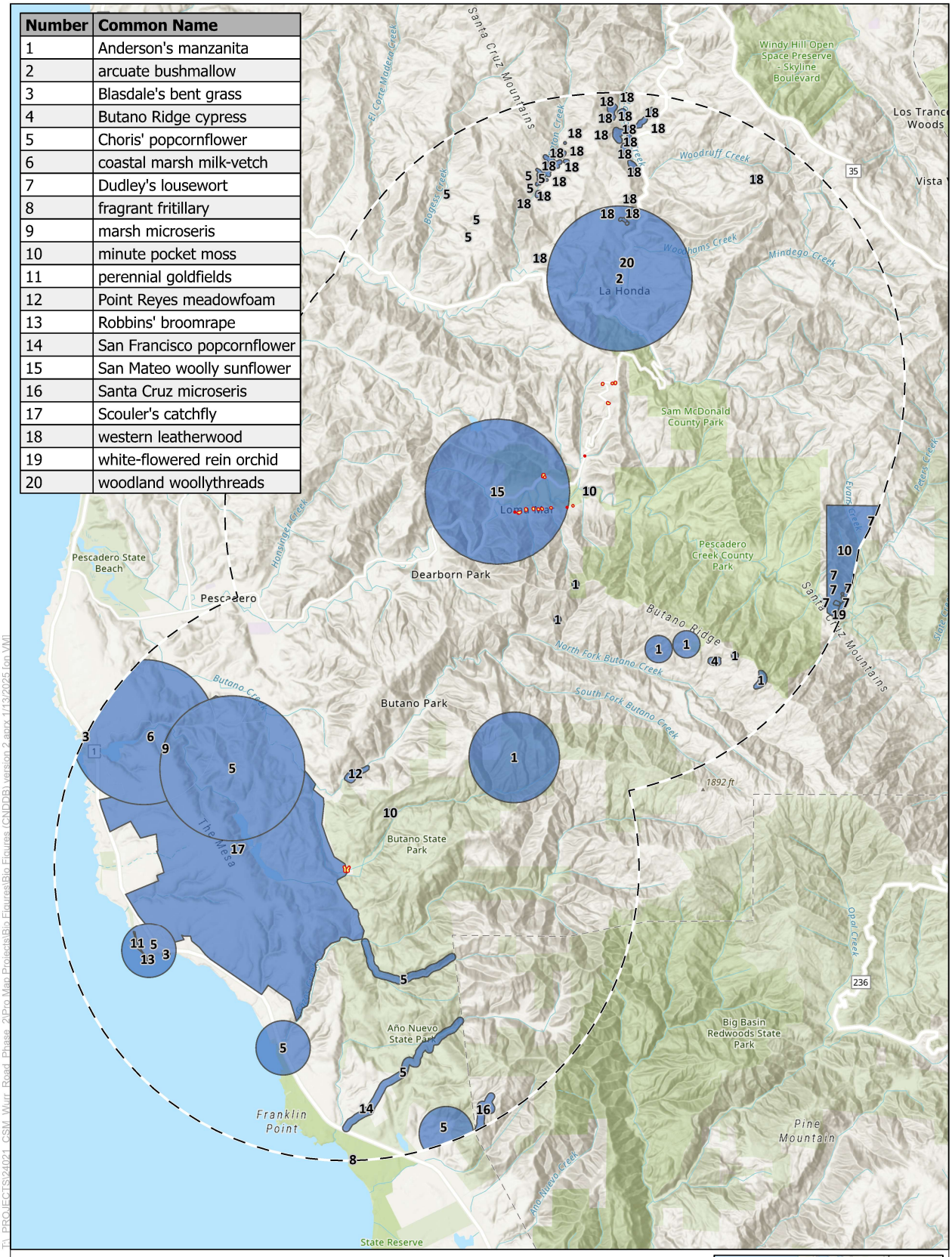
- U.S. Fish and Wildlife Service (USFWS), Information for Planning and Conservation (IPaC) list of federally endangered and threatened species (USFWS 2025a);
- USFWS's Critical Habitat Portal (USFWS 2025b);
- National Marine Fisheries Service (NMFS) California Species List (NMFS 2025);
- California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB) queries for the USGS 7.5-minute quadrangles encompassing and surrounding the study area: Half Moon Bay, Woodside, Palo Alto, San Gregorio, La Honda, Mindego Hill, Pigeon Point, Franklin Point, Big Basin (CDFW 2025);
- California Native Plant Society (CNPS), CNPS Rare Plant Inventory, queries for the USGS 7.5-minute quadrangles encompassing and surrounding the study area: Half Moon Bay, Woodside, Palo Alto, San Gregorio, La Honda, Mindego Hill, Pigeon Point, Franklin Point, Big Basin (CNPS 2025);
- National Wetland Inventory (NWI) results (USFWS 2025c);
- eBird records for the study area (Cornell Lab of Ornithology 2024); and
- Aerial photography (Google Earth 2025).

Photographs of each site are provided in **Appendix A**. Results of the IPaC, CNDDB, and CNPS database queries are provided in **Appendix B**. Maps of CNDDB occurrence records within 5 miles of the work sites for special-status plant (**Figure 3**) and special-status wildlife (**Figure 4**) were created based on the data review.

3.1.2 Field Survey

Montrose Environmental (Montrose) biologists Brian Piontek, Jessica Gonzalez, Susannah Kiteck, and Alex Kellogg conducted a biological reconnaissance survey on May 31, 2024 and July 22, 2025. The survey effort consisted of a visual assessment of site conditions at each of the 12 proposed work locations. Maps of baseline biological resources including a regional aerial photographic overview of the study area and detailed aerial photography were used in the survey.

The survey was conducted in the field on-foot. Natural and anthropogenic features, land cover types, and the presences of common and special-status species were noted. Visual aids, such as binoculars, were used to better assess wildlife species when appropriate.


Number | Common Name
1 | Anderson's manzanita
2 | arcuate bushmallow
3 | Blasdale's bent grass
4 | Butano Ridge cypress
5 | Choris' popcornflower
6 | coastal marsh milk-vetch
7 | Dudley's lousewort
8 | fragrant fritillary
9 | marsh microseris
10 | minute pocket moss
11 | perennial goldfields
12 | Point Reyes meadowfoam
13 | Robbins' broomrape
14 | San Francisco popcornflower
15 | San Mateo woolly sunflower
16 | Santa Cruz microseris
17 | Scouler's catchfly
18 | western leatherwood
19 | white-flowered rein orchid
20 | woodland woollythreads
La Honda
Dearborn Park
Pescadero
Pescadero State Beach
Butano Park
Butano State Park
Pescadero Creek County Park
Sam McDonald County Park
Windy Hill Open Space Preserve - Skyline Boulevard
Big Basin Redwoods State Park
Año Nuevo State Park
Franklin Point
Pine Mountain
Butano Ridge
The Mesa
Santa Cruz Mountains
Woodruff Creek
Mindego Creek
Butano Creek
North Fork Butano Creek
South Fork Butano Creek
Honsinger Creek
Peters Creek
Evans Creek
Opal Creek
Año Nuevo Creek
1892 ft
Project Areas
5-Mile Buffer
CNDDB Occurences
N
0 1 2 Miles
Figure 3
Special-Status Plant Species
within 5 Mile Radius
of Project Area
Wurr Road
Culvert Repair
Detail Location
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Data Source: CNDDB June 2024, CDFW

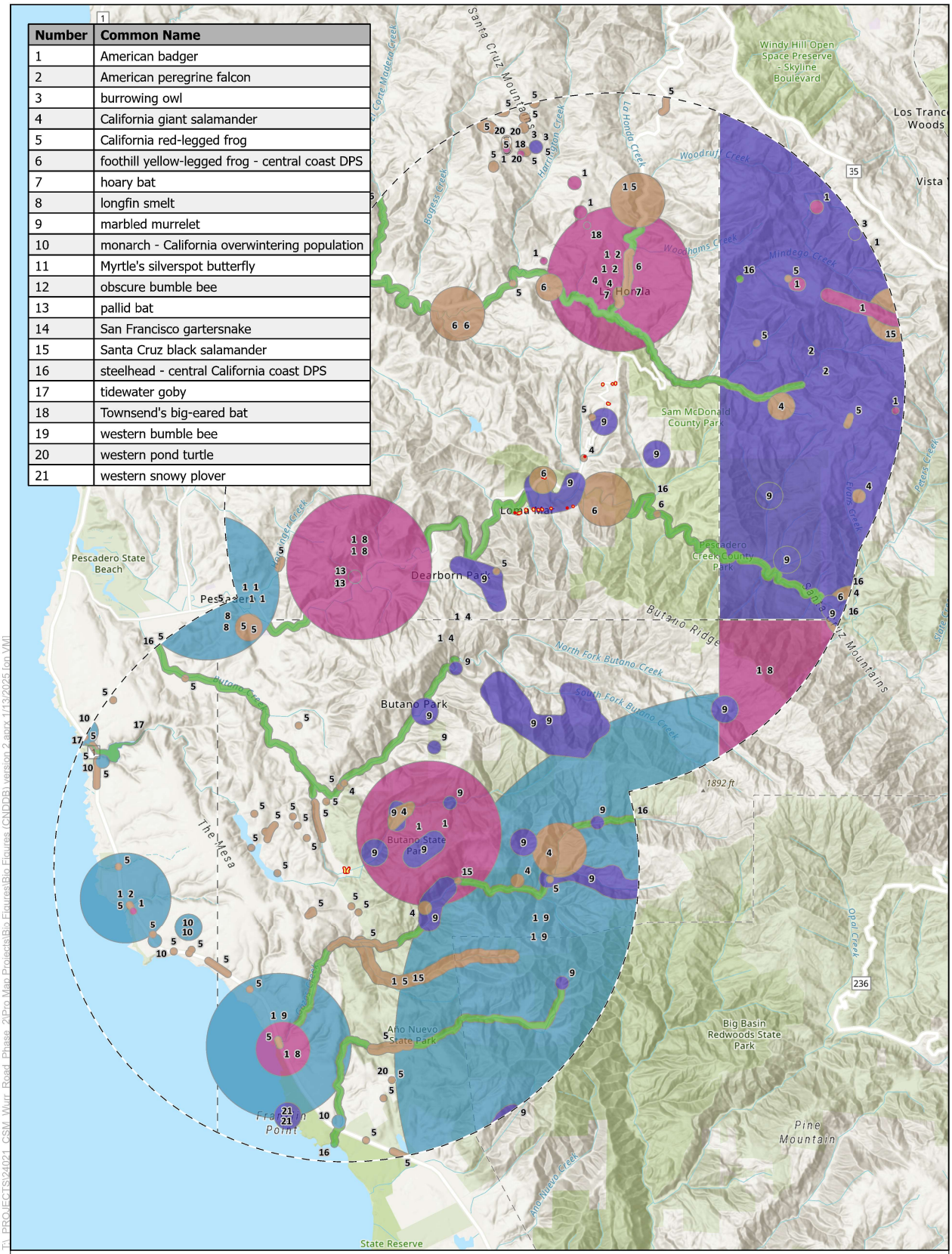


Figure 4
Special-Status Animal Species within 5 Mile Radius of Project Area

Wurr Road Culvert Repair

MONTROSE ENVIRONMENTAL

3.2 Land Cover Types

This section describes land cover present within the study area. Vegetation in the study area was surveyed during the delineation field surveys, and vegetation categories are provided below. Vegetation descriptions are based on the following resources: Holland's system of classification (Holland 1986), the California Manual of Vegetation (Sawyer et al. 2009), and CALVEG Zone 6 descriptions (U.S. Forest Service 2014). Botanical nomenclature follows the second edition of the Jepson Manual (Baldwin et al. 2012), except where synonyms are used from the National Wetland Plant List (USACE 2022). A list of plants observed in the study area is included in **Appendix D**.

3.2.1 Aquatic Habitats

Aquatic habitat includes areas that are permanently or persistently inundated. Aquatic habitats that occur in the study area are described below.

Riverine

Riverine habitat in the study area includes streams and intermittent drainages. Streams and drainages on steep slopes convey water in narrow channels at fast flow rates, typically have rocky bottoms, and can be episodic with higher flows responding to more intensive precipitation events. These channels are typically situated at higher elevations in the Santa Cruz Mountains. Streams and drainages on more gradual slopes tend to exhibit wider channels with slower moving water, have fine substrate bottoms, and generally convey longer to continuous, perennial flows. Perennial and intermittent streams may support a variety of aquatic species depending on hydrological conditions and habitat structure, including California, rough-skinned and hybridized newts (*Taricha* spp.), California giant salamander (*Dicamptodon ensatus*), California red-legged frog (*Rana draytonii*), Pacific chorus frog (*Pseudacris regilla*), and garter snake (*Thamnophis* spp.). Perennial waters may also support northwestern pond turtle (*Actinemys marmorata*) and a variety of fish species.

Downstream receiving waterbodies, Pescadero Creek and/or Butano Creek, support Central California Coast Steelhead (*Oncorhynchus mykiss)* and Coho Salmon (*Oncorhynchus kisutch*). Bloomquist Creek and Peterson Creek are not identified as steelhead bearing streams (CEMAR 2008) and are not accessible to anadromous fish migration due to steep channels with large drops over bedrock and large woody debris jams observed downstream of the Project sites along Wurr Road. Fish passage to upstream reaches of Little Butano Creek is currently impeded by several barriers – two drop structures immediately upstream of the Cloverdale Road box culvert (likely a partial barrier), which will be addressed by this project, and a bedrock chute (full barrier and current limit to anadromy) located downstream between the Cloverdale Road box culvert and confluence with Butano Creek. The San Mateo Resource Conservation District (RCD) is currently (Summer 2025) implementing the Little Butano Fish Passage and Enhancement Project to remove the bedrock chute, which will allow upstream movement of steelhead and Coho salmon in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.

Riverine habitat within the study area is considered sensitive habitat and may be subject to regulatory authorization from federal and state resource agencies.

3.2.2 Terrestrial Habitats

Terrestrial habitats include upland areas, such as riparian woodland, redwood forest, mixed conifer-hardwood forest, upland chapparal, and grassland areas. Developed areas are also classified as terrestrial habitat. Terrestrial habitats in the study area are described below.

Riparian Woodland

Riparian woodland is a tree-dominated community, with typical species including white alder (*Alnus rhombifolia*), Pacific willow (*Salix lasiandra*), bigleaf maple (*Acer macrophyllum*), California bay laurel (*Umbellularia californic*a), Coast live oak (*Quercus agrifolia*), Oregon ash (*Fraxinus latifolia*), and American dogwood (*Cornus sericea*). The understory is variable in composition, including a shrub or vine layer that includes California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), spreading gooseberry (*Ribes divaricatum*), western thimbleberry (*Rubus parviflorus*), red elderberry (*Sambucus racemosa var. racemosa*), and young willows. Other understory species present include native species such as great horse tail (*Equisetum telmateia*), California mugwort (*Artemisia douglasiana*), field horsetail (*Equisetum arvense*), California bee plant (*Scrophularia californica*), stinging nettle (*Urtica dioica*), and western dock (*Rumex occidentalis*). Non-native species present include poison hemlock (*Conium maculatum*), and grasses such as Harding grass (*Phalaris aquatica*), Italian ryegrass (*Festuca perennis*), slender oat (*Avena barbata*).

Riparian woodlands typically support a diverse assemblage of wildlife. Typical bird species include California western scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), downy woodpecker (*Picoides pubescens*), American robin (*Turdus migratorius*), black phoebe (*Sayornis nigricans*), acorn woodpecker (*Melanerpes formicivorus*), Steller's jay (*Cyanocitta stelleri*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thyromanes bewickii*), ruby-crowned kinglet (*Corthylio calendula*), bushtit (*Psaltriparus minimus*), and dark-eyed junco (*Junco hyemalis*). An adult, red-shouldered hawk (*Buteo lineatus*) was observed during the field survey and other raptors, such as red-tailed hawk (*B. jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and great horned owl (*Bubo virginianus*) may also occur. Amphibians and reptiles such as California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), Southern alligator lizard (*Elgaria multicarinata*), Pacific gopher snake *(Pituophis catenifer*), ring-necked snake (*Diadophis punctatus*), and Pacific chorus frogs may be found in this land cover. Small mammals common to riparian woodlands include dusky-footed woodrat (*Neotoma fuscipes*) and western gray squirrel (*Sciurus griseus*). A woodrat nest was observed along Little Butano Creek (Site 190) during the July 2025 survey. Bats may also use trees within this riparian habitat for foraging and roosting as several dead snags with cavities and exfoliating bark were observed in the direct the vicinity of the study area.

Riparian woodland is present along the Little Butano Creek (Site 190) and tributaries to Pescadero Creek. Riparian woodland is considered sensitive by CDFW.

Redwood Forest

Redwood forest is a composite habitat name for a variety of conifer species that grow in the coastal influence zone. Redwood forest habitats are largely restricted to areas of coastal influence with relatively stable temperatures and summer coastal fog. The tree composition includes redwood (*Sequoia sempervirens*) as the dominant or co-dominant species with a mixture of other conifer species, including Douglas fir (*Pseudotsuga menziesii*), and mixed with coastal oak woodland. San Mateo County is located near the southern end of the distribution of the redwood community, and therefore the associates can also include California bay and Oregon ash. The understory contains species such as sword fern (*Polystichum californicum*), thimbleberry, wood sorrel (*Oxalis corniculata*), tanoak (*Notholithocarpus densiflorus*), and bee plant.

Redwood Forest support a variety of bird species including American robin, Steller's jay, orange-crowned warbler (*Leiothlypis celata*), dark-eyed junco*,* brown creeper (*Certhia americana*), American crow, and common raven (*Corvus corax*). Old growth redwood forest is habitat for the marbled murrelet (*Brachyramphus marmoratus*). Amphibians found in this habitat include California slender salamander, arboreal salamander, rough-skinned and California newts, ensatina (*Ensatina eschscholtzii*), and California giant salamander. Mammals common to redwood forest areas include dusky-footed woodrat, western gray squirrel, brush rabbit (*Sylvilagus bachmani*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), mule deer (*Odocoileus hemionus*), and mountain lion (*Puma concolor*). Bats may also use trees within this habitat for foraging and roosting as several dead snags with cavities and exfoliating bark were observed in the direct the vicinity of the study area.

In the study area, this habitat occurs at the Pescadero Creek Road (Site 94 and Site 102) and the Wurr Road areas (site 263 through 268, 270 and 270.1). Redwood forest is considered a sensitive habitat by CDFW.

Mixed Conifer-Hardwood Forest

This habitat type contains both hardwoods and conifers in a closed canopy forest setting. Characteristically, this habitat contains a mixture of small stands, either pure conifer stands or small pure broadleaf tree stands. Common trees are Douglas fir, tanoak, Pacific madrone (*Arbutus menziesii*), coast live oak, big leaf maple, and redwood. This habitat represents a transition between conifer forests and montane hardwood. It may also occur as a transition zone between other habitats, including chaparral and other open woodlands. Mixed conifer-hardwood forest occurs in the outer coast range in inland portions of the range, often at redwood forest margins. Mixed conifer-hardwood also supports a diverse assemblage of wildlife that is also found within the redwood forest study area.

In the study area, this habitat occurs along many of the Wurr Road and Pescadero Creek Road sites.

Upland Chapparal

Upland chapparal communities are characterized by woody shrub-dominated landscapes, with few to no trees. Common dominant species associated with this land cover type within the study area include coyote brush and poison oak. Upland chapparal habitat is present along the Pescadero Creek Road sites (119 and 128.1). Non-native grasses and herbaceous species are often prevalent in this community, such as ripgut brome (*Bromus diandrus*), rattlesnake brome (*Bromus briziformus*), hairy vetch (*Vicia villosa*), Italian thistle (*Carduus pychocephalus*), bristly oxtongue (*Helminthotheca echioides*), and Italian ryegrass.

Ruderal & Developed

Ruderal vegetation is characterized by non-native forbs and grasses in a disturbed habitat typically along the edges of developed/landscaped cover or areas with frequent disturbance. Dominant ruderal species include Harding grass, rattlesnake brome, Italian thistle, Italian ryegrass, ripgut brome, soft chess, foxtail barley (*Hordeum jubatum*), and other opportunistic weedy species. Ruderal cover in the study area was observed along Wurr Road, Pescadero Creek Road, and Cloverdale Road.

Developed/landscaped land cover is found throughout the study area. This land cover includes roads, structures, paved surfaces, landscaped vegetation, and other anthropogenic features. Vegetation in these areas, if present at all, is usually sparse, dominated by opportunistic weedy herbaceous species found in the neighboring ruderal community.

3.3 Special-Status Species

For the purpose of this report, special-status plant and wildlife species refer to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants, 50 CFR Section 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under ESA (76 Federal Register [FR] Section 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.);
- California Rare Plant Rank (CRPR) List 1 and 2 species; and
- Animals fully protected in California (Fish and Game Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]) or species designated as “Species of Special Concern” by CDFW.

A full list of all special-status species reviewed along with habitat descriptions and an assessment of their potential to occur in the Project area is included in **Appendix C**. Maps of CNDDB occurrence records within

5 miles of the Project areas for special-status plants (Figure 3) and special-status wildlife (Figure 4), were created based on the literature review.

Special-status species with the potential to occur in the vicinity of the study area were evaluated for their potential to occur in the Project areas and summarized in **Table 2** below.

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Plants			
Arctostaphylos andersonii Anderson's manzanita	- / - / 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest. 95-765 m. Blooms in November through May.	**Not expected.** Suitable habitat is present in the vicinity of the Study area but the nearest known occurrence is near Butano Ridge Road in Pescadero Creek County Park approximately 2.15 miles east of the Project area (CNDDB 2025). This species was not observed in the Project area during reconnaissance surveys.
Dirca occidentalis western leatherwood	- / - / 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 25-425 meters. Blooms January through April.	**Possible.** Suitable habitat is present in the along several Wurr Road and Pescadero Creek Road sites. Several CNDDB occurrences are present north of La Honda Road approximately 1.94 miles northwest from Site 128.1 (CNDDB 2025).
Eriophyllum latilobum San Mateo woolly sunflower	FE / SE / 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest, ultramafic. Often on roadcuts; found on and off of serpentine. 30-610 m. Blooms May through June.	**None.** Suitable habitat of cismontane woodland is present in the Study areas of Wurr Road, and Pescadero Creek Road. However, one CNDDB occurrence in La Honda from 1988 is considered possibly extirpated and species is presumed extirpated within La Honda Quadrat (CNDDB 2025 and CNPS 2025).
Fissidens pauperculus minute pocket moss	- / - / 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 10-1,024 m.	**Possible.** Suitable habitat is present in the study area. Two CNNDB occurrences are present near Old Haul Road near Memorial County Park and another along the Little Butano Creek Trail within Butano State Park (CNDDB 2025).
Malacothamnus arcuatus arcuate bushmallow	- / - / 1B.2	Chaparral. Gravelly alluvium. 1-735 m. Blooms April through June.	**Possible.** Suitable chaparral habitat is present along Pescadero Creek Road (Site 128.1). One CNDDB occurrence is present near La Honda approximately 0.45 miles northwest from Site 128.1 (CNDDB 2025).
Monolopia gracilens woodland woollythreads	- / - / 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on	**Possible.** Suitable habitat of chaparral and cismontane woodland is present along Wurr Road and Pescadero Creek Road. One CNDDB occurrence is near La Honda 0.45 miles northwest from Project area of Pescadero Creek Road (Site 102 and 128.1) (CNDDB 2025).

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
		serpentine after burns but may have only weak affinity to serpentine. 100-1,200 meters.	
Piperia candida white-flowered rein orchid	- / - / 1B.2	North Coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m. Blooms May through September.	**Possible.** Suitable habitat is present in along the Wurr Road and Pescadero Creek Road sites. Nearest CNDDB occurrence is present Portola State Park approximately 0.9 miles southeast from Wurr Road.
Amphibians			
Aneides niger Santa Cruz black salamander	- / SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	**Possible.** Suitable habitat is present along Cloverdale Road and Wurr Road and Pescadero Creek Road woodlands. The nearest CNDDB occurrence from 2002 is within Gazos Creek in Butano State Park 1.5 miles east of the Cloverdale Road site, with a historical occurrence from 1950 on Old Woman's Creek less than 1 mile south from Cloverdale Road.
Dicamptodon ensatus California giant salamander	- / SSC	Aquatic, meadow & seep, north coast coniferous forest, riparian forest. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Present.** Larvae was observed in the scour pool downstream of Site 268 in Peterson Creek during reconnaissance surveys. The nearest CNDDB occurrence overlaps with Project area location 102 on Pescadero Creek Road (CNDDB 2025).
Rana boylii foothill yellow-legged frog - central coast DPS	FT/ SE	Aquatic, riparian forest, riparian scrub, riparian woodland, south coast flowing waters. Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	**Possible.** Suitable aquatic habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. The nearest CNDDB occurrence from 1960 overlaps Site 94 (CNDDB 2025). Other known occurrences are within Pescadero Creek Park from 1960 and 1999 (CNDDB 2025).
Rana draytonii California red-legged frog	FT / SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval	**Possible.** The Project area is within designated Critical Habitat for this species. Suitable riparian habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. Forty-two CNDDB occurrence records are known from within five miles of the Cloverdale Road location (CNDDB 2025). Four-

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name Common Name	Listing status* (Federal/ State/CNPS)	Habitat Association	Potential to Occur in the Study Area
		development. Must have access to estivation habitat.	teen occurrence records are known within five miles of the Wurr Road and Pescadero Creek Road sites, with one record as close as 0.5 miles northeast of Site 102 (CNDDB 2025).
Reptiles			
Actinemys marmorata western pond turtle	PT/ SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation above mean sea level (amsl). Needs basking sites and suitable adjacent upland (sandy banks or grassy open fields) habitat for egg-laying.	**Not expected.** This species is known to inhabitant Pescadero-Butano Marsh approximately 3.8 miles northwest of the Cloverdale Road site (Site 190) (CNDDB 2025). Marginal aquatic habitat is present upstream and downstream of the Cloverdale Road culvert, but the concrete bed, banks, and box culvert prevent this species from persisting within the Project area. Suitable habitat is absent at the Wurr Road and Pescadero Creek Road sites.
Thamnophis sirtalis tetrataenia San Francisco gartersnake	FE/SE, FP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	**Possible.** This species is documented in the Pescadero-Butano watershed within five miles of the study area (CNDDB 2025). Suitable riverine habitat is present in Little Butano Creek. Marginal aquatic habitat is present at Bloomquist Creek and Peterson Creek but these sites generally lacked dense vegetative cover and/or suitable pools.
Fish			
Oncorhynchus kisutch coho salmon - central California coast ESU	FE / SE	Open ocean, estuaries, and rivers. Federal listing includes populations between Punta Gorda and San Lorenzo River. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	**Present.** Coho salmon are known to occur in Pescadero Creek and the creek is designated Critical Habitat for this species. However, no work occurs on Pescadero Creek, and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish. Coho also occur in Butano Creek. Currently a bedrock chute on Little Butano Creek is a total fish barrier downstream of the Cloverdale Road site (Site 190) which impedes anadromous fish from upstream movement. However, the San Mateo RCD is currently (Summer 2025) implementing a

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
			project to remove the bedrock chute, which will allow upstream movement of Coho salmon in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.
Oncorhynchus mykiss irideus steelhead - central California coast DPS	FT /SCC	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	**Present.** Steelhead are known to occur in Pescadero Creek and lower reaches of Little Butano Creek and the creek is designated Critical Habitat for this species (Spence et al. 2008, CEMAR 2008). However, no work occurs on Pescadero Creek and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Steelhead also occur in Butano Creek but total fish barriers on Little Butano Creek downstream of the Cloverdale Road site currently impede anadromous fish from upstream movement. The RCD is currently (Summer 2025) implementing a project to remove the bedrock chute, which will allow upstream movement of steelhead in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish.
Birds			
Brachyramphus marmoratus marbled murrelet	FT / SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. In San Mateo County, the marbled murrelet is restricted to old-growth redwood forests, where it breeds, and to coastal waters, where it forages up to six miles inland, often in Douglas-fir (SAS 2001, Cornell Lab of Ornithology 2024).	**Present.** In Memorial County Park, known marbled murrelet (MAMU) occupied sites have been at documented at the Huckelberry Flat and occupied behavior has been confirmed at Homestead Flat, Sequoia Flat at Memorial County Park. Designated Critical Habitat for this species overlaps within San Mateo County in Memorial Park, is present within Site 94 and is adjacent to the Project sites along Wurr Road (Sites 102, 263, 265, 265.1, 266, 268, and 270). Based on proximity to 2010 CNDDB occurrence at Memorial County Park (CNDDB#38) it is assumed MAMU has the potential to occur at Project sites at 94, 102 263, 265, 265.1, 266, 268, 270, and 270.1 (occurrence

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
			overlaps Wurr Road and Pescadero creek Road). At Site 263 a 2010 occurrence is located approximately 144 meters from the project site (CNDDB 2025). The presence of potential nesting trees within 300 feet (ft) of Project sites with large diameter tree with large (≥4") horizontal branches (platform location with moss and access and good canopy cover, complex understory, good access points for landing) are present in sites 94, 263, 265, 270, 270.1. No suitable nesting trees were observed within 300 ft at Sites 94, 102, 265.1, 266, or 268. With known occupied sites, confirmed occupied behavior, CNDDB occurrences and presence of potential nesting trees (within 300ft of Project site) within the vicinity of the Project area is it possible (assumed) that suitable habitat is located within ¼ mile of Sites 94, 102, 263, 265, 265.1, 268, 270, 270.1 and that MAMU has the potential to occur within these Study areas.
Asio otus long-eared owl	-/ SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**Not expected.** A breeding pair was documented near the Stevens Creek headwaters approximately 5 miles east of Pescadero Creek Road, Site 128.1 in 1986/1987 (CNDDB 2025). The open space area adjacent to Site 128.1 provides suitable foraging habitat but lacks suitable nesting habitat.
Mammals			
Antrozous pallidus Pallid bat	- / SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Possible.** Suitable foraging habitat is present within the study area, such as in larger trees in riparian areas. One CNDDB occurrence is 2.3 miles west of Wurr Road (CNDDB 2025).
Corynorhinus townsendii Townsend's big-eared bat	- / SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not expected.** One CNDDB occurrence within 1.3 miles west of Wurr Road (CNDDB 2025). Suitable foraging habitat is present within the study area. Typical roost sites includes caves, tunnels, old mines, barns, and abandoned buildings which are not present within the Project area. Old-growth trees with large basal hollows may have

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
			formerly been important roost type; however, no old-growth trees are located in the work areas.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	- / SSC	Forest habitats of moderate canopy and moderate to dense understory. Constructs nests of shredded grass, leaves and other material.	**Present.** No CNDDB occurrences were within 5 miles of the study area (CNDDB 2025). However, suitable habitat is present where forest, woodland, and chaparral habitats occur. One woodrat nest was observed along Little Butano Creek downstream of Cloverdale Road (site 190) during July 2025 surveys.
Taxidea taxus American badger	-/ SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Possible.** This species is known to occur in the Santa Cruz Mountains east of La Honda to Skyline Boulevard, with multiple CNDDB occurrence records within a 3.0 mile radius of Pescadero Creek Road (Site 128.1) and one historical record from 1978 was reported in Butano State Park near the Cloverdale Road site (Site 190) (CNDDB 2025). Suitable habitat is present in the open grassland and chaparral areas adjacent to these sites.

Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.

"Potential to Occur" Categories Definitions

Present = Species was detected during surveys and/or occurrence records document the species on site within the last 50 years.

Possible = Occurrence record known within 5 miles of the study area and suitable habitat is present.

Not expected = Occurrence record known within 5 miles of the study area but only marginal habitat exists and/or the site lacks primary habitat elements required to support that species.

None = The study area is outside of species' range, record is possibly or presumed extirpated, or no marginal habitat present.

* List of Abbreviations for Species Status:	California Rare Plant Rank:
FE = Federal endangered	1A = Plants presumed extinct in California and rare/extinct elsewhere
FT = Federal threatened	1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
FC = Federal Candidate	1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
SC = State Candidate	1B.3 = Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California
SE = State Endangered (California)	2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
ST = State Threatened (California)	
SR = State Rare (California)	
SCC = Species of Special Concern	

Table 2. Special Status Species with the Potential to Occur in the Project Area

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
FP= Fully Protected			

3.4 Critical Habitat

All Project sites are within designated Critical Habitat for California red-legged frog (SNM-2) (75 FR 12816-12959).

Critical Habitat for Marbled Murrelet overlaps San Mateo County Memorial Park and is present at Site 94 at Pescadero Creek Road and is adjacent to the Project sites along Wurr Road (Sites 2 102, 263, 265, 265.1, 266, 268, and 270). Critical habitat occurs within Butano State Park, however it does not overlap into in the Project site of Cloverdale Road (81 FR 51348-51370).

Critical habitat for *Oncorhynchus kisutch* pop. 4 coho salmon - Central California Coast ESU encompasses accessible reaches of all rivers (including estuarine areas and tributaries) between Punta Gorda and the San Lorenzo River (inclusive) in California, including two streams entering San Francisco Bay: Arroyo Corte Madera Del Presidio and Corte Madera Creek (NOAA et al. 2004). Critical habitat for *Oncorhynchus mykiss irideus* pop. 8 steelhead - Central California Coast DPS encompasses accessible reaches of all rivers between the Russian River and Aptos Creek in California, including drainages of San Francisco and San Pablo Bays eastward to Chipps Island (NOAA 2014). Pescadero Creek and Butano Creek are designated as Critical Habitat for *Oncorhynchus mykiss irideus* pop. 8 steelhead - Central California Coast DPS and coho salmon - Central California Coast ESU (USFWS 2024b). However, designated Critical Habitat for these species is currently not present at the Project sites. While Little Butano Creek at Cloverdale Road is currently inaccessible to anadromous fish due to a downstream migration barrier, this fish barrier will be removed by the San Mateo Resource Conservation District's Little Butano Creek Fish Passage and Habitat Enhancement ("Chute") Project. The downstream project is anticipated to be completed by Fall 2025 which would allow upstream access to the Cloverdale Road site before the Project begins. Therefore, steelhead and Coho salmon may be present in Little Butano Creek at Cloverdale Road (Site 190) once the downstream fish barrier is removed.

Bloomquist and Peterson Creek at Wurr Road are deemed non-fish bearing stream reaches due to steep slopes and bedrock drop offs (CAlFish 2025).

4 Potentially Jurisdictional Waters and Wetlands

Perennial and intermittent tributaries to Pescadero Creek are anticipated to be subject to U.S. Army Corps of Engineers (USACE) jurisdiction as a water of the U.S. and Regional Water Quality Control Board (RWQCB) jurisdiction as a water of the state. These include Bloomquist Creek, Peterson Creek, Little Butano Creek, and unnamed drainages tributary to Pescadero Creek. Project activities affecting jurisdictional waters and wetlands require a Clean Water Act (CWA) Section 404 Permit from USACE and a CWA Section 401 Water Quality Certification from RWQCB depending on the nature of the specific impact within jurisdictional areas. A separate aquatic resources (wetland) delineation shall be prepared independent from this report.

CDFW regulates activities that may: divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake within streambanks and other waters of the state under California Fish and Game Code Section 1600. Additionally, CDFW regulates the removal of riparian habitat associated with such waters of the state. Project activities affecting waters of the state and associate riparian habitat require a Lake or Streambed Alteration Agreement from CDFW.

5 Avoidance and Minimization Measures

The Project will implement applicable best management practices (BMPs) from the County's Routine Maintenance Program (RMP). These BMPs have been vetted by USACE, USFWS, NMFS, RWQCB, and CDFW during RMP development and program authorization. The BMPs include general maintenance practices and biological resources and habitat protection measures that would be implemented during Project construction. The complete list of BMPs are described and provided in **Appendix E.** While all the BMPs reduce the potential for direct and indirect impacts on biological resources, the following list includes BMPs more specific to avoid and minimize impacts on special-status species:

GEN-1: Staging and Access.

- Staging, access, and parking areas will be located outside of sensitive habitats to the extent feasible.
- Staging areas will be located 30 feet from the top of bank (or as far as feasibly possible) or on the outboard side of levees.
- Vegetation removal shall be limited to the minimum amount necessary to provide access.

GEN-2: Minimize Area of Disturbance and Site Maintenance.

- Areas of disturbance will be limited to the smallest footprint necessary and a single access pathway, where feasible. For maintenance activities near waterways or other sensitive habitat, the designated work area shall be clearly identified in the field using highly visible material, and work will not be conducted outside this area.
- Keep excavated soil and materials on the site where they will not collect into the street or get transported to storm drains or nearby water bodies by rainfall or runoff in order to avoid deleterious effects to fish, wildlife, and beneficial uses.
- Transfer excavated materials to dump trucks on the site, not in the street.

GEN-16: Timing of Work.

- In general, routine maintenance and construction activities that take place in sensitive habitat and/or in channels below ordinary high water will be conducted during the dry season (June 15 through October 31[1]). Maintenance activities that are in upland areas and that would not affect streams may occur during low rainfall years at times when there is no predicted rainfall (chance of precipitation in less than 30 percent chance of rain). Activities that are subject to permit requirements will be conducted during the period authorized by the permits.

GEN-21: Domestic Animals.

- No animals (e.g., dogs or cats) can be brought to the project site to avoid harassment, killing or injuring of wildlife.

[1]Construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

BIO- 1: Environmental Awareness Training.

- Prior to commencing maintenance activities in a given year, all participating maintenance personnel will attend a worker environmental awareness training program. The training will include a brief review of special-status species, sensitive habitats, and other sensitive resources that may exist in the project area, including field identification, habitat requirements, and the legal status and protection of each relevant species, as well as locations of sensitive biological resources. The training will include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training will cover the maintenance activity's conservation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologist(s). It will include printed material and an oral training session by a qualified biologist.

BIO-2: Minimize Injury or Mortality of Fish and Amphibian Species during Dewatering.

- Prior to dewatering a construction site, all reasonable efforts shall be made to capture and relocate native fish and amphibian species if necessary to avoid direct mortality and minimize take. Streams that support a sensitive species (e.g., steelhead, California red-legged frog) will require a relocation effort led by a qualified biologist. The following measures are consistent with those defined as reasonable and prudent by NMFS for projects concerning several central California Evolutionarily Significant Units for coho salmon and steelhead trout.
- Fish relocation activities will be performed only by qualified fisheries biologists that have experience with fish capture and handling.
- Perform relocation activities during morning periods when air temperatures are coolest.
- Periodically measure air and water temperatures. Cease activities when water temperatures exceed temperatures allowed by CDFW and NMFS.
- Capture methods may include fish landing nets, dip nets, buckets and by hand.
- Exclude fish from re-entering work area by blocking the stream channel above and below the work area with fine meshed net or screens. Mesh will be no greater than 1/8 inch (3.1mm). The bottom edge of net or screen will be completely secured to the channel bed to prevent fish from re-entering work area. Exclusion screening will be placed in areas of low water velocity to minimize impingement of fish. Screens will be checked periodically and cleaned of debris to permit free flow of water.
- Prior to capturing fish, the qualified biologist will determine the most appropriate release location(s). Captured aquatic life shall be released immediately in the closest suitable body of water adjacent to the work site, taking into consideration the following when selecting release site(s):
    A. Similar water temperature as capture location
    B. Ample habitat for captured fish

C. Low likelihood of fish re-entering work site or becoming impinged on exclusion net or screen.

D. Avoid areas with large concentrations of potential predators in immediate vicinity.

- Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish.
- Temporarily hold fish in cool, shaded, aerated water in a container with a lid or in a live car (i.e., a net enclosure that can be placed in a pond to temporarily hold the fish).
- If fish are held in a container, provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.
- Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish should be released, and rescue operations ceased.
- Avoid overcrowding in containers. Have at least two containers and segregate young-of-year fish from larger age classes to avoid predation. Place larger amphibians, such as Pacific giant salamanders, in container with larger fish.
- If fish are abundant, periodically cease capture, and release fish at predetermined locations.
- Visually identify species and estimate year-classes of fish at time of release.
- Count and record the number of fish captured. Avoid anesthetizing or measuring fish.
- Submit reports of fish relocation activities to CDFW and NMFS in a timely fashion.
- If feasible, plan on performing initial fish relocation efforts several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts. The biological monitor or qualified biologist shall check daily for stranded aquatic life as the water level in the dewatering area drops.
- If mortality during relocation exceeds the amount authorized by the applicable permits or, if no amount is specified, 5 percent, stop efforts and immediately contact the appropriate agencies (CDFW and NMFS).

BIO-3: California Red-legged Frog Protection Measures.

- If suitable habitat for California red-legged frog is determined to exist in or around the work area where maintenance activities are planned to occur, the County will implement applicable protection measures as follows:
- No more than twenty-four (24) hours prior to the date of initial ground disturbance or mowing, a pre-activity survey for the California red-legged frog will be conducted by a qualified biologist at the work site. The survey will consist of walking the work area limits to ascertain the possible

presence of the species. The qualified biologist will investigate all potential areas that could be used by the California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows, such as those of California ground squirrels (Spermophilus beecheyi) or gophers (Thomomys bottae). If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist will contact the USFWS to determine if moving any of the individuals is appropriate. If the USFWS approves moving animals, the biologist and USFWS will identify a suitable relocation site, and the County will ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists will capture, handle, and monitor the California red-legged frog.

- To minimize harassment, injury, death, and harm to individual California red-legged frogs, one of the following two measures will be implemented.

    1. An approved, qualified biologist(s) will be on-site during all activities that may result in take of the California red- legged frog, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. Qualified biologists must be approved by the USFWS.

        or

    2. Prior to pre-activity surveys, personnel will enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. The bottom of the fence will either be buried a minimum of six inches below ground or otherwise secured in a manner approved by the USFWS and will remain in place during all maintenance activities in order to prevent California red-legged frogs from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, will be provided in the exclusion fencing. A qualified biologist will conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and will be on-hand to monitor fence installation. The exclusion fencing will be inspected daily by maintenance personnel and maintained for the duration of maintenance implementation.

- The qualified biologist(s) will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with maintenance personnel, any other person(s) at the work area, otherwise associated with the maintenance work, the USFWS, the CDFW, or their designated agents. The qualified biologist will have oversight over implementation of all the conservation measures in this programmatic biological opinion, and will have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within twenty-four (24) hours. The USFWS contact is the Coast Bay Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600.

- The County will minimize adverse impacts to the California red-legged frog by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating maintenance work that involve ground-disturbing activities, equipment staging areas, site access routes, sediment removal and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed will be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing will be inspected by the qualified biologist and maintained daily until the last day that equipment is at the site.
- To the extent practicable, ground-disturbing activities will be avoided from October through April because that is the time period when California red-legged frogs are most likely to be moving through upland areas. When ground- disturbing activities must take place between November 1 and March 31, the County will ensure that daily monitoring by the qualified biologist is completed for the California red-legged frog.
- If egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Staff will keep a record of any sites where egg masses are found and will conduct vegetation removal at these sites between June 15 and October 31[2] . Staff shall avoid entering the channel to avoid dislodging egg masses. Activities shall be performed from the banks.
- To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all maintenance- related vehicle traffic will be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas will be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Maintenance related vehicles will observe a 20-mile per hour speed limit within work areas, except on County roads, and State and Federal highways. Off-road traffic outside of designated and fenced work areas will be prohibited.
- When a California red-legged frog is encountered in the work area, all activities which have the potential to result in the harassment, injury, or death of the individual will be immediately halted. The qualified biologist will then assess the situation in order to select a course of action that will avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the frog will be avoided and the individual will be allowed to move out of the potentially hazardous situation to a secure location on its own volition. This procedure applies to situations where a California red-legged frog is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the individual move away from the hazardous location.

[2] Construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

- California red-legged frogs that are in danger will be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., there are too many individuals observed per day), the biologist will relocate the animals to a USFWS preapproved location. Prior to the initial ground disturbance, the County will obtain approval of the relocation protocol from the USFWS in the event that a California red-legged frog is encountered and needs to be moved away from the work site. Under no circumstances will a California red-legged frog be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist will limit the duration of the handling and captivity of the California red-legged frog to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it will be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge.
- The County will immediately notify the USFWS once the California red-legged frog and the site is secure. The USFWS contact for this situation is the Coast Bay Foothills Division Chief of the Endangered Species Program by email and at telephone (916) 414-6600.
- A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day.
- The County will comply with all herbicide application requirements mandated by the USEPA and stipulated injunctions pertaining to California red-legged frog. For example, herbicides will be limited for controlling state-designated invasive species and noxious weeds, will not be used within 15 feet of aquatic breeding critical habitat or non-breeding aquatic critical habitat areas or within 15 feet of aquatic features within non-critical habitat sections subject to the 2006 Court-ordered injunction; precipitation is not occurring or forecast to occur within 24 hours; herbicide is limited to localized spot treatment using hand-held devices; and herbicide will be applied by a certified applicator or person working under the direct supervision of a certified applicator.
- For on-site storage of pipes, conduits and other materials that could provide shelter for California red-legged frogs, materials will be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials.
- To the maximum extent practicable, no maintenance activities will occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist will inspect the work area and all equipment/materials for the presence of California red-legged frogs. The animals will be allowed to move away from the work site of their own volition or moved by the qualified biologist.
- To the maximum extent practicable, night-time construction activities will be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-

legged frog most actively moving and foraging, to the maximum extent practicable, earthmoving and other project activities will cease no less than 30 minutes before sunset and will not begin again prior to 30 minutes after sunrise. Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a work site will be prohibited during the hours of darkness.

- Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form will not be used at the project site because California red-legged frogs can become entangled and trapped in them. Any such material found on site will be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials will not be used.
- Trenches or pits one (1) foot or deeper that are going to be left unfilled for more than forty-eight (48) hours will be securely covered with boards or other material to prevent the California red-legged frog from falling into them. If this is not possible, the County will ensure wooden ramps or other structures of suitable surface that provide adequate footing for the California red-legged frog are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.10 inch in diameter will be immediately filled or securely covered so they do not become pitfall traps for the California red-legged frog. The qualified biologist will inspect the trenches, pits, or holes prior to their being filled to ensure there are no California red-legged frogs in them. The trench, pit, or hole also will be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist will remove and transport it to a safe location, or contact the USFWS for guidance.

BIO-5: San Francisco Garter Snake Protection Measures.

In areas within one mile of a documented occurrence of the San Francisco garter snake, onsite habitat shall be evaluated by a qualified biologist or biological monitor for the potential to support this species. If suitable habitat for San Francisco garter snake is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the following measures will be followed:

- To the extent feasible, maintenance activities should be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area.
- Prior to implementation of maintenance work, the County will submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologist(s) who will perform pre-activity surveys and on-site monitoring.
- To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of maintenance activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist will conduct daytime surveys throughout the project site. The approved biologist will be present during initial

ground-disturbing activities (i.e., clearing and grubbing) within 250 ft of the work area to monitor for individual garter snakes. The biologist will also be present during any other maintenance activities that could potentially result in take, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. If a San Francisco garter snake is observed within the maintenance work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual will cease and the USFWS and CDFW will be contacted immediately. Work will not re-commence without written approval from CDFW. The on-site biologist will be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake. The on-site biologist shall possess a working cellular telephone whose number shall be provided to the USFWS and CDFW.

- For vegetation removal on berms or other sites with suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe.
- Maintenance-related vehicles will observe a 20 mile per hour speed limit while in the work area.
- San Francisco garter snakes may be attracted to structures that provide cavities such as pipes; therefore, all pipes, culverts, or similar structures that are stored at the site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the maintenance foreman/manager before the pipe is buried, capped, or otherwise used or moved. If a San Francisco garter snake is discovered inside a pipe, the biologist (or a member of the maintenance crew, if the biologist is not on-site) will watch the individual until it has moved out of the maintenance work area.
- A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day.

BIO- 6: Measures to Protect the Foothill Yellow-legged Frog, California Giant Salamander, Santa Cruz Black Salamander, and Western Pont Turtle.

In areas within one mile of documented foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, or western pond turtle occurrences, or where suitable habitat for one or more of these species is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the County will implement applicable protection measures as follows:

- The qualified biologist will conduct a special-status species survey on each morning of and within 48 hours prior to the scheduled work commencing.
    1. If no foothill yellow-legged frog, California giant Salamander, Santa Cruz black salamander, or western pond turtle is found, the work may proceed.

2. If eggs or larvae of the foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, are found, the qualified biologist will establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed, or the Permittee shall contact CDFW to develop site appropriate avoidance and minimization measures.
3. If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.
4. If adult or non-larval juvenile foothill yellow-legged frogs, California giant salamanders, Santa Cruz black salamanders, or western pond turtles are found, one of the following two procedures will be implemented:
    a. If, in the opinion of the qualified biologist, capture and removal of the individual to a safe place outside of the work area is less likely to result in adverse effects than leaving the individual in place and rescheduling the work (e.g., if the species could potentially hide and be missed during a follow-up survey), the individual will be captured and relocated by a qualified biologist to suitable habitat at least 100 meters away and work may proceed.
    b. If, in the opinion of the qualified biologist, the individual is likely to leave the work area on its own, and work can be feasibly rescheduled, a buffer will be established around the location of the individual(s) and work may proceed outside of the buffer zone. No work will occur within the buffer zone until the turtle has left the work area. Work within the buffer zone will be rescheduled if necessary.

BIO-7: Check for Wildlife in Pipes/Construction Materials.

For maintenance activities that involve pipes or culverts, the County will visually check all sections of pipe for the presence of wildlife sheltering within them prior to moving any pipe or culvert sections that have been stored on the site overnight, or the pipes will have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe/culvert sections to one another, the exposed end(s) of the pipe/culvert will be capped at the end of each day during construction to prevent wildlife from entering and being trapped within the pipeline/culvert.

BIO-8: Minimize Impacts on Dusky-footed Woodrat Nest.

If suitable habitat for San Francisco dusky-footed woodrat is determined to exist in the work area, the following measure will be followed:

- No more than two weeks prior to the beginning of ground disturbance or other routine maintenance activities that could disturb woodrat nests, a qualified biologist will survey the work areas scheduled for maintenance. If any dusky- footed woodrat nests are found, the nests shall be flagged and construction fencing or flagging that will not impede the movement of the

San Francisco dusty-footed woodrat shall be placed around the nest to create a 10-foot buffer (where feasible). If the nest is located adjacent to a road or trail, the nest shall be clearly flagged so equipment/truck drivers accessing sites can see the nest. If a dusky-footed woodrat nest is identified in a work area, the following measure will be implemented by the County.

- The County will avoid physical disturbance of the nest if feasible. Ideally, a minimum 10-foot buffer should be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of maintenance activities.
- If a dusky-footed woodrat nest cannot be avoided and the nest is located in urban or bayside areas where woodrat populations are small and isolated from larger populations, the County will consult with CDFW regarding the appropriate measures to minimize impacts.
- If a dusky-footed woodrat nest cannot be avoided and the nest is located in more rural or natural areas and/or where woodrat populations are large and have connectivity to large populations, one of the following two relocation measures will be implemented by the County:
- If the woodrat nest site and the proposed relocation area are connected by suitable dispersal habitat for the woodrat, as determined by a qualified biologist, the following relocation methodology will be used: Prior to the beginning of construction activities, a qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the maintenance activity area. Relocations efforts will avoid the nesting season (February-July) to the maximum extent feasible. Disturbance of the woodrat nest will be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist will dismantle and relocate the nest material by hand. All material from dismantled nests will be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original nest locations, to provide material for woodrats to construct new nests. During the deconstruction process, the biologist will attempt to assess if there are juveniles in the nest. If immobile juveniles are observed, the deconstruction process will be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot-wide no-disturbance buffer will be established around the nest until the juveniles are mobile. The nest may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to woodrat nests will be documented in a construction monitoring report and submitted to CDFW.
- If a qualified biologist determines that the woodrat relocation area is separated from the nest site by major impediments, or a complete barrier, to woodrat movement, trapping for woodrats will be conducted prior to relocation of nest material. Prior to the start of nest relocation activities, artificial pine box shelters will be placed at each of the sites selected for relocation of nest materials. The dimensions of the artificial shelters will be approximately 8” long x 8” wide x 6” high. Each shelter will include two interior chambers connected by an opening. At the

relocation sites, the artificial pine box shelters will provide basement structures for the relocated woodrat nest materials, allowing woodrats to enter, use, and modify the relocated nests.

- A qualified biologist will set two traps around each of the woodrat nests to be relocated. Traps will be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples. Traps will also be equipped with cotton bedding and covered with cardboard. The traps will be checked the following morning, within one- and-a-half hours of sunrise. If a woodrat is captured it will be placed in a quiet area while its nest material is relocated; the animal will then be released at the relocated nest. If no woodrats are captured after the first night, the biologist will set the traps for one additional evening to increase the probability of capturing the animal and ensuring a safe relocation. If no woodrats are captured at a given house after two nights, it will be assumed that the house is not currently occupied.
- Trapping will only be conducted outside the breeding season, which for woodrats is from February through the end of July. If a litter of young is found or suspected while dismantling a nest for relocation, the nest material will be replaced, any trapped woodrats will be returned to the nest, and the nest will be left alone for 2 to 3 weeks, after which time the nest would be rechecked to verify that the young are capable of independent survival, as determined by the lead woodrat biologist, before proceeding with nest dismantling.

BIO-9: Measures to Protect Nesting Migratory Bird.

- To the extent possible, conduct vegetation removal activities prior to nesting bird season (February 1 through August 31).
- For maintenance activities or tree removal that are scheduled to occur between February 1 and August 31, a qualified biologist will survey the work area and a minimum of 300 feet surrounding the work area for raptor nests and 100 feet for nests of non-raptors. This survey will occur no more than three days prior to starting work. If a lapse in maintenance-related work of 7 days or longer occurs, another focused survey will be conducted before maintenance work can be reinitiated.
- If nesting birds are found, a no-work buffer will be established around the nest and maintained until the young have fledged. A qualified biologist will identify an appropriate buffer based on a site-specific evaluation. Typical appropriate buffers are 300 feet for raptors, herons, and egrets (though larger for bald and golden eagles, as discussed in BIO-15); 100 feet for non-raptors nesting on trees, shrubs and structures, and 25 feet for ground-nesting non-raptors.
- The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone.
- Install physical barriers to nesting where appropriate (e.g., install netting over entryways to cavities, bridge ledges, culverts) and check regularly for any trapped birds. Work will not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival.

- No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site). To avoid potential impacts to tree or shrub-nesting birds, any project-specific trimming or pruning of trees or shrubs shall be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist. No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project.
- Within areas subject to CDFW regulation under Section 1600 of the Fish and Game Code, nesting bird protection measures required as conditions of the Streambed Alteration Agreement will be implemented.

BIO-10: Marbled Murrelet Protection Measures.

- During marbled murrelet breeding/nesting season (March 24 to August 15), if suitable marbled murrelet nesting trees are present within 300 feet of the project area or if a marbled murrelet nest is detected, Permittee shall consult with CDFW before proceeding. If habitat trees are present within ¼- mile of the project site but are greater than 300 feet from the work area, Permittee may proceed with the following conditions:
- Work within the ¼-mile buffer shall be confined to the period of August 15 to October 31[3] .
- If activities cannot be performed during this window and would thus occur during the marbled murrelet breeding season (March 25 to August 15), seasonal disturbance minimization buffers as listed the USFWS document, Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (2006) shall be followed. Permittee shall measure ambient noise and estimate construction activity noise to calculate seasonal buffer widths using that reference.
- Alternatively, if protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, seasonal and distance work restrictions may be lifted with written approval from CDFW. Protocol level survey procedures and information can be found at:
- http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf

BIO-14: Measures to Protect Bat Colonies.

- If high-quality habitat for roosting bats (i.e., large trees with cavities of sufficient size to support roosting bats, or buildings providing suitable roost sites, as determined by a qualified bat biologist) is present within 100 feet of a maintenance site, a qualified bat biologist will conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where

[3] Allowable construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if a bat colony is present and to identify the specific location of the bat colony.

- If no active maternity colony or non-breeding bat roost is located, project work can continue as planned.
- If an active maternity colony or non-breeding bat roost is located, the project work will be redesigned to avoid disturbance of the roosts, if feasible.
- If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance will not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) will be observed during this period.

If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individuals will be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined by a Memorandum of Understanding with CDFW). Bats may be evicted through exclusion after notifying CDFW. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.

BIO-16: Avoid Special Status Plant Species.

For projects located in areas where special-status plants have been identified as potentially occurring, a qualified biologist will assess habitat suitability for the potential occurrence of special-status plant species within the work area. If determined to be warranted, a qualified botanist will conduct appropriately timed surveys for the focal plant species in accordance with CDFW's special-status plant survey methodology. If a special-status species is observed in or near the project site, the County will follow the measures below as well as any additional measures that might be contained in the forthcoming Biological Opinion issued by the USFWS for the Maintenance Program.

- If discovered, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population will be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species.
- Special-status plants to be avoided will be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing will be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing will be installed at least 50 feet from the edge of the population. The location of the fencing will be shown on the maintenance design drawings and marked in the field with stakes and/or flagging. The design specifications will contain clear language that prohibits

maintenance-relate activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area. For non-ground disturbing vegetation management activities conducted using only hand-held equipment, the non-disturbance buffer may be reduced to a minimum of 3 feet and flagging of the population may be used in place of environmentally sensitive fencing.

BIO-21: General Wildlife Protection Measures.

If any wildlife is encountered during project activities, said wildlife shall be allowed to leave the area unharmed and on their own volition, except in cases where relocation by a qualified biologist is permitted by conditions below.

BIO-24: Pathogen Control.

- In order to minimize the spread of plant and animal pathogens, all equipment (including personal gear such as boots) will be cleaned of soil, seeds, and plant material prior to arriving on a maintenance site. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments.
- Equipment, including maintenance equipment and field gear used to capture and relocate special-status species such as frogs, will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features).
- Boots, nets, gloves, and any other equipment used to handle amphibians or aquatic organisms will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between maintenance sites. Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.
- When working at sites with known or suspected disease problems, disposable gloves will be worn and changed between handling each animal. Gloves will be wetted with water from the site or distilled water prior to handling any amphibians. Gloves will be removed by turning inside out with hands cleaned using a hand cleaner and water rinse to minimize cross-contamination.

Use of the following BMPs from the RMP has proven successful at avoiding and minimizing impacts on sensitive biological resources and special-status species. No additional measures are proposed to reduce impacts to special-status species.

6 Summary and Conclusions

This report summarizes sensitive biological resources with potential to occur within the study area.

The study area provides suitable habitat for six (6) special-status plant species and fourteen (14) special-status wildlife species. These species have some potential to occur within the Project area. Birds protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code are likely to nest within or adjacent to the study area.

Injury or mortality of individual wildlife may occur during Project construction, and there would be temporary construction-related adverse effects on sensitive habitats. However, potential for temporary construction-related adverse effects on sensitive species and habitats would be reduced by implementation of County RMP BMPs. These BMPs were designed to avoid and minimize impacts on sensitive biological resources, including the special-status plant and wildlife species that may be found in the Project area and identified in Table 2 of this report. The County is familiar and experienced with implementing these BMPs for maintenance projects with activities similar to those proposed under this Project, such as culvert repair, replacement, rock inlet protection and outfall energy dissipation, and sediment removal. Implementation of these BMPs has proven to be effective at avoiding and minimizing take of special-status species.

Project sites that have been identified to contain suitable habitat for MAMU and which present a potential for this species to occur within the Project areas include Sites 94, 102, 263, 265, 265.1, 268, 270, 270.1. Additionally, a survey completed in July 2025 found that potential MAMU nesting trees are present within 300 feet sites 94, 263, 265, 270, 270.1. Due to the potential for nesting habitat within one-quarter mile of the project sites, construction at these sites would be restricted to between August 15 to October 31 (BMP BIO-10) to avoid the marbled murrelet breeding/nesting season (March 24 to August 15). Therefore would be no impact to breeding marbled murrelet.

Following Project completion, habitat conditions for fish (anadromous salmonid species), amphibians and other aquatic species would improve by lowering the risk of a catastrophic failures at undersized and damaged culverts, and reducing channel erosion at culvert outfalls, thus reducing downstream sedimentation of fine material in waterways and downstream receiving waterbodies, i.e., Pescadero Creek and Butano Creek. In addition, riparian habitat would be expanded and enhanced at Little Butano Creek at the Cloverdale Road site (Site 190) by removing concrete bed and banks and replanting with native riparian species. Removing instream drop structures would allow for more effective fish movement through the Project reach and in combination with other planned fish barrier removal projects downstream, the Project would expand potential spawning habitat for listed anadromous salmonid species on Little Butano Creek. Overall, the Project would have beneficial effects on special-status species in the Pescadero-Butano Watershed.

The Project would not significantly modify habitat nor reduce habitat value at the Project sites. Potential adverse effects on Critical Habitat for California red-legged frog, pop. 8 steelhead - Central California Coast

DPS and pop. 4 coho salmon - Central California Coast ESU, and marbled murrelet would be minimized by implementing County RMP BMPs. The Project would not result in the persistent loss of or measurable changes to the quality of Critical Habitat for those species. The overall effects of the Project on designed Critical Habitat would be beneficial for anadromous salmonid species such as coho and steelhead, California red-legged frog and discountable for marbled murrelet.

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Appendix A

Site Photographs

Appendix A. Site Photographs

Site 94, unnamed drainage at Pescadero Creek Road			
Photo No.	1	**Photo No.**	2
Date	February 2024	**Date**	May 2024
Road Side	South; Upstream	**Road Side**	North; Downstream
			
Culvert inlet on unnamed drainage.		Culvert outlet area.	

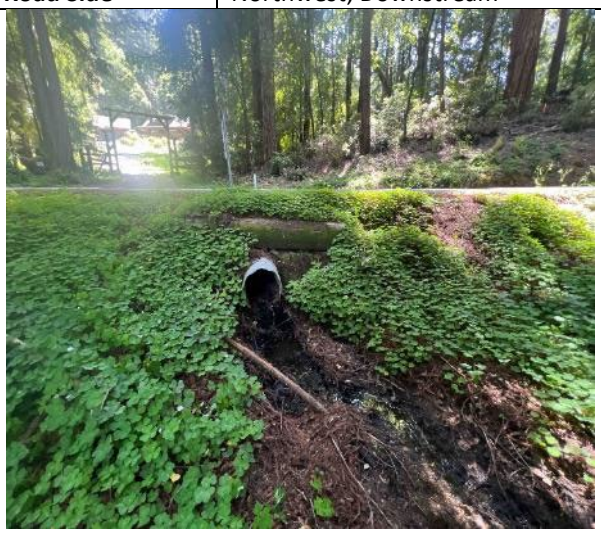
Site 102, unnamed drainage at Pescadero Creek Road			
Photo No.	3	**Photo No.**	4
Date	May 2024	**Date**	February 2024
Road Side	South; Upstream	**Road Side**	South; Downstream
			
Culvert inlet area that goes underneath roadway.		Drainage ditch on opposite (downstream) side of road.	

Appendix A. Site Photographs

Site 119, unnamed drainage at Pescadero Creek Road			
Photo No.	5	**Photo No.**	6
Date	February 2024	**Date**	February 2024
Road Side	West; Downstream	**Road Side**	West; Downstream
			
Culvert inlet area.		Culvert outlet area.	
Site 128.1 at Pescadero Creek Road			
Photo No.	7	**Photo No.**	8
Date	May 2024	**Date**	May 2024
Road Side	North; inlet area	**Road Sid**	South; outlet area
			
Proposed new culvert inlet area (roadside ditch).		Proposed outfall area.	

Appendix A. Site Photographs

Site 263, Bloomquist Creek at Wurr Road			
Photo No	9	**Photo No.**	10
Date	May 2024	**Date**	May 2024
Road Side	North; Upstream	**Road Side**	South; Downstream
			
Culvert inlet area (yellow) on Bloomquist Creek.		Culvert outfall on Bloomquist Creek.	

Site 265, unnamed drainage at Wurr Road			
Photo No.	11	**Photo No.**	12
Date	May 2024	**Date**	May 2024
Road Side	Northwest; Upstream	**Road Side**	Northwest; Downstream
			
Culvert inlet of an unnamed drainage passing under Wurr Road		Culvert outfall of unnamed drainage.	

Appendix A. Site Photographs

Site 265.1 at Wurr Road			
Photo No.	13	**Photo No.**	14
Date	May 2024	**Date**	May 2024
Road Side	Southwest; inlet area	**Road Side**	Northwest; outlet area
			
Proposed culvert inlet area along Wurr Road.		Proposed culvert outfall area along Wurr Road.	

Site 266, unnamed drainage at Wurr Road			
Photo No.	15	**Photo No.**	16
Date	May 2024	**Date**	May 2024
Road Side	Southeast; Upstream	**Road Side**	West; Downstream
			
Culvert inlet area (unnamed drainage) approaching Wurr Road.		Culvert outfall area.	

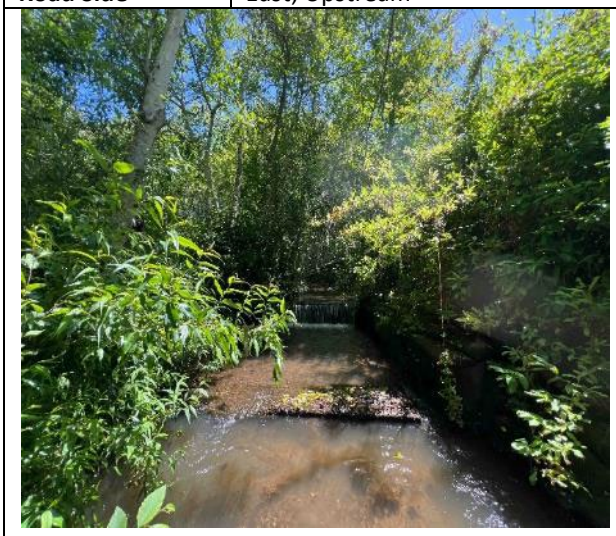
Appendix A. Site Photographs

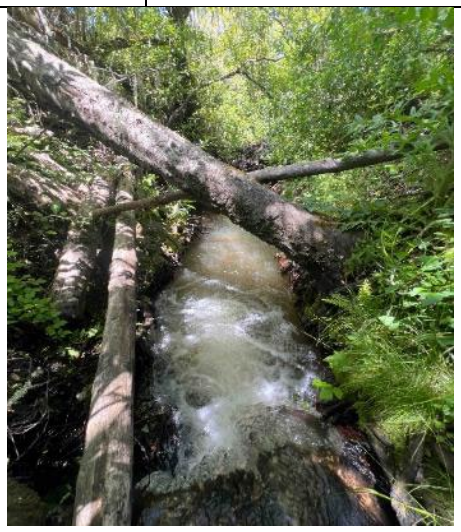
Site 268, Peterson Creek at Wurr Road			
Photo No.	17	**Photo No.**	18
Date	May 2024	**Date**	May 2024
Road Side	Southeast; Downstream	**Road Side**	Southwest; Downstream
			
Culvert inlet indicated with yellow circle (Peterson Creek).		Culvert outlet area (Peterson Creek).	
Site 270 at Wurr Road			
Photo No.	19	**Photo No.**	20
Date	December 2024	**Date**	December 2024
Road Side	West; inlet area	**Road Side**	North; outlet area
			
Culvert inlet area and inboard drainage ditch parallel to Wurr Road.		Culvert outlet area. The culvert discharge has formed a channel that dissipates downstream of the trees (yellow arrow).	

Appendix A. Site Photographs

Site 270.1 at Wurr Road			
Photo No.	21	**Photo No.**	22
Date	December 2024	**Date**	December 2024
Road Side	South; inlet area	**Road Side**	North; outlet area
			
Proposed culvert inlet area (yellow) parallel to Wurr Road.		Proposed culvert outfall area on the downslope side of Wurr Road.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	23	**Photo No.**	24
Date	May 2024	**Date**	June 2024
Road Side	East; Upstream	**Road Side**	East; Upstream
			
Little Butano Creek looking upstream from the upstream extent of the project. Stream depth was approximately 6-8 inches at the time of the site visit.		Upstream of the culvert crossing looking at the concrete streambed, concrete drop structure, and sacked concrete banks with by overhanging vegetation.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	25	**Photo No.**	26
Date	May 2024	**Date**	May 2024
Road Side	East; Upstream	**Road Side**	West; Upstream
			
Standing at the culvert upstream face looking upstream. The streambed is concrete with sacked concrete on both banks.		The left culvert opening facing downstream. The culvert had a relatively thin layer of sediment along the bottom with sediment plugging much of the right culvert (not shown, photo right).	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	27	**Photo No.**	28
Date	June 2024	**Date**	May 2024
Road Side	Northeast; Downstream	**Road Side**	West; Downstream
			
The culvert outfall area with significant sediment accumulated in the right culvert (yellow circle) and on the concrete apron.		Downstream view of Little Butano Creek from the edge of the concrete apron. The cascade has created a drop between the apron and the streambed below.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	29	**Photo No.**	30
Date	July 2025	**Date**	July 2025
Road Side	East; Upstream	**Road Side**	Northwest; Downstream
			
Upstream view of Little Butano Creek from the edge of the concrete apron.		Downstream view of Little Butano Creek downstream of the concrete apron.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	31	**Photo No.**	32
Date	July 2025	**Date**	July 2025
Road Side	East -southeast; Upstream	**Road Side**	Northeast; Upstream
			
Upstream view of Little Butano Creek downstream of the concrete apron.		Upstream view from the edge of the Project area (bridge crossing).	

Appendix B

USFWS, CNDDB, and CNPS Species List

IPaC resource list

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

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

NOT FOR CONSULTATION

Location

San Mateo 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.

NOT FOR CONSULTATION

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

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern Sternula antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened
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
San Francisco Garter Snake Thamnophis sirtalis tetrataenia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5956	Endangered

NOT FOR CONSULTATION

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
Foothill Yellow-legged Frog Rana boylii There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5133	Threatened

Fishes

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/57	Endangered

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

Flowering Plants

NAME	STATUS
Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered

NOT FOR CONSULTATION

San Mateo Woolly Sunflower Eriophyllum latilobum Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7791	Endangered

Conifers and Cycads

NAME	STATUS
Santa Cruz Cypress Cupressus abramsiana Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1678	Threatened

Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
California Red-legged Frog Rana draytonii https://ecos.fws.gov/ecp/species/2891#crithab	Final
Marbled Murrelet Brachyramphus marmoratus https://ecos.fws.gov/ecp/species/4467#crithab	Final

NOT FOR CONSULTATION

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 habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, 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, 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 bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles 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

NOT FOR CONSULTATION

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

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.

NOT FOR CONSULTATION

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

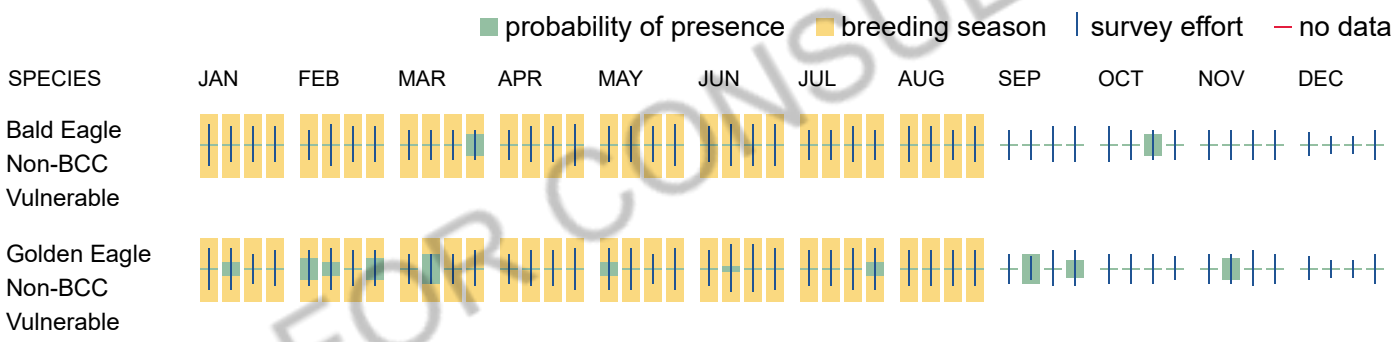
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.



NOT FOR CONSULTATION

Bald & Golden Eagles FAQs

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

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

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests

might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

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

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

Interpreting the Probability of Presence Graphs

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.

NOT FOR CONSULTATION

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).

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

NOT FOR CONSULTATION

Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Ashy Storm-petrel Hydrobates homochroa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7237	Breeds May 1 to Jan 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
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
Black Oystercatcher Haematopus bachmani This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone Arenaria melanocephala This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NOT FOR CONSULTATION

Brandt's Cormorant Urile penicillatus — Breeds Apr 15 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

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

Elegant Tern Thalasseus elegans — Breeds Apr 5 to Aug 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/8561

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Heermann's Gull Larus heermanni — Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Lawrence's Goldfinch Spinus lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-eared Owl asio otus — Breeds Mar 1 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/3631

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

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

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Red Knot Calidris canutus roselaari — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8880

NOT FOR CONSULTATION

Santa Barbara Song Sparrow Melospiza melodia graminea 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	Breeds Mar 1 to Sep 5
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Western Gull Larus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 21 to Aug 25
Western Screech-owl Megascops kennicottii cardonensis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jun 30
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

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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.

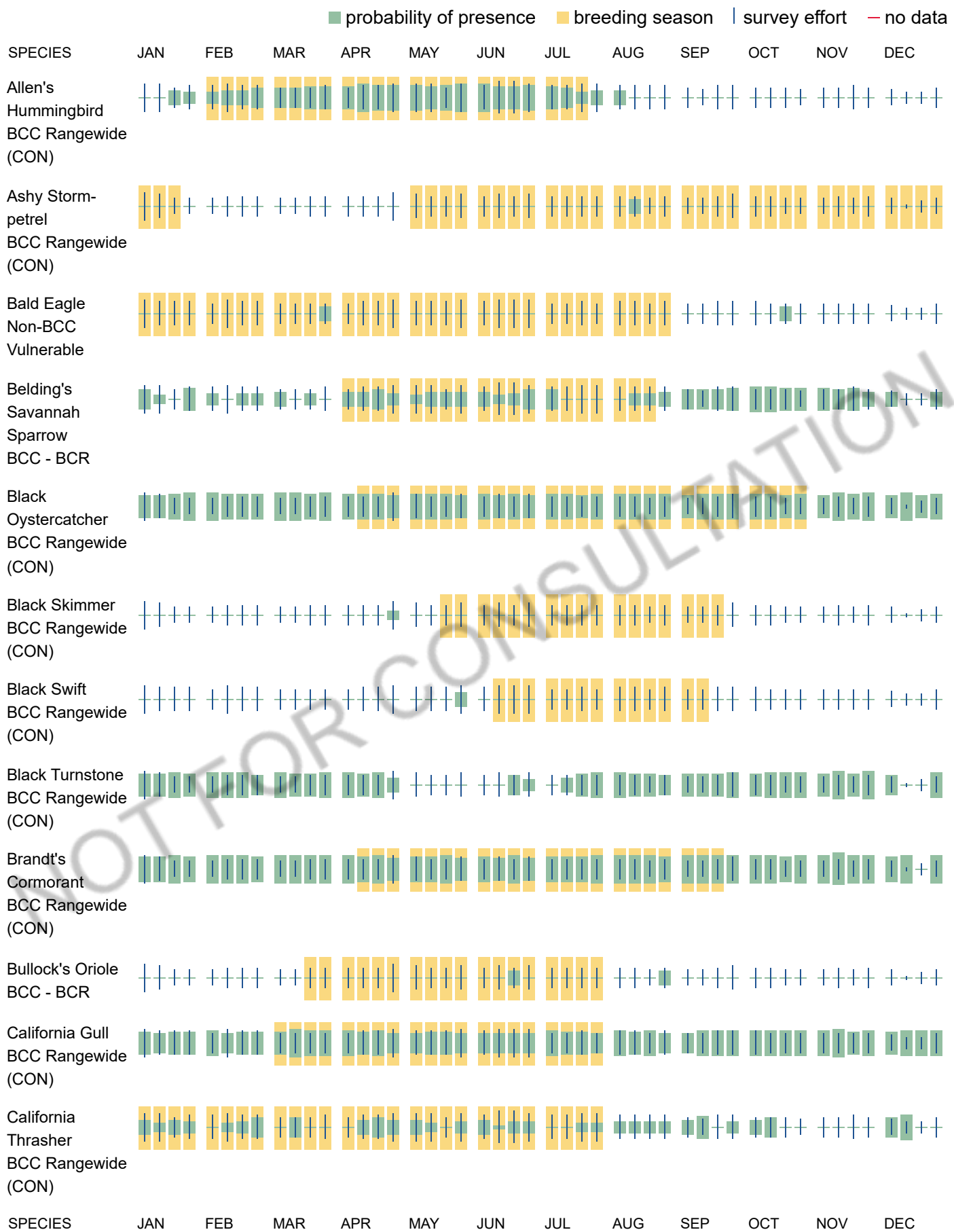
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

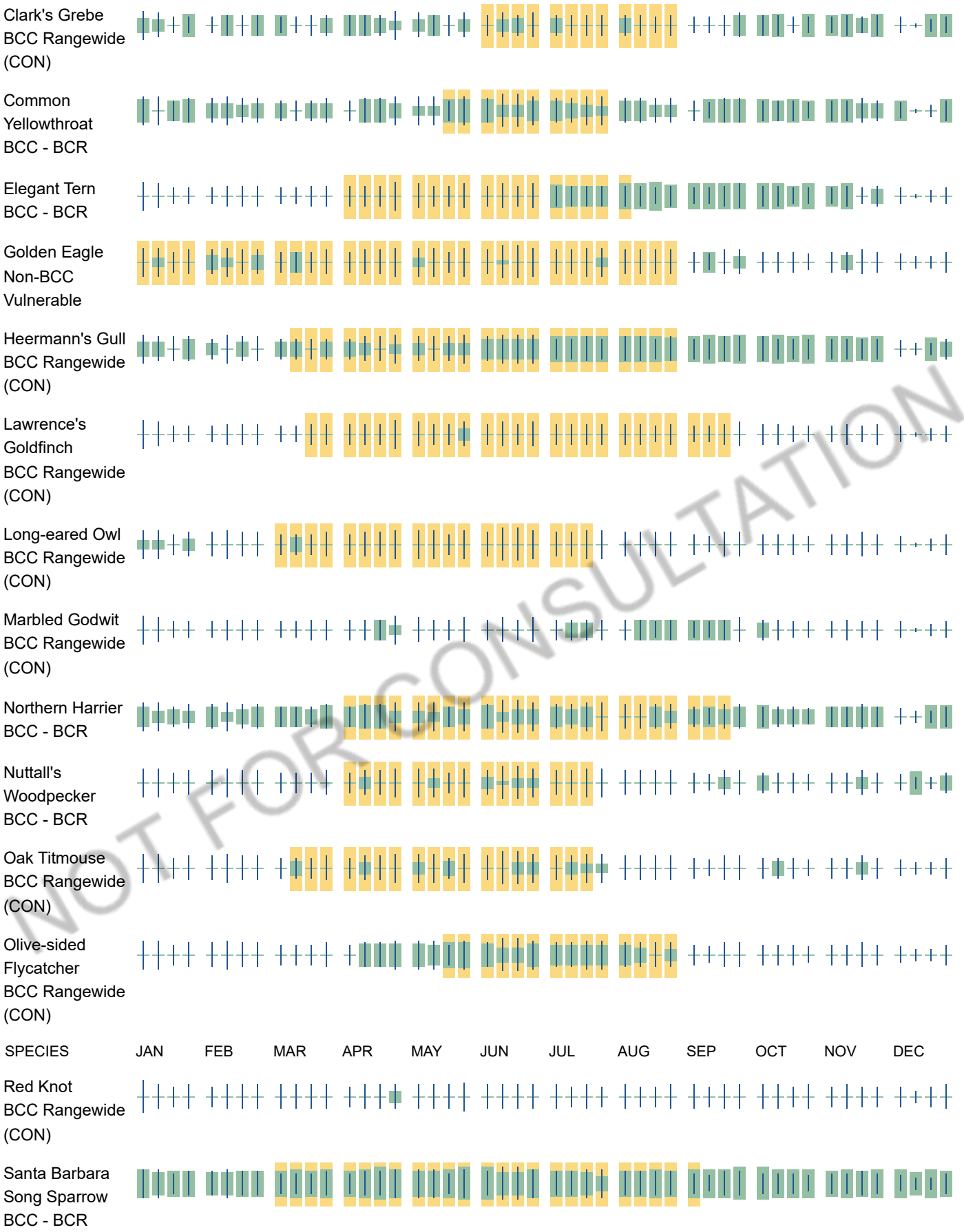
No Data (–)
A week is marked as having no data if there were no survey events for that week.

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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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 susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

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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".

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.

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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.

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.

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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 FORESTED/SHRUB WETLAND
- PFOC

RIVERINE
- R4SBC
- R3UBH

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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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Half Moon Bay (3712244) OR Woodside (3712243) OR Palo Alto (3712242) OR San Gregorio (3712234) OR La Honda (3712233) OR Mindego Hill (3712232) OR Pigeon Point (3712224) OR Franklin Point (3712223) OR Big Basin (3712222))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acanthomintha duttonii San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agrostis blasdalei Blasdale's bent grass	PMPOA04060	None	None	G2G3	S2	1B.2
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G4G5T2	S2	1B.2
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Aneides niger Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5	S2	4.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aphyllon robbinsii Robbins' broomrape	PDORO040Q0	None	None	G1	S1	1B.1
Arctostaphylos andersonii Anderson's manzanita	PDERI04030	None	None	G2	S2	1B.2
Arctostaphylos glutinosa Schreiber's manzanita	PDERI040G0	None	None	G1	S1	1B.2
Arctostaphylos ohloneana Ohlone manzanita	PDERI042Y0	None	None	G1	S1	1B.1
Arctostaphylos regismontana Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
Arctostaphylos silvicola Bonny Doon manzanita	PDERI041F0	None	None	G1	S1	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Brachyramphus marmoratus marbled murrelet	ABNNN06010	Threatened	Endangered	G3	S2	
Calicina minor Edgewood blind harvestman	ILARA13020	None	None	G1	S1	
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Cirsium fontinale var. fontinale fountain thistle	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1
Cirsium praeteriens lost thistle	PDAST2E2B0	None	None	GX	SX	1A
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Collinsia corymbosa round-headed collinsia	PDSCR0H060	None	None	G1	S1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S3	SSC
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	G4T1T2Q	S2	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dipodomys heermanni goldmani Salinas kangaroo rat	AMAFD03065	None	None	G4T2T3	S2S3	
Dipodomys venustus venustus Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Eriophyllum latilobum San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Erysimum ammophilum sand-loving wallflower	PDBRA16010	None	None	G2	S2	1B.2
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumetopias jubatus Steller sea lion	AMAJC03010	Delisted	None	G3	S2	
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G4G5T1	S3	
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Grimmia vaginulata vaginulate grimmia	NBMUS32340	None	None	G3	S1	1B.1
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T3	S3	1B.2
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	PGCUP04081	Threatened	Endangered	G1T1	S1	1B.2
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	PGCUP04082	Threatened	Endangered	G1T1	S1	1B.2
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Horkelia cuneata var. sericea	PDROS0W043	None	None	G4T1?	S1?	1B.1
Kellogg's horkelia						
Hydrochara rickseckeri	IICOL5V010	None	None	G2?	S2?	
Ricksecker's water scavenger beetle						
Lasiurus cinereus	AMACC05032	None	None	G3G4	S4	
hoary bat						
Lasthenia californica ssp. macrantha	PDAST5L0C5	None	None	G3T2	S2	1B.2
perennial goldfields						
Laterallus jamaicensis coturniculus	ABNME03041	None	Threatened	G3T1	S2	FP
California black rail						
Legenere limosa	PDCAM0C010	None	None	G2	S2	1B.1
legenere						
Leptosiphon rosaceus	PDPLM09180	None	None	G1	S1	1B.1
rose leptosiphon						
Lessingia arachnoidea	PDAST5S0C0	None	None	G2	S2	1B.2
Crystal Springs lessingia						
Limnanthes douglasii ssp. sulphurea	PDLIM02038	None	Endangered	G4T1	S1	1B.2
Point Reyes meadowfoam						
Linderiella occidentalis	ICBRA06010	None	None	G2G3	S2S3	
California linderiella						
Malacothamnus arcuatus var. arcuatus	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
arcuate bushmallow						
Margaritifera falcata	IMBIV27020	None	None	G3G4	S1S2	
western pearlshell						
Melospiza melodia pusillula	ABPBXA301S	None	None	G5T2T3	S2	SSC
Alameda song sparrow						
Microcina edgewoodensis	ILARA47010	None	None	G1	S1	
Edgewood Park micro-blind harvestman						
Microseris paludosa	PDAST6E0D0	None	None	G2	S2	1B.2
marsh microseris						
Monolopia gracilens	PDAST6G010	None	None	G3	S3	1B.2
woodland woollythreads						
Monterey Pine Forest	CTT83130CA	None	None	G1	S1.1	
Monterey Pine Forest						
N. Central Coast Calif. Roach/Stickleback/Steelhead Stream	CARA2633CA	None	None	GNR	SNR	
N. Central Coast Calif. Roach/Stickleback/Steelhead Stream						
Neotoma fuscipes annectens	AMAFF08082	None	None	G5T2T3	S2S3	SSC
San Francisco dusky-footed woodrat						
North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
North Central Coast Drainage Sacramento Sucker/Roach River						

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
North Central Coast Short-Run Coho Stream North Central Coast Short-Run Coho Stream	CARA2632CA	None	None	GNR	SNR	
North Central Coast Steelhead/Sculpin Stream North Central Coast Steelhead/Sculpin Stream	CARA2637CA	None	None	GNR	SNR	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Interior Cypress Forest Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T3Q	S3	SSC
Orthotrichum kellmanii Kellman's bristle moss	NBMUS56190	None	None	G1	S1	1B.2
Pedicularis dudleyi Dudley's lousewort	PDSCR1K180	None	Rare	G2	S2	1B.2
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Pinus radiata Monterey pine	PGPIN040V0	None	None	G1	S1	1B.1
Piperia candida white-flowered rein orchid	PMORC1X050	None	None	G3?	S3	1B.2
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Sacramento-San Joaquin Coastal Lagoon Sacramento-San Joaquin Coastal Lagoon	CALA1360CA	None	None	GNR	SNR	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	1B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Silene scouleri ssp. scouleri Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T1	S1	1B.2
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Sorex vagrans paludivagus Monterey vagrant shrew	AMABA01072	None	None	G5T1	S2	
Speyeria adiaste adiaste unsilvered fritillary	IILEPJ6143	None	None	G1G2T1	S1S2	
Speyeria zerene myrtleae Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	None	Threatened	G5	S1	
Spirinchus thaleichthys pop. 2 longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Stuckenia filiformis ssp. alpina northern slender pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Taricha rivularis red-bellied newt	AAAAF02020	None	None	G2	S2	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis sirtalis tetrataenia San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Trifolium buckwestiorum Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
Trifolium polyodon Pacific Grove clover	PDFAB402H0	None	Rare	G1	S1	1B.1
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
Usnea longissima Methuselah's beard lichen	NLLEC5P420	None	None	G5	S4	4.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						
Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Valley Oak Woodland						

Record Count: 125

CNPS Rare Plant Inventory

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▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	Yes	1974-01-01	 © 2011 Aaron Schusteff
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	None	None	G2G3	S2	1B.2	Yes	1974-01-01	 © 2001 Doreen L. Smith
Allium peninsulare var. *franciscanum*	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	G4G5T2	S2	1B.2	Yes	2001-01-01	 © 2019 Aaron Arthur
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2	Yes	1974-01-01	 © 2011 Neal Kramer
Aphyllon robbinsii	Robbins' broomrape	Orobanchaceae	annual herb (achlorophyllous)	Apr-Jul	None	None	G1	S1	1B.1	Yes	2023-03-28	 © 2017 Dylan Neubauer

Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2018 Jason Matthias Mills
Arctostaphylos glutinosa	Schreiber's manzanita	Ericaceae	perennial evergreen shrub	Mar-Apr(Nov)	None	None	G1	S1	1B.2	Yes	1974-01-01	 © 2011 Neal Kramer
Arctostaphylos ohloneana	Ohlone manzanita	Ericaceae	evergreen shrub	Feb-Mar	None	None	G1	S1	1B.1	Yes	2009-04-02	 Neal Kramer
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	None	None	G2	S2	1B.2	Yes	1994-01-01	No Photo Available
Arctostaphylos silvicola	Bonny Doon manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	None	None	G1	S1	1B.2	Yes	1974-01-01	No Photo Available
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr-May)Jun-Oct	None	None	G2T2	S2	1B.2	Yes	2001-01-01	 Neal Kramer
Calyptridium parryi var. *hesseae*	Santa Cruz Mountains pussypaws	Montiaceae	annual herb	May-Aug	None	None	G3G4T2	S2	1B.1	Yes	1984-01-01	No Photo Available
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	Asteraceae	annual herb	(Apr)May-Oct(Nov)	None	None	G3T2	S2	1B.1	Yes	1994-01-01	No Photo Available
Chorizanthe pungens var. *hartwegiana*	Ben Lomond spineflower	Polygonaceae	annual herb	Apr-Jul	FE	None	G2T1	S1	1B.1	Yes	1994-01-01	No Photo Available
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	None	None	G3	S3	1B.2	Yes	1974-01-01	No Photo Available
Cirsium fontinale var. *fontinale*	fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	FE	CE	G2T1	S1	1B.1	Yes	1974-01-01	No Photo Available
Cirsium praeteriens	lost thistle	Asteraceae	perennial herb	Jun-Jul	None	None	GX	SX	1A	Yes	2001-01-01	No Photo Available

Collinsia corymbosa	round-headed collinsia	Plantaginaceae	annual herb	Apr-Jun	None	None	G1	S1	1B.2	Yes	1994-01-01	 ©2007 Steve Matson
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	None	None	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2017 Steve Matson
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	FE	CE	G1	S1	1B.1	Yes	1974-01-01	 Neal Kramer
Eryngium aristulatum var. *hooveri*	Hoover's button-celery	Apiaceae	annual/perennial herb	(Jun)Jul(Aug)	None	None	G5T1	S1	1B.1	Yes	1984-01-01	No Photo Available
Eryngium jepsonii	Jepson's coyote-thistle	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2	Yes	2016-09-13	No Photo Available
Erysimum ammophilum	sand-loving wallflower	Brassicaceae	perennial herb	Feb-Jun(Jul-Aug)	None	None	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2		2001-01-01	 ©2021 Scot Loring
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2004 Carol W. Witham
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		None	None	G2	S2	1B.3	Yes	2014-05-14	 ©2021 Scot Loring
Grimmia vaginulata	vaginulate grimmia	Grimmiaceae	moss		None	None	G3	S1	1B.1		2014-05-14	No Photo Available
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2		1994-01-01	 © 2006 Doreen L. Smith

Hesperocyparis abramsiana var. *abramsiana*	Santa Cruz cypress	Cupressaceae	perennial evergreen tree		FT	CE	G1T1	S1	1B.2	Yes	1974-01-01	 © 2012 Neal Kramer
Hesperocyparis abramsiana var. *butanoensis*	Butano Ridge cypress	Cupressaceae	perennial evergreen tree	Oct	FT	CE	G1T1	S1	1B.2	Yes	2011-12-19	 © 2011 Joey Malone
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	FT	CT	G1	S1	1B.1	Yes	1974-01-01	 © 2009 Neal Kramer
Horkelia cuneata var. *sericea*	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G4T1?	S1?	1B.1	Yes	1988-01-01	 © 2018 Neal Kramer
Lasthenia californica ssp. *macrantha*	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2	Yes	2001-01-01	 © 2013 John Doyen
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	Yes	1974-01-01	 ©2000 John Game
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G1	S1	1B.1	Yes	2001-01-01	 © 2013 Aaron Schusteff
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2008 Neal Kramer
Limnanthes douglasii ssp. *sulphurea*	Point Reyes meadowfoam	Limnanthaceae	annual herb	Mar-May	None	CE	G4T1	S1	1B.2	Yes	1974-01-01	 © 2016 Aaron Arthur

Malacothamnus arcuatus var. *arcuatus*	arcuate bushmallow	Malvaceae	perennial deciduous shrub	Apr-Sep	None	None	G2Q	S2	1B.2	Yes	1974-01-01	 © 2017 Keir Morse
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
Monolopia gracilens	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	None	None	G3	S3	1B.2	Yes	2010-04-06	 © 2016 Richard Spellenberg
Orthotrichum kellmanii	Kellman's bristle moss	Orthotrichaceae	moss	Jan-Feb	None	None	G1	S1	1B.2	Yes	2007-08-16	No Photo Available
Pedicularis dudleyi	Dudley's lousewort	Orobanchaceae	perennial herb	Apr-Jun	None	CR	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Penstemon rattanii var. *kleei*	Santa Cruz Mountains beardtongue	Plantaginaceae	perennial herb	(Mar)May-Jun	None	None	G4T2	S2	1B.2	Yes	1984-01-01	No Photo Available
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Pinus radiata	Monterey pine	Pinaceae	perennial evergreen tree		None	None	G1	S1	1B.1		1974-01-01	 © 2008 Neal Kramer
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar-Apr)May-Sep	None	None	G3?	S3	1B.2		1994-01-01	 ©2016 Barry Rice
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	None	None	G3T1Q	S1	1B.2	Yes	1984-01-01	No Photo Available
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	None	CE	G1Q	S1	1B.1	Yes	1974-01-01	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook

Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	1B.2		1994-01-01	 Neal Kramer
Silene scouleri ssp. *scouleri*	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	G5T4T5	S2S3	2B.2		2017-12-13	 ©2015 Vernon Smith
Silene verecunda ssp. *verecunda*	San Francisco campion	Caryophyllaceae	perennial herb	(Feb)Mar-Jul(Aug)	None	None	G5T1	S1	1B.2	Yes	1980-01-01	No Photo Available
Stebbinsoseris decipiens	Santa Cruz microseris	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Stuckenia filiformis ssp. *alpina*	northern slender pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	G5T5	S2S3	2B.2		1994-01-01	 Dana York (2016)
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	FE	None	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	No Photo Available
Trifolium polyodon	Pacific Grove clover	Fabaceae	annual herb	Apr-Jun(Jul)	None	CR	G1	S1	1B.1	Yes	1974-01-01	No Photo Available

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Appendix C

Special-status Species Potential to Occur List

Appendix C. Species Table

The potential for each species to occur in the Project Area was assessed using the criteria outlined below.

None: the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: suitable habitat or key habitat elements might be present but might be of poor quality or isolated from the nearest extant occurrences, and/or the species is not known to occur in the area.

Possible: presence of suitable habitat or key habitat elements that potentially support the species.

Present: the species was either observed directly or its presence was confirmed by field investigations or in previous studies in the area

Appendix C. Species Table

Table 1. Special-status Plant Species

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Acanthomintha duttonii San Mateo thorn-mint	FE / SE / 1B.1	Chaparral, valley and foothill grassland. Uncommon serpentinite vertisol clays; in relatively open areas. 50-185 m. Blooms April through June.	**None**. Not known to occur within coastal portions of San Mateo County.
Agrostis blasdalei Blasdale's bent grass	- / - / 1B.2	Coastal bluff scrub, coastal dunes, and coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 5-365 m. Blooms in May through July.	**None.** Suitable habitat is not present in the Study areas.
Allium peninsulare var. franciscanum Franciscan onion	- / - / 1B.2	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 5-320 m. Blooms in May through June.	**None.** Suitable habitat is not present in the Study areas
Amsinckia lunaris bent-flowered fiddleneck	- / - / 1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m. Blooms in March through June.	**None**. Suitable cismontane woodland habitat is present in the Study areas of Wurr Road, Pescadero Creek Road and Cloverdale. However, this species is not known to occur within coastal or bayside portions of San Mateo County and no known CNDDB occurrences are mapped within Project area (CNDDB 2025).
Aphyllon robbinsii Robbins' broomrape	- / - / 1B.1	Coastal bluff scrub. Rocky or sandy soil on bluffs, cliffs, landslides, or shell mounds; possibly on sand dunes. Its only confirmed host is *Eriophyllum staechadifolium.* 0-100 m. Blooms in April through July.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos andersonii Anderson's manzanita	- / - / 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest. 95-765 m. Blooms in November through May.	**Not expected.** Suitable habitat is present in the vicinity of the Study area, but the nearest known occurrence is near Butano Ridge Road in Pescadero Creek County Park approximately 2.15 miles east of the Project area (CNDDB 2025). This species was not observed in the Project area during reconnaissance surveys.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Arctostaphylos glutinosa Schreiber's manzanita	- / - / 1B.2	Chaparral, closed-cone coniferous forest. Mudstone or diatomaceous shale outcrops; often with *Pinus attenuata*. 170-680 m. Blooms March through April.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos ohloneana Ohlone manzanita	- / - / 1B.1	Coastal scrub, lower montane coniferous forests. Monterey shale. 455-520 m. Blooms February through March.	**None.** Suitable habitat is not present in the Study areas.
Arctostaphylos regismontana Kings Mountain manzanita	- / - / 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops. 240-705 m. Blooms December through April.	**None.** Suitable habitat containing granitic or sandstone outcrops is not present in the Project areas.
Arctostaphylos silvicola Bonny Doon manzanita	- / - / 1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest. Only known from Zayante (inland marine) sands in Santa Cruz County. 150-520 m. Blooms January through March.	**None.** Suitable habitat is not present in the Study areas and Zayante sands is restricted to occur within Santa Cruz County.
Arenaria paludicola Marsh sandwort	FE/SE	Marshes and swamps. Grow up through dense mats of *Typha, Juncus, Scirpus,* etc. in freshwater marsh. 10-170m. Blooms May to August.	**None.** Suitable habitat is not present in the Study areas.
Astragalus agnicidus Humboldt County milk-vetch	- / SE / 1B.1	Broadleafed upland forest, north Coast coniferous forest. Disturbed areas, openings, and roadsides (sometimes). 120-800 m. Blooms April through September.	**None.** Suitable broadleafed upland habitat is present in the Study areas. However, no known occurrences are present within 5 miles of the Project area (CNDDB 2025).
Astragalus pycnostachyus var. *pycnostachyus* coastal marsh milk-vetch	- / - / 1B.2	Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m. Blooms June through October.	**None.** Suitable habitat is not present in the Study areas.
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	- / - / 1B.1	Chaparral, cismontane woodland. Sandy or gravelly openings. 300-1535 m. Blooms May through August.	**None.** Suitable habitat is present in the Study areas. However, this species is restricted to Santa Cruz County.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	- / - / 1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-230 meters. Blooms May through November.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	FE / - / 1B.1	Lower montane coniferous forest. Zayante coarse sands in maritime ponderosa pine sandhills. 105-475 m. Blooms April through July.	**None.** Suitable habitat is not present in the Study areas and is species is restricted to Santa Cruz County.
Cirsium andrewsii Franciscan thistle	- / - / 1B.2	Coastal bluff scrub, broadleafed upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0-295 m. Blooms March through July.	**None.** Suitable habitat is not present in the Study areas.
Cirsium fontinale var. fontinale fountain thistle	FE / SE / 1B.1	Valley and foothill grassland, chaparral, cismontane woodland, meadows and seeps. Serpentine seeps and grassland. 45-185 m. Blooms May through October.	**None.** Suitable habitat of chappal is present in the Study areas. However, the nearest known location is within Ano Nuevo and this species is possibly extirpated (CNDDB 2025).
Cirsium praeteriens lost thistle	- / - / 1A	Little information exists on this plant; it was collected from the Palo Alto area at the turn of the 20th Century. Although not seen since 1901, this Cirsium is thought to be quite distinct from other Cirsiums acc. to D. Keil. 0-100 m. Blooms June through July.	**None.** Suitable habitat is not present in the Study areas and species is restricted to Palo Alto, Ca.
Collinsia corymbose round-headed collinsia	- / - / 1B.2	Coastal dunes. 0-30 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Collinsia multicolor San Francisco collinsia	- / - / 1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 10-275 m. Blooms March through May.	**None.** Suitable habitat is not present in the Study areas.
Dirca occidentalis western leatherwood	- / - / 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 25-425 meters. Blooms January through April.	**Possible.** Suitable habitat is present in the along several Wurr Road and Pescadero Creek Road sites. Several CNDDB occurrences are present north of La Honda Road approximately 1.94 miles northwest from Site 128.1 (CNDDB 2025).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Eriophyllum latilobum San Mateo woolly sunflower	FE / SE / 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest, ultramafic. Often on roadcuts; found on and off of serpentine. 30-610 m. Blooms May through June.	**None.** Suitable habitat of cismontane woodland is present in the Study areas of Wurr Road, and Pescadero Creek Road. However, one CNDDB occurrence in La Honda from 1988 is considered possibly extirpated and species is presumed extirpated within La Honda Quadrat (CNDDB 2025 and CNPS 2025).
Eryngium aristulatum var. hooveri Hoover's button-celery	- / - / 1B.1	Vernal pools, wetland. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 1-50 m. Blooms July.	**None.** Suitable habitat is not present in the Study areas.
Eryngium jepsonii Jepson's coyote-thistle	- / - / 1B.2	Vernal pools, valley and foothill grassland. Clay. 3-300 meters. Blooms April through August.	**None.** Suitable habitat is not present in the Study areas.
Erysimum ammophilum sand-loving wallflower	- / - / 1B.2	Chaparral (maritime), coastal dunes, coastal scrub. Sandy openings. 3-320 m. Blooms February through June.	**None.** Suitable habitat is not present in the Study areas.
Fissidens pauperculus minute pocket moss	- / - / 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 10-1,024 m.	**Possible.** Suitable habitat is present in the study area. One CNNDB occurrence is present near Old Haul Road near Memorial County Park and another along the Little Butano Creek Trail within Butano State Park (CNDDB 2025).
Fritillaria liliacea fragrant fritillary	- / - / 1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-385 m. Blooms February through April.	**Not expected.** Cismontane woodland occurs within the area. However, only one historical occurrence from 1931 was observed in Pilarcitos Lake in Montara Mountain. No other CNDDB occurrences are not known to occur within the Santa Cruz Mountain area of San Mateo County and in the vicinity of the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Grimmia torenii Toren's grimmia	- / - / 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Boulder and rock walls. 325 - 1160 m.	**Not expected.** Suitable habitat of cismontane woodland is present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Grimmia vaginulata vaginulate grimmia	- / - / 1B.1	Chaparral (openings), boulder and rock walls. 685 - 685 m	**None.** Suitable habitat is not present in the Study areas.
Hesperevax sparsiflora var. brevifolia short-leaved evax	- / - / 1B.2	Coastal bluff scrub, coastal dunes. Sandy bluffs and flats. 0-200m.	**None.** Suitable habitat is not present in the Study areas.
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	FT / SE / 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest. Sometimes on granitic and sandstone. 280-800 m.	**None.** Suitable habitat is not present in the Study areas.
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	FT / SE / 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest. On sandstone. 400-490 m. Blooms in October.	**None.** Suitable habitat is not present in the Study areas.
Hesperolinon congestum Marin western flax	FT / ST / 1B.1	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 60-400 m. Blooms April through June.	**None.** Suitable habitat with serpentine is not present in the Study areas.
Horkelia cuneata var. *sericea* Kellogg's horkelia	- / - / 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 5-215 m. Blooms April through September.	**None.** Suitable habitat is not present in the Study areas.
Lasthenia californica ssp. macrantha perennial goldfields	- / - / 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m. Blooms January through November.	**None.** Suitable habitat is not present in the Study areas.
Legenere limosa legenere	- / - / 1B.1	Vernal pools. In beds of vernal pools. 1-1005 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Leptosiphon rosaceus rose leptosiphon	- / - / 1B.1	Coastal bluff scrub. 10-140 m. Blooms April through July.	**None.** Suitable habitat is not present in the Study areas.
Lessingia arachnoidea Crystal Springs lessingia	- / - / 1B.2	Coastal sage scrub, valley and foothill grassland, cismontane woodland. Grassy slopes on serpentine; sometimes on roadsides. 90-200 m. Blooms July through October.	**None.** Suitable habitat with serpentine is no present in the Study areas.
Limnanthes douglasii ssp. sulphurea Point Reyes meadowfoam	- / SE / 1B.2	Marshes and swamps (freshwater), vernal pools, coastal prairie, meadows and seeps. Vernally wet depressions in open rolling, coastal prairies and meadows; typically in dark clay soil. 10-125 m. Blooms March through May.	**None.** Suitable habitat is not present in the Study areas.
Lupinus constancei Lassics lupine	FE / - / 1B.1	Lower montane coniferous forest (serpentinite). 1500-2000 m. Blooms July.	**None.** Suitable habitat is not present in the Study areas.
Malacothamnus arcuatus arcuate bushmallow	- / - / 1B.2	Chaparral. Gravelly alluvium. 1-735 m. Blooms April through June.	**Possible.** Suitable chaparral habitat is present along Pescadero Creek Road (Site 128.1). One CNDDB occurrence is present near La Honda approximately 0.45 miles northwest from Site 128.1 (CNDDB 2025).
Microseris paludosa marsh microseris	- / - / 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 3-610 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Monolopia gracilens woodland woollythreads	- / - / 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. 100-1,200 meters. Blooms February through July.	**Possible.** Suitable habitat of chaparral and cismontane woodland is present along Wurr Road and Pescadero Creek Road. One CNDDB occurrence is near La Honda 0.45 miles northwest from Project area of Pescadero Creek Road (Site 102 and 128.1) (CNDDB 2025).
Orthotrichum kellmanii Kellman's bristle moss	- / - / 1B.2	Chaparral, cismontane woodland. Carbonate and sandstone. 343-685 m. Blooms January through February.	**None.** Suitable habitat of chaparral and cismontane woodland is present in the Study area of Pescadero Road, but carbonate and sandstone are not present.

Scientific Name **Common Name**	**Listing status* (Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Pedicularis dudleyi Dudley's lousewort	- / - / 1B.2	Chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. 60-330 m. Blooms April through June.	**None.** Suitable habitat is present in the Study areas of Wurr Road, Pescadero Road and Pescadero Creek Road. However, known occurrences are confined to Portola State Park approximately 3.8 miles southeast from the Project areas and study areas do not contain deep shady woods of older coast redwood forests (CNDDB 2025).
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	- / - / 1B.2	Chaparral, lower montane coniferous forest, north coast coniferous forest. Sandy shale slopes; sometimes in the transition between forest and chaparral. 455-915 m. Blooms May through June.	**Not expected**. Suitable habitat is present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Pentachaeta bellidiflora white-rayed pentachaeta	FE / SE / 1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 35-610 m. Blooms March through May.	**Possible.** Suitable habitat is present in along the Wurr Road and Pescadero Creek Road sites. Nearest CNDDB occurrence is present Portola State Park approximately 0.9 miles southeast from Wurr Road.
Pinus radiata Monterey pine	- / - / 1B.1	Closed-cone coniferous forest, cismontane woodland. 25-185 m.	**None.** Only native stands of Monterey pine are considered special-status. In San Mateo County, native stands are limited to areas around Año Nuevo State Park
Piperia candida white-flowered rein orchid	- / - / 1B.2	North Coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m. Blooms May through September.	**Possible.** Suitable habitat is present in the Study areas of Wurr Road and Pescadero Road. Nearest CNDDB occurrence is present Portola State Parks approximately 3.9 miles southeast from Project areas of Wurr Road.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	- / - / 1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 5-160 m. Blooms March through June.	**None.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, the Study areas are outside of known elevation range for this species.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Plagiobothrys diffusus San Francisco popcornflower	- / SE / 1B.1	Valley and foothill grassland, coastal prairie. Historically from grassy slopes with marine influence. 45-360 meters. Blooms March through June.	**None.** Suitable habitat is not present in the Study areas.
Sagittaria sanfordii Sanford's arrowhead	- / - / 1B.2	Marshes and swamps (shallow freshwater). In standing or slow-moving freshwater ponds, marshes, and ditches. 0-650 m. Blooms May through October.	**Not expected.** Suitable aquatic habitat present in the Study areas. However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Senecio aphanactis chaparral ragwort	- / - / 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-1020 m. Blooms January through May.	**Not expected.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Silene scouleri ssp. scouleri Scouler's catchfly	- / - / 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 5-315 m. Blooms June through September.	**None.** Suitable habitat is not present in the Study areas.
Silene verecunda ssp. verecunda San Francisco campion	- / - / 1B.2	Coastal bluff scrub, chaparral, coastal prairie coastal scrub, valley and foothill grassland. Often on mudstone or shale; one site on serpentine. 30-645 m. Blooms March through August.	**Not expected.** Suitable chaparral habitat is present in the Study areas of Pescadero Road (Location 128-1, 128, and 126). However, there have been no documented occurrences within 5 miles from the Project areas (CNDDB 2025).
Stebbinsoseris decipiens Santa Cruz microseris	- / - / 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coasta l scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 90-750 m. Blooms April though May.	**None.** Suitable habitat is not present in the Study areas.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**	**Potential to Occur in the Study Area**
Stuckenia filiformis ssp. *alpina* northern slender pondweed	- / - / 2B.1	Marshes and swamps. Shallow, clear water of lakes and drainage channels. 5-2325 m. Blooms May through July.	**Not expected.** Suitable habitat of drainage channels is present in the Study areas of Wurr Road, Pescadero Creek Road, and Pescadero Road. However, no known occurrences are present within 5 miles of the Project areas (CNDDB 2025). There is one historic CNDDB occurrence approximately four miles south of Little Butano Creek (Site 190) (CNDDB 2025). However, suitable marsh and swamp habitat is not present in Little Butano Creek (Site 190).
Trifolium amoenum two-fork clover	- / - / 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0-300 meters. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.
Trifolium buckwestiorum Santa Cruz Clover	- / - / 1B.1	Coastal prairie, broadleafed upland forest, cismontane woodland. Moist grassland. Gravelly margins. 30-805 m. Blooms April through October.	**None.** Suitable habitat of cismontane woodland is present in the Study areas of Wurr Road, and Pescadero Creek Road. However, moist grassland with gravely margins is not present and no known occurrences are present within 5 miles of the Project areas (CNDDB 2025).
Trifolium polyodon Pacific Grove clover	- / SR / 1B.1	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 5-260 m. Blooms April through June.	**None.** Suitable habitat is not present in the Study areas.

* List of Abbreviations for Species Status follow below: FE = Federal endangered FT = Federal threatened FC = Federal Candidate SC = State Candidate SE = State Endangered (California) ST = State Threatened (California) SR = State Rare (California) SCC = Species of Special Concern FP= Fully Protected Source: California Department of Fish and Wildlife (CDFW). 2025 California Natural Diversity Database.	CA Rare Plant Rank 1A = Plants presumed extinct in California and rare/extinct elsewhere 1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California 1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California 1B.3 = Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California 2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Table 2. Special-status Animal Species

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Invertebrates			
Bombus crotchii Crotch bumble bee	- / SCE	Coastal areas east to the Sierra-Cascade crest and south into Mexico. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*.	**None.** The Project areas are within the historic range of this species; however not within its current range (CDFW 2023). No CNDDB records occur within 5 miles of the Project areas (CNDDB 2025).
Bombus occidentalis Western bumble bee	- / SCE	Open grasslands, shrublands, chaparral, desert margins, including Joshua tree and creosote scrub, and semi-urban settings. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*. Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Western bumble bee populations in California are currently largely restricted to high elevation sites in the Sierra Nevada and a few records on the northern California coast (Xerces Society et al. 2018).	**None.** The Project areas are within the historic range of this species; however, it is not within the mapped current range (CDFW 2023). No CNDDB records occur within 5 miles of the Project areas of Wurr Road, Pescadero Creek Road or Pescadero Road (CNDDB 2025). Nearest CNDDB occurrences are present within mouth of Gazos Creek from 1972 approximately 1.56 miles southwest and within Redwood State Park from 1961 approximately 2 miles east of the Project area of Cloverdale (CNDDB 2025).
Danaus plexippus monarch - California overwintering population (pop. 1)	FC / -	Dense Eucalyptus, Monterey pine, and live oak groves along Coastal California that provide shelter from prevailing winds. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Closed-cone coniferous forest.	**Not expected.** No overwintering sites are present in the Project areas. Six CNDDB occurrences occur along the coast within 5 miles of the Project area of Cloverdale. Additionally, all 6 occurrences are documented overwintering sites by Xerces Society (2023).
Euphydryas editha bayensis Bay checkerspot butterfly	FT / -	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants.	**None.** The current range of this species is restricted to Santa Clara County (USFWS 2009), and species has been reintroduced to Edgewood County Park and San Bruno Mountain. Current range of species is outside of Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Speyeria zerene myrtleae Myrtle's silverspot butterfly	FE / -	Coastal dunes. Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County.	**None.** The current range of this species is restricted to Point Reyes (USFWS 2009).
Amphibians			
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	FT / ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**None.** Suitable habitat is not present in the Study areas.
Aneides niger Santa Cruz black salamander	- / SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	**Possible.** Suitable habitat is present along Cloverdale Road and Wurr Road and Pescadero Creek Road woodlands. The nearest CNDDB occurrence from 2002 is within Gazos Creek in Butano State Park 1.5 miles east of the Cloverdale Road site, with a historical occurrence from 1950 on Old Woman's Creek less than 1 mile south from Cloverdale Road.
Dicamptodon ensatus California giant salamander	- / SSC	Aquatic, meadow & seep, north coast coniferous forest, riparian forest. Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Present.** Larvae was observed in the scour pool downstream of Site 268 in Peterson Creek during reconnaissance surveys. The nearest CNDDB occurrence overlaps with Project area location 102 on Pescadero Creek Road (CNDDB 2025).

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	FT / SE	Aquatic, riparian forest, riparian scrub, riparian woodland, south coast flowing waters. San Francisco Peninsula and Diablo Range south of San Francisco Bay Estuary, and south through the Santa Cruz and Gabilan Mountains east of the Salinas River in the southern inner Coast Ranges. Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	**Possible.** Suitable aquatic habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. The nearest CNDDB occurrence from 1960 overlaps Site 94 (CNDDB 2025). Other known occurrences are within Pescadero Creek Park from 1960 and 1999 (CNDDB 2025).
Rana draytonii California red-legged frog	FT / SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Possible.** The Project area is within designated Critical Habitat for this species. Suitable riparian habitat is present along Peterson, Bloomquist, and Little Butano creeks, and at Site 94 at Pescadero Creek Road. Forty-two CNDDB occurrence records are known from within five miles of the Cloverdale Road location (CNDDB 2025). Fourteen occurrence records are known within five miles of the Wurr Road and Pescadero Creek Road sites, with one record as close as 0.5 miles northeast of Site 102 (CNDDB 2025).
Taricha rivularis red-bellied newt	- / SSC	Broadleaved upland forest, north coast coniferous forest, redwood, riparian forest, and riparian woodland. Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**None.** The current range of this species is restricted to Humboldt County south to Sonoma County, and Isolated population in Santa Clara County.
Reptiles			
Chelonia mydas	FT / -	Marine. Completely herbivorous; needs adequate supply of seagrasses and algae.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
green sea turtle			
Actinemys marmorata Northwestern pond turtle	PT / SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not expected.** This species is known to inhabit Pescadero-Butano Marsh approximately 3.8 miles northwest of the Cloverdale Road site (Site 190) (CNDDB 2025). Marginal aquatic habitat is present upstream and downstream of the Cloverdale Road culvert, but the concrete bed, banks, and box culvert prevent this species from persisting within the Project area. Suitable habitat is absent at the Wurr Road and Pescadero Creek Road sites.
Thamnophis sirtalis tetrataenia San Francisco gartersnake	FE / SE/ FP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	**Possible.** This species is documented in the Pescadero-Butano watershed within five miles of the study area (CNDDB 2025). Suitable riverine habitat is present in Little Butano Creek. Marginal aquatic habitat is present at Bloomquist Creek and Peterson Creek, but these sites generally lacked dense vegetative cover and/or suitable pools.
Fish			
Acipenser medirostris pop. 1 green sturgeon - southern DPS	- / SSC	The green sturgeon ranges from Mexico to at least Alaska in marine waters and is observed in bays and estuaries up and down the west coast of North America. Green sturgeon are believed to spawn in the Rogue River, Klamath River Basin, and the Sacramento River, and rarely occur in the Umpqua River. Green sturgeon appear to occasionally occupy the Eel River, and may also be using the Trinity River.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Eucyclogobius newberryi tidewater goby	FE / SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, requires fairly still but not stagnant water and high oxygen levels.	**None.** Suitable habitat is not present in the Study area.
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	FE / SE	Open ocean, estuaries, and rivers. Federal listing includes populations between Punta Gorda and San Lorenzo River. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	**Present.** Coho salmon are known to occur in Pescadero Creek and the creek is designated Critical Habitat for this species. However, no work occurs on Pescadero Creek, and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish. Coho also occur in Butano Creek. Currently a bedrock chute on Little Butano Creek is a total fish barrier downstream of the Cloverdale Road site (Site 190) which impedes anadromous fish from upstream movement. However, the San Mateo RCD is currently (Summer 2025) implementing a project to remove the bedrock chute, which will allow upstream movement of Coho salmon in Little Butano Creek to Cloverdale Road prior to the planned start of the Project.

Scientific Name Common Name	Listing status* (Federal/ State)	Habitat Association	Potential to Occur in the Study Area
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	FT / SCC	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	**Present.** Steelhead are known to occur in Pescadero Creek and lower reaches of Little Butano Creek and the creek is designated Critical Habitat for this species (Spence et al. 2008, CEMAR 2008). However, no work occurs on Pescadero Creek and Project sites located on tributaries to Pescadero Creek contain total barriers that prevent upstream fish migration. Steelhead also occur in Butano Creek but total fish barriers on Little Butano Creek downstream of the Cloverdale Road site currently impede anadromous fish from upstream movement. The RCD is currently (Summer 2025) implementing a project to remove the bedrock chute, which will allow upstream movement of steelhead in Little Butano Creek to Cloverdale Road prior to the planned start of the Project. Bloomquist Creek and Peterson Creek at Wurr Road do not support anadromous fish due to steep channels with several bedrock drops. Other unnamed drainages in the Project area lack suitable hydrology and habitat to support anadromous fish.
Spirinchus thaleichthys longfin smelt	- / ST	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater. Inhabits coast estuaries north of the Russian River (primarily) and south of Pillar Point, Half Moon Bay.	**None.** Suitable habitat is not present in the Study area.
Spirinchus thaleichthys pop. 2 Longfin smelt – San Francisco Bay-Delta DPS	FE/ST	Found in the Gulf of Farallones from Russian River to Pillar Point, Half Moon Bay, and salt and freshwater habitats upstream of the Golden Gate including the San Francisco Bay, Sacramento - San Joaquin River Delta, and their tributaries where found.	**None.** The Study area is not within the known range of this species (CDFW 2024).

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Birds			
Aquila chrysaetos golden eagle	- / FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**None.** Suitable habitat is not present in the Study area.
Asio otus long-eared owl	- / SSC	Cismontane woodland, great basin scrub, riparian forest, riparian woodland, upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**Not expected.** A breeding pair was documented near the Stevens Creek headwaters approximately 5 miles east of Pescadero Creek Road, Site 128.1 in 1986/1987 (CNDDB 2025). The open space area adjacent to Site 128.1 provides suitable foraging habitat but lacks suitable nesting habitat.
Athene cunicularia burrowing owl	- / SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None.** Suitable habitat is not present in the Study area.
Brachyramphus marmoratus marbled murrelet	FT / SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	**Present.** In Memorial County Park, known Marbled murrelet (MAMU) occupied sites have been at documented at the Huckelberry Flat and occupied behavior has been confirmed at Homestead Flat, Sequoia Flat at Memorial County Park. Designated Critical Habitat for this species overlaps within San Mateo County in Memorial Park, is present within Site 94 and Site 102 and is adjacent to the Project sites along Wurr Road (Sites 263, 265, 265.1, 266, 268, and 270). Based on proximity to 2010 CNDDB occurrence at Memorial County Park (CNDDB#38) it is assumed MAMU has the potential to occur at Project sites at 265, 265.1, 266, 268, and 270 (occurrence overlaps Wurr Road and Pescadero creek Road) and Site 263 is approximately 144 meters from 2010 occurrence

Scientific Name Common Name	Listing status* (Federal/ State)	Habitat Association	Potential to Occur in the Study Area
			(CNDDB 2025). The presence of potential nesting trees within 300 feet (ft) of Project sites with large diameter tree with large (≥4") horizontal branches (platform location with moss and access and good canopy cover, complex understory, good access points for landing) are present in sites 94, 263, 265, 270, 270.1. No suitable nesting trees were observed within 300 ft at Sites 102, 265.1, and 266. With known occupied sites, confirmed occupied behavior, CNDDB occurrences and presence of potential nesting trees (within 300ft of Project site) within the vicinity of the Project area is it possible (assumed) that Sites 94, 263, 265, 268, 270, 270.1 contain suitable habitat for marbled murrelet and the species has the potential to occur within these Study areas.
Charadrius alexandrinus nivosus western snowy plover	FT / SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	**None.** Suitable habitat is not present in the Study area.
Coturnicops noveboracensis yellow rail	- / SSC	Shallow brackish and freshwater marshes, wet meadows, and occasionally rice fields. Summer resident in eastern Sierra Nevada in Mono County.	**None.** Suitable habitat is not present in the Study area.
Cypseloides niger black swift	- / SSC	Coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**None.** Suitable habitat is not present in the Study area.
Elanus leucurus white-tailed kite	- / FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Falco peregrinus anatum American peregrine falcon	FD / SD	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**None.** Suitable nesting habitat is absent from the study area.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	- / SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**None.** Suitable habitat is not present in the Study area.
Gymnogyps californianus California condor	FE/SE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. forages up to 100 miles from roost/nest.	**None.** Suitable habitat is not present in the Study area.
Haliaeetus leucocephalus bald eagle	FD / SE, FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Absent as Breeder.** Suitable habitat is present in the Study area. However, no CNDDB records occur within 5 miles of the Project areas (CNDDB 2025).
Laterallus jamaicensis coturniculus California black rail	- / ST	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None.** Suitable habitat is not present in the Study area.
Melospiza melodia pusillula Alameda song sparrow	- / SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits *Salicornia* marshes; nests low in *Grindelia* bushes (high enough to escape high tides) and in *Salicornia*.	**None.** Suitable habitat is not present in the Study area.
Rallus obsoletus California Ridgway's rail	FE / SE, FP	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Riparia riparia bank swallow	- / ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**None.** Suitable habitat is not present in the Study area.
Sternula antillarum browni California least tern	FE / SE, FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**None.** Suitable habitat is not present in the Study area.
Mammals			
Antrozous pallidus pallid bat	- / SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Possible.** Suitable foraging habitat is present within the study area, such as in larger trees in riparian areas. One CNDDB occurrence is 2.3 miles west of Wurr Road (CNDDB 2025).
Corynorhinus townsendii Townsend's big-eared bat	- / SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not expected.** One CNDDB occurrence within 1.3 miles west of Wurr Road (CNDDB 2025). Suitable foraging habitat is present within the study area. Roosting habitat is limited to very large cavities in redwood trees as typical roost sites, such as old mines, caves, barns, and abandoned buildings, are not within the Project area.
Eumetopias jubatus Steller sea lion	FD / SSC	Breeds on Ano Nuevo, San Miguel and Farallon islands, Point St. George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	**None.** Suitable habitat is not present in the Study area.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**	**Potential to Occur in the Study Area**
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	- / SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	**Present.** No CNDDB occurrences were within 5 miles of the Study area (CNDDB 2025). However, suitable habitat is present where forest, woodland, and chaparral habitats occur. In addition, one woodrat nest was observed along Little Butano Creek downstream of Cloverdale Road (Site 190) during the July 2025 survey.
Reithrodontomys raviventris Salt marsh harvest mouse	FE / SE, FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**None.** Suitable habitat is not present in the Study area.
Sorex vagrans halicoetes salt marsh wandering shrew	- / SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6-8 ft above sea level where abundant driftwood is scattered among *Salicornia*.	**None.** Suitable habitat is not present in the Study area.
Taxidea taxus American badger	- / SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Possible.** This species is known to occur in the Santa Cruz Mountains east of La Honda to Skyline Boulevard, with multiple CNDDB occurrence records within a 3.0 mile radius of Pescadero Creek Road (Site 128.1) and one historical record from 1978 was reported in Butano State Park near the Cloverdale Road site (Site 190) (CNDDB 2025). Suitable habitat is present in the open grassland and chaparral areas adjacent to these sites.

* List of Abbreviations for Federal and State Species Status follow below: FE = Federal endangered PE = Proposed endangered FT = Federal threatened PT = Federal proposed threatened FC = Federal proposed candidate	SE = State endangered ST = State threatened SCE = State candidate endangered SSC = Species of special concern (CDFW) FP = Fully protected (CDFW)

Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.

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Appendix D

Plant Species Observed

Appendix D. Plant Species List

Scientific Name	Common Name	Native
Alnus rhombifolia	White Alder	Yes
Anthoxanthum occidentale	California sweet grass	Yes
Athyrium cyclosorum	Western lady fern	Yes
Avena barbata	Slender oat	No
Baccharis pilularis	Coyote Brush	Yes
Bromus briziformus	Rattlesnake brome	No
Bromus diandrus	Rip-gut brome	No
Carduus tenuiflorus	Italian thistle	No
Carex sp.	Carex sp.	
Cirsium brevistylum	Indian thistle	Yes
Cirsium vulgare	Bull thistle	No*
Conioselinum pacificum	Hemlock parsley	Yes
Conium maculatum	poison hemlock	No
Cornus sericea	American dogwood	Yes
Cynara cardunculus spp. cardunculus	Artichoke	No
Dryopteris arguta	Coastal wood fern	Yes
Ehrharta erecta	Panic veldtgrass	No*
Epipactis helleborine	Broad-leaved helleborine	No
Equisetum arvense	Field Horsetail	Yes
Equisetum telmateia	Giant Horsetail	Yes
Erigeron annum	Annual fleabane	No
Festuca perennis	Italian ryegrass	No
Galium aparine	Common Bedstraw	Yes
Galium triflorum	Sweet-scented bedstraw	Yes
Helminthotheca echioides	Bristly Ox-Tongue	No
Hordeum murinum	Foxtail barley	No
Juncus effuses	Common bog rush	Yes
Lactuca virosa	Bitter lettuce	No
Lonicera involucrata	Twinberry	Yes
Marah fabacea	California man-root	Yes
Nasturtium officinale	Water cress	Yes
Oenanthe sarmentosa	Water parsley	Yes
Oxalis oregana	Redwood Sorrel	Yes
Petasites frigidus var. *palmatus*	Western Sweet Coltsfoot	Yes
Phalaris aquatica	Harding grass	No
Polystichum munitum	Western sword fern	Yes
Pseudotsuga menziesii	Douglas Fir	Yes
Quercus agrifolia	Coast live oak	Yes
Ribes divaricatum	Spreading gooseberry	Yes
Rubus parviflorus	Western thimble-berry	Yes
Rubus ursinus	California Blackberry	Yes

Scientific Name	Common Name	Native
Rumex occidentalis	Western Dock	Yes
Salix lasiandra	Pacific willow	Yes
Sambucus racemosa var. *racemosa*	Red Elderberry	Yes
Scrophularia californica	California bee plant	Yes
Stachys bullata	California hedgenettle	Yes
Tellima grandiflora	Fringe cups	Yes
Toxicodendron diversilobum	Poison Oak	Yes
Urtica dioica	Stinging nettle	Yes
Veronica americana	American Brooklime	Yes
Vicia villosa	Hairy vetch	No

Appendix E

County of San Mateo, Routine Maintenance Program,
Best Management Practices

RMP Best Management Practices

BMP Number	BMP Title	BMP Description
GEN-1	Staging and Access	▪ Staging, access, and parking areas will be located outside of sensitive habitats to the extent feasible. ▪ Staging areas will be located 30 feet from the top of bank (or as far as feasibly possible) or on the outboard side of levees. ▪ Vegetation removal shall be limited to the minimum amount necessary to provide access.
GEN-2	Minimize the Area of Disturbance and Site Maintenance	▪ Areas of disturbance will be limited to the smallest footprint necessary and a single access pathway, where feasible. For maintenance activities near waterways or other sensitive habitat, the designated work area shall be clearly identified in the field using highly visible material, and work will not be conducted outside this area. ▪ Keep excavated soil and materials on the site where they will not collect into the street or get transported to storm drains or nearby water bodies by rainfall or runoff in order to avoid deleterious effects to fish, wildlife, and beneficial uses. ▪ Transfer excavated materials to dump trucks on the site, not in the street.
GEN-3	Construction Entrances and Perimeter	▪ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site. ▪ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking. ▪ When in-channel work is required, where available use existing ingress or egress points or perform work from the top of the stream banks.
GEN-4	Salvage/Reuse of Plant and Woody Material	▪ Large wood or weed-free topsoil displaced by project activities may be stockpiled for use during site restoration. Native vegetation displaced by project activities will be stockpiled if it would be useful during site restoration. ▪ Stockpiled material shall not be placed over riparian or wetland vegetation. Stockpiled material shall not be placed in areas where it could enter the stream, riparian or wetland areas. ▪ To the extent feasible, all other woody material that is not re-usable should be disposed at a composting facility.
GEN-5	Non-Hazardous Materials	▪ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.

BMP Number	BMP Title	BMP Description
GEN-6	Hazardous Materials Storage/Disposal	▪ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations. ▪ Store hazardous materials and wastes in watertight containers, store in appropriate secondary containment, and cover them at the end of every workday or during wet weather or when rain is forecast. ▪ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours. ▪ Arrange for appropriate disposal of all hazardous wastes. ▪ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times. ▪ Inspect vehicles and equipment frequently for and repair leaks promptly. On-site monitor should insect beneath all vehicles that have been parked more than 15 minutes before they leave the work area. Use drip pans to catch leaks until repairs are made. ▪ Clean up spills or leaks immediately and dispose of cleanup materials properly. ▪ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags). ▪ Sweep up spilled dry materials immediately. Do not try to wash them away with water or bury them. If water must be used, the Contractor shall collect the water and spilled fluids and dispose of it as hazardous waste. ▪ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. Small spills (less than 18 inches in diameter) including small quantities of oil, gasoline, paint or other materials should be controlled by the first responder (maintenance staff) and do not necessarily require an emergency response team. Medium spills (greater than 18 inches but less than 6 feet in diameter) are typically controlled by the first responder (maintenance staff) but police or fire department HAZMAT teams may be called based on conditions. Report significant spills (larger than 6 feet in diameter and any "running" spill) immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, contact the San Mateo County Environmental Health Services Division, or other emergency office (e.g., local fire or police department) as warranted, immediately and document the spill using the spill documentation form . Alternatively, 1) dial 911, the local emergency response number, 2) the National Response Center at (800) 424-8802; or 2) call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours). As appropriate, contact other agencies including California

BMP Number	BMP Title	BMP Description
		Occupational Safety and Health Administration or the Regional Water Quality Control Board. All chemical spills shall be reported as soon as possible to the emergency site contact.
GEN-7	Spill Prevention and Control	▪ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times. ▪ Inspect vehicles and equipment frequently for and repair leaks promptly. On-site monitor should insect beneath all vehicles that have been parked more than 15 minutes before they leave the work area. Use drip pans to catch leaks until repairs are made. ▪ Clean up spills or leaks immediately and dispose of cleanup materials properly. ▪ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags). ▪ Sweep up spilled dry materials immediately. Do not try to wash them away with water or bury them. If water must be used, the Contractor shall collect the water and spilled fluids and dispose of it as hazardous waste. ▪ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. ▪ Small spills (less than 18 inches in diameter) including small quantities of oil, gasoline, paint or other materials should be controlled by the first responder (maintenance staff) and do not necessarily require an emergency response team. Medium spills (greater than 18 inches but less than 6 feet in diameter) are typically controlled by the first responder (maintenance staff) but police or fire department HAZMAT teams may be called based on conditions. Report significant spills (larger than 6 feet in diameter and any "running" spill) immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, contact the San Mateo County Environmental Health Services Division, or other emergency office (e.g., local fire or police department) as warranted, immediately and document the spill using the spill documentation form . Alternatively, 1) dial 911, the local emergency response number, 2) the National Response Center at (800) 424-8802; or 2) call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours). As appropriate, contact other agencies including California Occupational Safety and Health Administration or the Regional Water Quality Control Board. All chemical spills shall be reported as soon as possible to the emergency site contact.
GEN-8	Waste Management	▪ Cover waste disposal containers securely at the end of every workday and during wet weather. ▪ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site. ▪ Ensure that portable toilets have a secondary containment plan (e.g., a containment pan).

BMP Number	BMP Title	BMP Description
		▪ Clean or replace portable toilets and inspect them frequently for leaks and spills. ▪ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.) ▪ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
GEN-9	Vehicle Maintenance and Parking	▪ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage. ▪ Perform major maintenance, repair jobs, and vehicle and equipment washing off site. ▪ Conduct vehicle and equipment cleaning at contractor or County corporation yards and ensure that rinse water does not run into gutters, streets, storm drains, or surface waters. ▪ If refueling or vehicle maintenance must be done on-site, work in a bermed area (e.g., sandbags, gravel bags, compost socks, or other barrier material) at least 150 feet away from creek channels, away from storm drains and over a drip pan big enough to collect fluids. ▪ Refuel vehicles at least 150 feet away from the active stream channel. ▪ Keep an ample supply of spill clean-up materials near fueling, vehicle maintenance and hazardous materials/hazardous waste storage areas. Inventory clean-up materials monthly and restock as needed. ▪ Post proper fueling and spill clean-up instructions at fueling areas. Never leave the area while equipment is being filled. ▪ Recycle or dispose of fluids as hazardous waste. ▪ Do not clean vehicle or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc. ▪ Perform vehicle and mobile equipment steam cleaning, pressure washing or degreasing only over a containment designed to collect any generated wash water. Collect wash water and discharge to sewer via an oil water separator. ▪ Do not pour wash water down storm drains or sewers connected to septic systems.
GEN-10	Equipment Maintenance & Fueling	▪ A separate area should be designated for equipment maintenance and fueling, away from any slopes, watercourses, or drainage facilities. ▪ Equipment should not be stored in areas that will potentially drain to watercourses or drainage facilities. If equipment must be stored in areas with the potential to generate runoff, drip pans, berms, gravel bags, or absorbent booms should be employed to contain any leaks or spills. ▪ Equipment should be inspected daily for leaks or damage and promptly repaired.

BMP Number	BMP Title	BMP Description
		▪ Fueling and maintenance of vehicles should take place at least 65 feet away from waterways. ▪ In the event of a spill, follow procedures outlined in BMP GEN-7.
GEN-11	Paving and Asphalt Work	▪ Avoid paving and seal coating in wet weather or when rain is in the forecast, to prevent materials that have not cured from contacting stormwater runoff. ▪ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal or fog seal; and when saw cutting asphalt or concrete. ▪ Collect and recycle or appropriate dispose of excess abrasive gravel or sand. Do not sweep this material into gutters. ▪ Do not use water to wash down fresh asphalt concrete pavement. ▪ Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system. ▪ Shovel, absorb or vacuum saw-cut slurry and dispose of all waste as soon as work is complete in one location or at the end of the workday. ▪ If sawcut slurry enters a catch basin, clean it up immediately.
GEN-12	Concrete, Grout and Mortar Application	▪ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff and wind. ▪ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage. ▪ When washing exposed aggregate, prevent wash water from entering storm drains. Block any inlets and vacuum gutters, hose wash water onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.
GEN-13	Exclude Concrete from Channel	▪ For maintenance activities that involve concrete pouring, the County shall ensure that poured concrete be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete shall be kept moist, and runoff from the concrete shall not be allowed to enter a stream. Containment structures should be installed to control the placement of wet concrete and to prevent it from entering the channel outside of those structures. ▪ Commercial sealants may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is dry.

BMP Number	BMP Title	BMP Description
		▪ No dry concrete shall be placed on the banks or in a location where it could be carried into the channel by wind or runoff.
GEN-14	Concrete Washout Facilities	▪ Concrete washout facilities should be established for maintenance activities that require on-site preparation and use of Portland cement concrete, asphalt concrete or cement mortar, establish concrete washout facilities. These facilities capture wash water, concrete and aggregate flushed from concrete mixers, chutes, etc. Concrete washouts may be contained settling basins dug into the ground, raised and contained structures, trailers, etc. They are also applicable for projects that require equipment washouts. ▪ An appropriate area for the washout must be identified at least 50 feet away from watercourses and storm drains in case of accidental breaching. The storage capacity of the basin must be sized correctly for the job. <u>Construction Guidelines:</u> ▪ The location of the concrete washout should be clearly labeled and all employees should be educated about proper concrete disposal. ▪ Avoid mixing excess amounts of fresh concrete or cement mortar on-site. ▪ Wash out concrete mixers only in designated washout areas where the water will flow into temporary sealed basins or onto stockpiles of aggregate base or sand. Use as little water as possible to reduce hardening and evaporation time of waste products. ▪ Construct a basin large enough to contain all liquid and waste concrete materials generated during washout procedures. A minimum basin size is 9 feet x 9 feet and 2 feet deep. Plastic liner materials shall be a minimum of 60-mil polyethylene sheeting free of holes and defects. ▪ Recycle washout by pumping back into mixers for reuse when possible. ▪ BMP Maintenance: ▪ The concrete washout should be checked frequently to ensure proper use and effectiveness. ▪ At 75 percent capacity, the washout must be cleaned or new facilities must be constructed and ready for use. ▪ BMP Removal: ▪ The hardened concrete and materials related to the washout must be broken up, removed, and disposed of in accordance to local regulations. ▪ Area disturbed by the concrete washout must be repaired.

BMP Number	BMP Title	BMP Description
GEN-16	Timing of Work	▪ In general, routine maintenance and construction activities that take place in sensitive habitat and/or in channels below ordinary high water will be conducted during the dry season (June 15 through October 31[1]). Maintenance activities that are in upland areas and that would not affect streams may occur during low rainfall years at times when there is no predicted rainfall (chance of precipitation in less than 30 percent chance of rain). Activities that are subject to permit requirements will be conducted during the period authorized by the permits.
GEN-17	Maintain Traffic Flow	▪ To the extent feasible, work shall be staged and conducted in a manner that maintains two-way traffic flow on roadways in the vicinity of the work site. ▪ Heavy equipment and haul traffic shall be prohibited in residential areas to the greatest extent feasible. When no other route to and from the site is available, heavy equipment and haul traffic through residential areas shall be restricted to the hours of 8 a.m. to 5:30 p.m., Monday through Friday. ▪ If heavy equipment or hauling is required beyond the hours above, the County or their contractor would provide notice to adjacent property owners 48 hours in advance of such activities.
GEN-18	Traffic Control and Public Safety	▪ In the event that work activities require the temporary closure of any traffic lanes, the County shall implement measures to guide traffic (such as signage and flaggers), safeguard construction workers, provide safe passage of vehicles, and minimize traffic impacts through the duration of work activities. The County also shall notify local emergency service providers regarding any planned lane closures. ▪ For any other work within or near the roadway that could pose a hazard to the public, the County shall install/implement appropriate measures, such as fences, barriers, flagging, guards, and/or signs, to give adequate warning and provide protection from the potentially dangerous condition. ▪ For work activities along or near roadways with sidewalks and bike lanes, the County shall implement measures to ensure the safe passage of pedestrians and bicyclists around the work site. ▪ Where work is proposed at a recreational park or trail, warning signs will be posted several feet beyond the limits of work. Signs will also be posted if trails will be temporarily closed. ▪ Public transit access and routes will be maintained in the vicinity of the work site. If public transit will be affected by temporary road closures and require detours, affected transit authorities will be consulted and kept informed of project activities.

[1]Construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

BMP Number	BMP Title	BMP Description
GEN-19	Dust Management Controls	The County will implement the Bay Area Air Quality Management District (BAAQMD) Basic Dust Control Measures. Current measures stipulated by the BAAQMD Guidelines include the following: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
GEN-20	Firearms	▪ No firearms (except for federal, State, or local law enforcement officers and security personnel) will be permitted at the project site to avoid harassment, killing or injuring of wildlife.
GEN-21	Domestic Animals	▪ No animals (e.g., dogs or cats) can be brought to the project site to avoid harassment, killing or injuring of wildlife.
GEN-22	Site Stabilization	Earthwork will be completed as quickly as possible, and where practical, site restoration will occur immediately following maintenance. If site restoration involves planting, such activities may commence in late fall or early winter during the onset of rainy season. Bare soil surfaces resulting from maintenance and/or construction activities shall be covered with suitable erosion controls (seed or plant vegetation, fabrics, hydroseeding, mulch, etc.): ▪ Within 12 hours of any break in work unless project activities will resume within 7 days. ▪ No later than 3 days following the disturbance during the rainy season (approximately October through April).

BMP Number	BMP Title	BMP Description
		▪ No later than 7 days following the disturbance during the dry season (approximately May through September). Every effort shall be made to immediately cover bare soil surfaces resulting from maintenance and/or construction activities prior to storms. Revegetation activities will include only local plant materials native to the San Francisco Peninsula region.
GEN-23	Fire Prevention	1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will: ▪ Have appropriate fire suppression equipment available at the work site. ▪ Keep flammable materials, including flammable vegetation slash, at least 10 feet away from any equipment that could produce a spark, fire, or flame. ▪ Not use portable tools powered by gasoline-fueled internal combustion engines within 25 feet of any flammable materials unless a round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
GEN-26	Decontamination of Project Equipment and Vehicles	▪ Equipment, boots and waders used for in-water maintenance activities will be decontaminated prior to entering and exiting the maintenance site and/or between each use in different water bodies to avoid the introduction and transfer of organisms between water bodies. Methods to be employed may include: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. The County shall begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, the County shall allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, the County shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, the County shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment/clothing is removed from the site, used within a different waterbody, and returned to the project site.
EC-3	Live Staking	▪ Live staking involves the insertion of live, vegetative cuttings into the ground in a manner that allows the cutting (stake) to take root and grow. This BMP is used to reduce the potential for soil to become water borne, to reduce water velocity and erosive forces, and to aid in habitat protection. Poles used in willow walls and through rip rap may be a structural application. Sprigs may be used in individual planting spots along a streambank.

BMP Number	BMP Title	BMP Description
EC-5	Wattles/Fascines	▪ Wattles and fascines are live branch cuttings, usually willows, bound together into long, tubular bundles used to stabilize slopes and stream banks. Both wattles and live fascines are true biotechnical practices. The live branches and live stakes provide the biological element while the stems, rope ties and wedge-shaped wooden stakes all combine to provide the structural elements. Fascines differ from wattles in that the branch cuttings all point in the same direction in fascines, where they may point in either direction in wattles. Wattles are typically aligned on contour, where fascines are angled slightly upslope and thus tend to produce more vigorous growth.
EC-6	Hand Seeding	▪ Hand seeding is broadcasting grass seed on disturbed or bare soil areas by hand or a hand seeding device. This BMP is used to reduce the potential for soil to become water or air borne, reduce erosion after vegetation establishment, provide for vegetative buffers and aid in habitat protection. Seeding with appropriate seed mixes also helps discourage colonization by non-native and invasive plant species.
EC-7	Hydroseeding	▪ Hydroseeding is broadcasting grass seed, tackifier, wood fiber mulch and water on disturbed areas using a hydroseeding machine. This BMP is used to reduce the potential for soil becoming water or air borne, to reduce erosion after vegetation is established, provide vegetative buffers and to aid in habitat protection. Seeding with appropriate seed mixes will also help discourage colonization by non-native and invasive plant species. Hydroseeding may be used after soil disturbance is completed at construction/maintenance sites and/or on bare slopes.
EC-8	Mulching	▪ Mulching is the application of rice or sterile straw, wood chips, leaf litter, redwood duff, or other suitable materials on the soil surface applied manually or by machine. This BMP is used to reduce the potential for soil becoming water or air borne, and to encourage vegetation establishment. This BMP is used to protect the soil surface and to protect newly seeded areas.
EC-09	Vegetative Buffer	▪ A vegetative buffer is a strip of vegetation adjacent to sensitive areas, ditches, pavement and water bodies. This BMP prevents soil from becoming water borne and may help restore shallow slope failures by trapping soil and debris.
EC-10	Erosion Control Blankets & Mats	▪ Erosion control blankets and mats are installed to protect the prepared soil surface of a steep slope. This BMP may be used at maintenance sites to provide stabilization/protection on steep slopes or stream banks. Erosion control blankets and mats are available in a variety of materials including jute, excelsior, blanket material, straw, wood fiber blanket, coconut fiber blanket, coconut fiber mesh, and straw coconut fiber blanket. Material selection should be based on the size of area, slope, surface conditions, revegetation plans, and channel velocity. Coir fabric/netting is a geo-textile product made from coconut

BMP Number	BMP Title	BMP Description
		fibers loosely woven into a fabric usually packaged in roll form. This fabric can be used to provide a reduction in water velocity/erosive forces and/or habitat protection and topsoil stabilization. Erosion control blankets and mats may be used in combination with seeding and/or vegetation.
EC-11	Surface Roughening	▪ Surface roughening is a technique for roughening a bare soil surface with furrows running across the slope, stair stepping, or tracking with construction equipment. Surface roughening is intended to aid the establishment of vegetative cover from seed, to reduce runoff velocity and increase infiltration, and to reduce erosion and provide for sediment trapping. This BMP is typically applied on slopes steeper than 3:1.
EC-13	Slope or Bank Stabilization	▪ Where biotechnical methods are unsuitable for stabilizing streambanks due to site specific conditions such as steep slopes or limited right-of-way width, hardened engineered solutions such as rock slope protection, solider pile walls, retaining walls, or slope soil nailing may be utilized along a failed portion of slope to provide a buttress against additional failure. To the extent feasible, this BMP should be combined with biotechnical solutions through installation of vegetated rock slope protection.
EC-14	Energy Dissipator	▪ An energy dissipator is a structure designed to control erosion at the outlet of a channel or conduit by reducing the velocity of flow and dissipating the energy. This BMP is recommended at the outlet of any new or replacement drainage culvert, which are points of high erosion potential. Energy dissipators are effective in absorbing the impact of flow and reducing the velocity to non-erosive levels.
SC-1	Gravel Bags	▪ Gravel bags can be used to keep water away from work areas and unstable slopes or for constructing cofferdams and clean water bypasses.
SC-2	Silt Fence	▪ A silt fence is a temporary sediment barrier consisting of fabric stretched across and attached to supporting posts and entrenched into soil. This BMP is generally used for perimeter protection (around construction/maintenance sites, stockpile areas). It may also be installed perpendicular to the flow direction to slow or stop water and to allow perimeter filtration, settling of soil particles, and to reduce water velocity.
SC-3	Straw Log, Straw Roll, Coir Log	▪ Straw rolls/logs or coir logs may be used for temporary soil stockpile protection; protection of storm drains, gutters, and drainage courses; temporary check dams; bank or slope stabilization; and streambank toe protection. Alternatives to straw rolls/logs and coir logs include compostable filter socks/berms comprised of natural fibers and other bio-based materials.

BMP Number	BMP Title	BMP Description
SC-7	Silt Curtain	▪ The County shall install silt curtains or other appropriate silt filtering devices around excavation sites to prevent heavily silted water from impacting areas around the work site. The silt curtain or silt filtering device shall be maintained throughout all phases of excavation.
DW-1	Channel Dewatering	▪ When in-water construction is unavoidable, streamflow shall be diverted around work areas by either installing cofferdams and/or clean water bypass systems. A cofferdam is a temporary structure built into a waterway to enclose a construction area and reduce sediment pollution from construction work in or adjacent to water. A clean water bypass is typically used for short-term diversion of small amounts of water over short distances to enable dewatering of a maintenance site. Depending on site conditions, these systems may be either gravity driven or require use of a pump to divert water around a construction area. ▪ No dewatering will be conducted at sites with recent document occurrences of coho salmon within the past 5 years.
CUL-4	Construction Monitoring	▪ The County will retain a qualified archaeologist to be present on-site during ground-disturbing activities within areas identified as highly sensitive for cultural areas in the Projects Cultural Resources Report. ▪ The qualified archaeologist will have the authority to stop work if cultural resources are discovered. ▪ If any cultural resources discovered during construction monitoring, BMP CUL-6 would be implemented as appropriate.
CUL-5	Conduct Pre-Maintenance Educational Training	▪ Prior to work beginning, and in concert with implementing BMP BIO-1, all crew personnel will participate in an educational training session conducted by a qualified cultural resources specialist. This training will include instruction on how to identify historic and prehistoric resources that may be encountered and will describe the appropriate protocol to be followed if resources are discovered during maintenance work.
CUL-6	Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately	Unanticipated discoveries of cultural and paleontological resources may occur during maintenance construction activities. Examples of cultural remains are obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or significant areas of tool-making debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period artifacts may include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Paleontological artifacts are fossilized remains of plants and animals. Work will be restricted or stopped in areas where remains or artifacts are found until proper protocols are met.

BMP Number	BMP Title	BMP Description
		Protocol for Treatment of Prehistoric or Historic Cultural Resources: 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County will retain the services of a consulting archaeologist, who will visit the discovery site as soon as practicable and perform minor hand excavation to describe the archaeological or paleontological resources present and assess the amount of disturbance. 3. The consulting archaeologist will provide to the County and USACE, at a minimum, written and digitalphotographic documentation of all observed materials, utilizing the CRHR and NRHP guidelines for evaluating archaeological resources. Based on the assessment, the County and USACE will identify the CEQA and Section 106 cultural resources compliance procedures to be implemented. 4. If the consulting archaeologist determines that the find appears not to meet the CRHR or NRHP criteria of significance, and a USACE archaeologist concurs with the consulting archaeologist's conclusions, construction may continue while monitored by the consulting archaeologist. The authorized maintenance work will resume at the discovery site only after the County has retained a consulting archaeologist to monitor and the Maintenance Manager has received notification from USACE allowing work to continue. 5. If the find appears significant, avoidance of additional impacts is the preferred alternative. The consulting archaeologist will determine if adverse impacts to the resources can be avoided. 6. Where avoidance is not practical (e.g., maintenance activities cannot be deferred or must be completed to satisfy the Maintenance Program objective), the County will develop an action plan (also known as a data recovery plan) and submit it to USACE within 48 hours of determining that maintenance activities cannot be deferred. The action plan will be submitted by email to the appropriate archeological/cultural resources contact at the USACE. The action plan is equivalent to a data recovery plan. It will be prepared in accordance with the current professional standards and state guidelines for reporting the results of the work, and will describe the services of a Native American consultant and a proposal for curation of cultural materials recovered from a non-grave context. 7. The recovery effort will be documented in a report prepared by the consulting archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository. 8. In the event of discovery of human remains (or if a find consists of bones suspected to be human), the field crew supervisor will take immediate steps to secure and protect such remains from vandalism during periods

BMP Number	BMP Title	BMP Description
		when work crews are absent.) 9. The maintenance crew supervisor will immediately notify the San Mateo County Coroner and provide any information that identifies the remains as Native American. If the remains are determined to be those of a prehistoric Native American or a Native American from the ethnographic period, the Coroner will contact NAHC within 24 hours of being notified about the remains. NAHC will designate and notify a Most Likely Descendant (MLD) within 24 hours. The MLD will have 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods. 10. Preservation in situ is the preferred option for human remains. Human remains will be preserved in situ if continuation of the maintenance work, as determined by the consulting archaeologist and MLD, will not cause further damage to the remains. The remains and artifacts will be documented, the find location carefully backfilled (withy protective geo-fabric if desirable). 11. If human remains or cultural items are exposed during maintenance that cannot be protected from further damage, they will be exhumed by the consulting archaeologist at the discretion of the MLD and reburied, with the concurrence of the MLD, in a place mutually agreed upon by all parties. <u>Protocol for Treatment of Paleontological Resources:</u> 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County shall retain the services of a consulting paleontologist. The consulting paleontologist will meet the Society for Vertebrate Paleontology's criteria for a qualified professional paleontologist (Society of Vertebrate Paleontology 2010). 3. The consulting paleontologist shall visit the discovery site as soon as practicable and perform minor hand excavation to describe the paleontological resources present and assess the amount of disturbance. The consulting paleontologist will follow the Society for Vertebrate Paleontology's guidelines (2010) for treatment of the artifact. Treatment may include preparation and recovery of fossil materials for an appropriate museum or university collection, and may include preparation of a report describing the finds. The County will be responsible for ensuring that the consulting paleontologist's recommendations for treatment are implemented.
BIO-1	Environmental Awareness Training	▪ Prior to commencing maintenance activities in a given year, all participating maintenance personnel will attend a worker environmental awareness training program. The training will include a brief review of

BMP Number	BMP Title	BMP Description
		special-status species, sensitive habitats, and other sensitive resources that may exist in the project area, including field identification, habitat requirements, and the legal status and protection of each relevant species, as well as locations of sensitive biological resources. The training will include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training will cover the maintenance activity's conservation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologist(s). It will include printed material and an oral training session by a qualified biologist.
BIO-2	Minimize Injury or Mortality of Fish and Amphibian Species during Dewatering	▪ Prior to dewatering a construction site, all reasonable efforts shall be made to capture and relocate native fish and amphibian species if necessary to avoid direct mortality and minimize take. Streams that support a sensitive species (e.g., steelhead, California red-legged frog) will require a relocation effort led by a qualified biologist. The following measures are consistent with those defined as reasonable and prudent by NMFS for projects concerning several central California Evolutionarily Significant Units for coho salmon and steelhead trout. ▪ Fish relocation activities will be performed only by qualified fisheries biologists that have experience with fish capture and handling. ▪ Perform relocation activities during morning periods when air temperatures are coolest. ▪ Periodically measure air and water temperatures. Cease activities when water temperatures exceed temperatures allowed by CDFW and NMFS. ▪ Capture methods may include fish landing nets, dip nets, buckets and by hand. ▪ Exclude fish from re-entering work area by blocking the stream channel above and below the work area with fine meshed net or screens. Mesh will be no greater than 1/8 inch (3.1mm). The bottom edge of net or screen will be completely secured to the channel bed to prevent fish from re-entering work area. Exclusion screening will be placed in areas of low water velocity to minimize impingement of fish. Screens will be checked periodically and cleaned of debris to permit free flow of water. ▪ Prior to capturing fish, the qualified biologist will determine the most appropriate release location(s). Captured aquatic life shall be released immediately in the closest suitable body of water adjacent to the work site, taking into consideration the following when selecting release site(s): A. Similar water temperature as capture location B. Ample habitat for captured fish

BMP Number	BMP Title	BMP Description
		C. Low likelihood of fish re-entering work site or becoming impinged on exclusion net or screen. D. Avoid areas with large concentrations of potential predators in immediate vicinity. ▪ Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish. ▪ Temporarily hold fish in cool, shaded, aerated water in a container with a lid or in a live car (i.e., a net enclosure that can be placed in a pond to temporarily hold the fish). ▪ If fish are held in a container, provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release. ▪ Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish should be released, and rescue operations ceased. ▪ Avoid overcrowding in containers. Have at least two containers and segregate young-of-year fish from larger age classes to avoid predation. Place larger amphibians, such as Pacific giant salamanders, in container with larger fish. ▪ If fish are abundant, periodically cease capture, and release fish at predetermined locations. ▪ Visually identify species and estimate year-classes of fish at time of release. ▪ Count and record the number of fish captured. Avoid anesthetizing or measuring fish. ▪ Submit reports of fish relocation activities to CDFW and NMFS in a timely fashion. ▪ If feasible, plan on performing initial fish relocation efforts several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts. The biological monitor or qualified biologist shall check daily for stranded aquatic life as the water level in the dewatering area drops. ▪ If mortality during relocation exceeds the amount authorized by the applicable permits or, if no amount is specified, 5 percent, stop efforts and immediately contact the appropriate agencies (CDFW and NMFS).
BIO-3	California Red-legged Frog Protection Measures	▪ If suitable habitat for California red-legged frog is determined to exist in or around the work area where maintenance activities are planned to occur, the County will implement applicable protection measures as follows:

BMP Number	BMP Title	BMP Description
		▪ No more than twenty-four (24) hours prior to the date of initial ground disturbance or mowing, a pre-activity survey for the California red-legged frog will be conducted by a qualified biologist at the work site. The survey will consist of walking the work area limits to ascertain the possible presence of the species. The qualified biologist will investigate all potential areas that could be used by the California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows, such as those of California ground squirrels (Spermophilus beecheyi) or gophers (*Thomomys bottae*). If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist will contact the USFWS to determine if moving any of the individuals is appropriate. If the USFWS approves moving animals, the biologist and USFWS will identify a suitable relocation site, and the County will ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists will capture, handle, and monitor the California red-legged frog. ▪ To minimize harassment, injury, death, and harm to individual California red-legged frogs, one of the following two measures will be implemented. 1. An approved, qualified biologist(s) will be on-site during all activities that may result in take of the California red- legged frog, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. Qualified biologists must be approved by the USFWS. or 2. Prior to pre-activity surveys, personnel will enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. The bottom of the fence will either be buried a minimum of six inches below ground or otherwise secured in a manner approved by the USFWS and will remain in place during all maintenance activities in order to prevent California red-legged frogs from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, will be provided in the exclusion fencing. A qualified biologist will conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and will be on-hand to monitor fence installation. The exclusion fencing will be inspected daily by maintenance personnel and maintained for the duration of maintenance implementation. ▪ The qualified biologist(s) will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with maintenance personnel, any other person(s) at the work

BMP Number	BMP Title	BMP Description
		area, otherwise associated with the maintenance work, the USFWS, the CDFW, or their designated agents. The qualified biologist will have oversight over implementation of all the conservation measures in this programmatic biological opinion, and will have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within twenty-four (24) hours. The USFWS contact is the Coast Bay Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600. ▪ The County will minimize adverse impacts to the California red-legged frog by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating maintenance work that involve ground-disturbing activities, equipment staging areas, site access routes, sediment removal and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed will be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing will be inspected by the qualified biologist and maintained daily until the last day that equipment is at the site. ▪ To the extent practicable, ground-disturbing activities will be avoided from October through April because that is the time period when California red-legged frogs are most likely to be moving through upland areas. When ground- disturbing activities must take place between November 1 and March 31, the County will ensure that daily monitoring by the qualified biologist is completed for the California red-legged frog. ▪ If egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Staff will keep a record of any sites where egg masses are found and will conduct vegetation removal at these sites between June 15 and October 31[2]. Staff shall avoid entering the channel to avoid dislodging egg masses. Activities shall be performed from the banks. ▪ To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all maintenance- related vehicle traffic will be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas will be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Maintenance related vehicles will observe a 20-mile per hour speed limit

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BMP Number	BMP Title	BMP Description
		within work areas, except on County roads, and State and Federal highways. Off-road traffic outside of designated and fenced work areas will be prohibited. ▪ When a California red-legged frog is encountered in the work area, all activities which have the potential to result in the harassment, injury, or death of the individual will be immediately halted. The qualified biologist will then assess the situation in order to select a course of action that will avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the frog will be avoided and the individual will be allowed to move out of the potentially hazardous situation to a secure location on its own volition. This procedure applies to situations where a California red-legged frog is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the individual move away from the hazardous location. ▪ California red-legged frogs that are in danger will be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., there are too many individuals observed per day), the biologist will relocate the animals to a USFWS preapproved location. Prior to the initial ground disturbance, the County will obtain approval of the relocation protocol from the USFWS in the event that a California red-legged frog is encountered and needs to be moved away from the work site. Under no circumstances will a California red-legged frog be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist will limit the duration of the handling and captivity of the California red-legged frog to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it will be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. ▪ The County will immediately notify the USFWS once the California red-legged frog and the site is secure. The USFWS contact for this situation is the Coast Bay Foothills Division Chief of the Endangered Species Program by email and at telephone (916) 414-6600. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day. ▪ The County will comply with all herbicide application requirements mandated by the USEPA and stipulated injunctions pertaining to California red-legged frog. For example, herbicides will be limited for controlling state-designated invasive species and noxious weeds, will not be used within 15 feet of aquatic breeding

BMP Number	BMP Title	BMP Description
		critical habitat or non-breeding aquatic critical habitat areas or within 15 feet of aquatic features within non-critical habitat sections subject to the 2006 Court-ordered injunction; precipitation is not occurring or forecast to occur within 24 hours; herbicide is limited to localized spot treatment using hand-held devices; and herbicide will be applied by a certified applicator or person working under the direct supervision of a certified applicator. ▪ For on-site storage of pipes, conduits and other materials that could provide shelter for California red-legged frogs, materials will be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials. ▪ To the maximum extent practicable, no maintenance activities will occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist will inspect the work area and all equipment/materials for the presence of California red-legged frogs. The animals will be allowed to move away from the work site of their own volition or moved by the qualified biologist. ▪ To the maximum extent practicable, night-time construction activities will be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earthmoving and other project activities will cease no less than 30 minutes before sunset and will not begin again prior to 30 minutes after sunrise. Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a work site will be prohibited during the hours of darkness. ▪ Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form will not be used at the project site because California red-legged frogs can become entangled and trapped in them. Any such material found on site will be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials will not be used. ▪ Trenches or pits one (1) foot or deeper that are going to be left unfilled for more than forty-eight (48) hours will be securely covered with boards or other material to prevent the California red-legged frog from falling into them. If this is not possible, the County will ensure wooden ramps or other structures of suitable surface that provide adequate footing for the California red-legged frog are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.10 inch in diameter will be immediately filled or securely covered so they do not become pitfall traps for the California red-legged frog. The qualified biologist will inspect the trenches, pits, or holes prior to their being

BMP Number	BMP Title	BMP Description
		filled to ensure there are no California red-legged frogs in them. The trench, pit, or hole also will be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist will remove and transport it to a safe location, or contact the USFWS for guidance.
BIO-5	San Francisco Garter Snake Protection Measures	In areas within one mile of a documented occurrence of the San Francisco garter snake, onsite habitat shall be evaluated by a qualified biologist or biological monitor for the potential to support this species. If suitable habitat for San Francisco garter snake is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the following measures will be followed: ▪ To the extent feasible, maintenance activities should be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. ▪ Prior to implementation of maintenance work, the County will submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologist(s) who will perform pre-activity surveys and on-site monitoring. ▪ To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of maintenance activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist will conduct daytime surveys throughout the project site. The approved biologist will be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 ft of the work area to monitor for individual garter snakes. The biologist will also be present during any other maintenance activities that could potentially result in take, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. If a San Francisco garter snake is observed within the maintenance work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual will cease and the USFWS and CDFW will be contacted immediately. Work will not re-commence without written approval from CDFW. The on-site biologist will be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake. The on-site biologist shall possess a working cellular telephone whose number shall be provided to the USFWS and CDFW. ▪ For vegetation removal on berms or other sites with suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no sensitive species are found in the area, removal of

BMP Number	BMP Title	BMP Description
		vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. ▪ Maintenance-related vehicles will observe a 20 mile per hour speed limit while in the work area. ▪ San Francisco garter snakes may be attracted to structures that provide cavities such as pipes; therefore, all pipes, culverts, or similar structures that are stored at the site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the maintenance foreman/manager before the pipe is buried, capped, or otherwise used or moved. If a San Francisco garter snake is discovered inside a pipe, the biologist (or a member of the maintenance crew, if the biologist is not on-site) will watch the individual until it has moved out of the maintenance work area. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day.
BIO-6	Measures to Protect the Foothill Yellow-legged Frog, California Giant Salamander, Santa Cruz Black Salamander, and Western Pond Turtle	In areas within one mile of documented foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, or western pond turtle occurrences, or where suitable habitat for one or more of these species is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the County will implement applicable protection measures as follows: ▪ The qualified biologist will conduct a special-status species survey on each morning of and within 48 hours prior to the scheduled work commencing. 1. If no foothill yellow-legged frog, California giant Salamander, Santa Cruz black salamander, or western pond turtle is found, the work may proceed. 2. If eggs or larvae of the foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, are found, the qualified biologist will establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed, or the Permittee shall contact CDFW to develop site appropriate avoidance and minimization measures. 3. If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.

BMP Number	BMP Title	BMP Description
		4. If adult or non-larval juvenile foothill yellow-legged frogs, California giant salamanders, Santa Cruz black salamanders, or western pond turtles are found, one of the following two procedures will be implemented: (a) If, in the opinion of the qualified biologist, capture and removal of the individual to a safe place outside of the work area is less likely to result in adverse effects than leaving the individual in place and rescheduling the work (e.g., if the species could potentially hide and be missed during a follow-up survey), the individual will be captured and relocated by a qualified biologist to suitable habitat at least 100 meters away and work may proceed. (b) If, in the opinion of the qualified biologist, the individual is likely to leave the work area on its own, and work can be feasibly rescheduled, a buffer will be established around the location of the individual(s) and work may proceed outside of the buffer zone. No work will occur within the buffer zone until the turtle has left the work area. Work within the buffer zone will be rescheduled if necessary.
BIO-7	Check for Wildlife in Pipes/Construction Materials	For maintenance activities that involve pipes or culverts, the County will visually check all sections of pipe for the presence of wildlife sheltering within them prior to moving any pipe or culvert sections that have been stored on the site overnight, or the pipes will have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe/culvert sections to one another, the exposed end(s) of the pipe/culvert will be capped at the end of each day during construction to prevent wildlife from entering and being trapped within the pipeline/culvert.
BIO-8	Minimize Impacts on Dusky-footed Woodrat Nests	If suitable habitat for San Francisco dusky-footed woodrat is determined to exist in the work area, the following measure will be followed: ▪ No more than two weeks prior to the beginning of ground disturbance or other routine maintenance activities that could disturb woodrat nests, a qualified biologist will survey the work areas scheduled for maintenance. If any dusky- footed woodrat nests are found, the nests shall be flagged and construction fencing or flagging that will not impede the movement of the San Francisco dusty-footed woodrat shall be placed around the nest to create a 10-foot buffer (where feasible). If the nest is located adjacent to a road or trail, the nest shall be clearly flagged so equipment/truck drivers accessing sites can see the nest. If a dusky-footed woodrat nest is identified in a work area, the following measure will be implemented by the County.

BMP Number	BMP Title	BMP Description
		▪ The County will avoid physical disturbance of the nest if feasible. Ideally, a minimum 10-foot buffer should be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of maintenance activities. ▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in urban or bayside areas where woodrat populations are small and isolated from larger populations, the County will consult with CDFW regarding the appropriate measures to minimize impacts. ▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in more rural or natural areas and/or where woodrat populations are large and have connectivity to large populations, one of the following two relocation measures will be implemented by the County: ▪ If the woodrat nest site and the proposed relocation area are connected by suitable dispersal habitat for the woodrat, as determined by a qualified biologist, the following relocation methodology will be used: Prior to the beginning of construction activities, a qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the maintenance activity area. Relocations efforts will avoid the nesting season (February-July) to the maximum extent feasible. Disturbance of the woodrat nest will be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist will dismantle and relocate the nest material by hand. All material from dismantled nests will be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original nest locations, to provide material for woodrats to construct new nests. During the deconstruction process, the biologist will attempt to assess if there are juveniles in the nest. If immobile juveniles are observed, the deconstruction process will be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot-wide no-disturbance buffer will be established around the nest until the juveniles are mobile. The nest may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to woodrat nests will be documented in a construction monitoring report and submitted to CDFW. ▪ If a qualified biologist determines that the woodrat relocation area is separated from the nest site by major impediments, or a complete barrier, to woodrat movement, trapping for woodrats will be conducted prior to relocation of nest material. Prior to the start of nest relocation activities, artificial pine box shelters will be placed at each of the sites selected for relocation of nest materials. The dimensions of the artificial shelters will be approximately 8” long x 8” wide x 6” high. Each shelter will include two interior chambers

BMP Number	BMP Title	BMP Description
		connected by an opening. At the relocation sites, the artificial pine box shelters will provide basement structures for the relocated woodrat nest materials, allowing woodrats to enter, use, and modify the relocated nests. ▪ A qualified biologist will set two traps around each of the woodrat nests to be relocated. Traps will be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples. Traps will also be equipped with cotton bedding and covered with cardboard. The traps will be checked the following morning, within one- and-a-half hours of sunrise. If a woodrat is captured it will be placed in a quiet area while its nest material is relocated; the animal will then be released at the relocated nest. If no woodrats are captured after the first night, the biologist will set the traps for one additional evening to increase the probability of capturing the animal and ensuring a safe relocation. If no woodrats are captured at a given house after two nights, it will be assumed that the house is not currently occupied. ▪ Trapping will only be conducted outside the breeding season, which for woodrats is from February through the end of July. If a litter of young is found or suspected while dismantling a nest for relocation, the nest material will be replaced, any trapped woodrats will be returned to the nest, and the nest will be left alone for 2 to 3 weeks, after which time the nest would be rechecked to verify that the young are capable of independent survival, as determined by the lead woodrat biologist, before proceeding with nest dismantling.
BIO-9	Measures to Protect Nesting Migratory Birds	▪ To the extent possible, conduct vegetation removal activities prior to nesting bird season (February 1 through August 31). ▪ For maintenance activities or tree removal that are scheduled to occur between February 1 and August 31, a qualified biologist will survey the work area and a minimum of 300 feet surrounding the work area for raptor nests and 100 feet for nests of non-raptors. This survey will occur no more than three days prior to starting work. If a lapse in maintenance-related work of 7 days or longer occurs, another focused survey will be conducted before maintenance work can be reinitiated. ▪ If nesting birds are found, a no-work buffer will be established around the nest and maintained until the young have fledged. A qualified biologist will identify an appropriate buffer based on a site-specific evaluation. Typical appropriate buffers are 300 feet for raptors, herons, and egrets (though larger for bald and golden eagles, as discussed in BIO-15); 100 feet for non-raptors nesting on trees, shrubs and structures, and 25 feet for ground-nesting non-raptors. ▪ The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone.

BMP Number	BMP Title	BMP Description
		▪ Install physical barriers to nesting where appropriate (e.g., install netting over entryways to cavities, bridge ledges, culverts) and check regularly for any trapped birds. Work will not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival. ▪ No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site). To avoid potential impacts to tree or shrub-nesting birds, any project-specific trimming or pruning of trees or shrubs shall be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist. No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project. ▪ Within areas subject to CDFW regulation under Section 1600 of the Fish and Game Code, nesting bird protection measures required as conditions of the Streambed Alteration Agreement will be implemented.
BIO-10	Measures to Protect Nesting Marbled Murrelet	▪ During marbled murrelet breeding/nesting season (March 24 to August 15), if suitable marbled murrelet nesting trees are present within 300 feet of the project area or if a marbled murrelet nest is detected, Permittee shall consult with CDFW before proceeding. If habitat trees are present within ¼- mile of the project site but are greater than 300 feet from the work area, Permittee may proceed with the following conditions: – Work within the ¼-mile buffer shall be confined to the period of August 15 to October 31[3]. – If activities cannot be performed during this window and would thus occur during the marbled murrelet breeding season (March 25 to August 15), seasonal disturbance minimization buffers as listed the USFWS document, Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (2006) shall be followed. Permittee shall measure ambient noise and estimate construction activity noise to calculate seasonal buffer widths using that reference.

[3] Allowable construction window has been updated to be Project specific and varies from that approved in the County of San Mateo Routine Maintenance Program.

BMP Number	BMP Title	BMP Description
		– Alternatively, if protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, seasonal and distance work restrictions may be lifted with written approval from CDFW. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf
BIO-14	Measures to Protect Bat Colonies	▪ If high-quality habitat for roosting bats (i.e., large trees with cavities of sufficient size to support roosting bats, or buildings providing suitable roost sites, as determined by a qualified bat biologist) is present within 100 feet of a maintenance site, a qualified bat biologist will conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if a bat colony is present and to identify the specific location of the bat colony. ▪ If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. ▪ If an active maternity colony or non-breeding bat roost is located, the project work will be redesigned to avoid disturbance of the roosts, if feasible. ▪ If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance will not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) will be observed during this period. ▪ If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individuals will be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined by a Memorandum of Understanding with CDFW). Bats may be evicted through exclusion after notifying CDFW. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.
BIO-16	Avoidance Special-Status Plant Species	For projects located in areas where special-status plants have been identified as potentially occurring, a qualified biologist will assess habitat suitability for the potential occurrence of special-status plant species within the work area. If determined to be warranted, a qualified botanist will conduct appropriately timed surveys for the focal plant species in accordance with CDFW's special-status plant survey methodology. If a special-status species is observed in or near the project site, the County will follow the measures below as well as any additional measures that might be contained in the forthcoming Biological Opinion issued by the USFWS

BMP Number	BMP Title	BMP Description
		for the Maintenance Program. ▪ If discovered, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population will be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species. ▪ Special-status plants to be avoided will be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing will be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing will be installed at least 50 feet from the edge of the population. The location of the fencing will be shown on the maintenance design drawings and marked in the field with stakes and/or flagging. The design specifications will contain clear language that prohibits maintenance-relate activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area. For non-ground disturbing vegetation management activities conducted using only hand-held equipment, the non-disturbance buffer may be reduced to a minimum of 3 feet and flagging of the population may be used in place of environmentally sensitive fencing.
BIO-17	Sudden Oak Death Controls	▪ Before entering maintenance sites located in areas infested with Phytophthora, field workers will receive training that includes information on Phytophthora pathogens and how to prevent the spread of these and other soil-borne organisms by following approved phytosanitary procedures. ▪ The exterior and interior of all vehicles, construction equipment, and tools should be clean and free of debris, soil and mud (including mud on tires, treads, wheel wells and undercarriage) prior to arrival at a new job site, especially during the wet season. ▪ Work shoes should be kept clean by inspecting shoe soles and removing mud, debris and soil off treads before moving to a new job site. ▪ Do not collect or transport host plants from an infested or quarantined area. ▪ Vehicles should stay on established roads whenever possible.

BMP Number	BMP Title	BMP Description
		▪ To minimize the potential for spreading potentially contaminated soil and time required for decontamination, if possible, avoid vehicle traffic and field work when soils are wet enough to stick readily to shoes, tools, equipment and tires. ▪ Delivered nursery plants that will be held before planting will be transferred to cleaned and sanitized raised benches and maintained in accordance with the "Guidelines to Minimize Phytophthora Pathogens for holding (non-production) nurseries at restoration sites, Section 3." ▪ A portion of purchased nursery plants will be tested for Phytophthora using the pear-baiting methodology in which pear baits are placed in soil samples, water samples and root samples of nursery purchased plants. Incubation temperatures with diurnal fluctuations from 21 degrees Celsius to 27 degrees Celsius are generally suitable for detecting Phytophthora species using pear baits. If dark lesions appear on pears, the sample likely has Phytophthora inoculum. For additional information for the pear-baiting methodology, see: phytosphere.com/BMPs nursery/test3_2bait.htm ▪ Nursery plants will be transported on or in vehicles or equipment that have been cleaned before loading the stock. ▪ Nursery stock will not be placed on the soil or other potentially contaminated surfaces until they are placed at their specific planting sites. ▪ Minimize unnecessary movement of soil and plant material within a planting area, especially from higher to lower risk areas. ▪ On-site or off-site collection of plant materials, including seed and cuttings for direct planting, will be conducted in a phytosanitary manner. ▪ Only uncontaminated water or water that has been effectively treated to remove or kill Phytophthora should be used for rinsing or irrigating plant material.
BIO-18	Invasive Plant Control	▪ In order to minimize the spread of invasive plants, all equipment (including personal gear) will be cleaned of soil, seeds, and plant material prior to arriving on the project site to prevent introduction of undesirable plant species. ▪ Prior to implementation of Program activities at a given site, the proposed staging area, as well as any areas to be graded, will be surveyed for the presence of invasive weed species. Invasive weed species occurring within locations of construction clearing and grubbing shall be flagged for removal by the biological monitor or qualified biologist. Any invasive weeds with a California Invasive Plant Council (Cal-IPC) rating of "moderate" or "high" found within the survey area will be removed and disposed of in a

BMP Number	BMP Title	BMP Description
		sanitary landfill, incinerated off-site, or disposed in a high-temperature composting facility that can compost using methods known to kill weed seeds, taking care to prevent any seed dispersal during the process by bagging material or covering trucks transporting such material from the site. ▪ Suitable onsite disposal areas should be identified to prevent the spread of weed seeds. Invasive plant material should be rendered nonviable (partially decomposed, very slimy or brittle) when being treated onsite. Maintenance staff shall desiccate or decompose invasive plant material until it is nonviable. Depending on the type of plant, disposed plant material can be left out in the open as long as roots are not in contact with moist soil, or can be covered with a tarp to prevent material from blowing or washing away. Permittee shall monitor all sites where invasive plant material is disposed onsite and treat any newly emerged invasive plants. Invasive plant material removed during work activities shall be bagged and appropriately incinerated or disposed of in a landfill or permitted composting facility. ▪ No invasive plants shall be planted at maintenance work areas. Prohibited exotic plant species include those identified in the Cal-IPC's Inventory Database, which is accessible at: https://www.cal-ipc.org/plants/inventory/.
BIO-19	Restore Channel Features	Following completion of bank stabilization activities, any temporary modifications to the low-flow channels will be reversed so that the channel is contoured to facilitate fish passage at least as well following the activity as it did prior to the stabilization activity.
BIO-21	General Wildlife Protection Measures	If any wildlife is encountered during project activities, said wildlife shall be allowed to leave the area unharmed and on their own volition, except in cases where relocation by a qualified biologist is permitted by conditions below.
BIO-24	Pathogen Control	▪ In order to minimize the spread of plant and animal pathogens, all equipment (including personal gear such as boots) will be cleaned of soil, seeds, and plant material prior to arriving on a maintenance site. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. ▪ Equipment, including maintenance equipment and field gear used to capture and relocate special-status species such as frogs, will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features).

BMP Number	BMP Title	BMP Description
		▪ Boots, nets, gloves, and any other equipment used to handle amphibians or aquatic organisms will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between maintenance sites. Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat. ▪ When working at sites with known or suspected disease problems, disposable gloves will be worn and changed between handling each animal. Gloves will be wetted with water from the site or distilled water prior to handling any amphibians. Gloves will be removed by turning inside out with hands cleaned using a hand cleaner and water rinse to minimize cross-contamination.

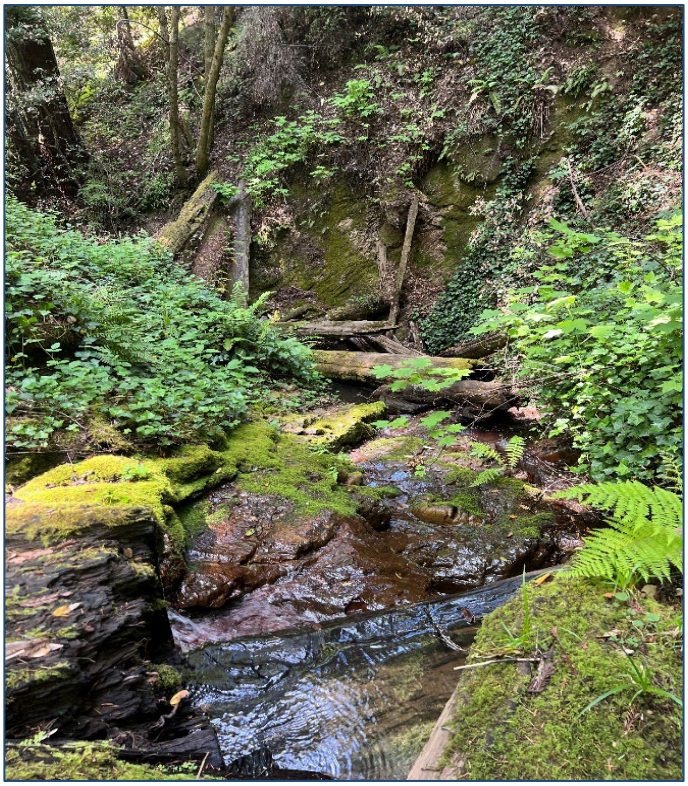
Appendix F

Aquatic Resources

Delineations Report

Aquatic Resource Delineation Report

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



August 2025

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EXECUTIVE SUMMARY

The County of San Mateo (County) Department of Public Works (DPW) plans to conduct culvert maintenance activities to improve and repair existing roadway culverts along Wurr Road, Pescadero Creek Road, and Cloverdale Road (Project) within unincorporated San Mateo County (**Figures 1 and 2**). To support the Project, an aquatic resources delineation was conducted for an approximate 2.1-acre study area, which included twelve (12) individual culvert sites located along the three road segments. This delineation was conducted in accordance with:

- Corps of Engineers Wetland Delineation Manual (1987);
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (2010); and
- A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (2014).

The study area contained 0. 181acre (1,202 linear feet [LF]) of potential non-wetland waters of the U.S. These features typically lacked hydrophytic vegetation and/or hydric soils.

No potentially jurisdictional wetlands were mapped in the study area.

An additional 0.312acre (802 LF) of waters of the state, not considered waters of the U.S., were delineated within the study area. These waters of the state were directly adjacent to waters of the state but above the ordinary high water mark (OHWM).

A total of 0.009 acre (248 LF) of non-jurisdictional roadside ditches were mapped in the study area.

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ACRONYMS AND ABBREVIATIONS

County	County of San Mateo
CWA	Clean Water Act
DD	decimal degrees
DPW	Department of Public Works
GPS	Global Positioning System
Montrose	Montrose Environmental
HUC	Hydrologic Unit Code
LF	linear feet
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHW	Ordinary High Water
OHWM	Ordinary High Water Mark
Project	Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
°F	degrees Fahrenheit

1.0 INTRODUCTION

The County of San Mateo (County) Department of Public Works (DPW) plans to conduct culvert maintenance activities to improve and repair existing road pass-through culverts along Wurr Road, Pescadero Creek Road, and Cloverdale Road (Project) within unincorporated San Mateo County (**Figure 1**).

The Project involves culvert repair and site improvements to improve water quality and maintain proper roadway drainage conveyance along at twelve (12) locations Wurr Road, Pescadero Creek Road, and Cloverdale Road in unincorporated San Mateo County near the communities of Pescadero and Loma Mar in unincorporated San Mateo County, California .The Project includes installation of three (3) new culverts, replacement of two (2) culverts, upsizing five (5) culverts, the addition of trash/debris racks at one (1) location, and additional improvements such as new headwalls and rock inlet protection and outfall energy dissipation. Additionally, the Project will remove sediment and enhance habitat at one (1) location along Cloverdale Road. The anticipated work at Cloverdale Road will include removing accumulated sediment and obstructive vegetation, demolishing existing concrete structures that impede fish passage near the double box culvert, and restoring streambed habitat both upstream and downstream of the crossing. The sites were identified as priority locations in the Pescadero-Butano Watershed County Road Inventory and Sediment Assessment (Waterways 2022) and will help to reduce erosion and sediment delivery throughout the Pescadero-Butano Creek watershed in accordance with objectives of the Total Maximum Daily Load (TMDL) for Sediment and Habitat Enhancement Plan for Pescadero-Butano Watershed (California Regional Water Quality Control Board 2018).

This report presents the methods and results of an aquatic resources (wetland) delineation conducted for the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project. The wetland delineation was conducted to identify and describe aquatic resources at these sites, referred to herein as the 'study area.' The study area was confined to encompass the area needed to conduct the specific maintenance activity at each culvert site. For example, the study area at a culvert repair site would typically include the full length of the culvert plus up to 8 linear feet (LF) beyond the culvert inlet and outlet. Some culvert study areas encompass a larger study area to capture nearby aquatic features that could potentially be impacted by Project construction, including potential access and staging areas. The study area has a combined area of approximately 0.9 acre.

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2.0 LOCATION & SETTING

The Project is located in unincorporated San Mateo County near the communities of La Honda, Loma Mar and the Town of Pescadero, California (Figure 1). Waterways within the study area include stormwater drainage ditches and unnamed ephemeral and intermittent drainages along Wurr Road and Pescadero Creek Road, and perennial streams such as Bloomquist Creek (Site 263), Peterson Creek (Site 268), and Little Butano Creek (Site 190) (**Figure 2**). The coordinates and directions to each site are shown in Table 1 below.

Site photographs are provided in **Appendix A**.

Table 1. Site Location & Driving Directions

Wurr Road		
Downstream Waterbody	Bloomquist Creek, Peterson Creek, Pescadero Creek	
Watershed HUC and Name	180500060103, Lower Pescadero Creek	
Section, Township, Range	S3 T8S R4W	
USGS Quadrangle(s)	La Honda	
Directions	From San Francisco, merge onto US-101 South. Take exit 423B for I-380 West toward I-280 San Bruno. Take exit 5B on the left to merge onto I-280 South toward San Jose. Take exit 25 onto CA-84 towards Woodside Road and at the stop sign, turn right on Woodside Road. Continue on CA-84/La Honda Road for 13.3 miles. Turn left onto Pescadero Creek Road and continue for 1.1 mile then make a slight right to stay onto Pescadero Creek Road for 4.1 miles. Turn left onto Wurr Road, destination(s) will be along Wurr Road.	
Access Restrictions	The sites are accessible from Wurr Road.	
Site(s)	Site 263 (Figure 5, sheet 6)	37.271687, -122.299245
	Site 265 (Figure 5, sheet 7)	37.271786, -122.297325
	Site 265.1 (Figure 5, sheet 8)	37.271693, -122.296134
	Site 266 (Figure 5, sheet 9)	37.271805, -122.295186
	Site 268 (Figure 5, sheet 10)	37.271868, -122.292955
	Site 270 (Figure 5, sheet 11)	37.272476, -122.287520
	Site 270.1 (Figure 5, sheet 12)	37.272132, -122.288990
Pescadero Creek Road		
Downstream Waterbody	McCormick Creek, Pescadero Creek	
Watershed HUC and Name	180500060103, Lower Pescadero Creek	
Section, Township, Range	S27 T7S R4W	
USGS Quadrangle(s)	La Honda	
Directions	From San Francisco, merge onto US-101 South. Take exit 423B for I-380 West toward I-280 San Bruno. Take exit 5B on the left to merge onto I-280 South toward San Jose. Take exit 25 onto CA-84 towards Woodside Road and at the stop sign, turn right on Woodside Road. Continue on CA-84/La Honda Road for 13.3 miles. Turn left onto Pescadero Creek Road and continue for 1.1 mile then make a slight right to stay onto Pescadero Creek Road for 1.9 miles. Destination(s) will be along Pescadero Creek road within a stretch of 2.7 mile.	
Access Restrictions	The sites are accessible from Pescadero Creek Road.	
Site(s)	Site 94 (Figure 5, sheet 1)	37.278302, -122.294876
	Site 102 (Figure 5, sheet 2)	37.282198, -122.284452
	Site 119 (Figure 5, sheet 3)	37.292778, -122.27865
	Site 128.1 (Figure 5, sheet 4)	37.296779, -122.276936

Cloverdale Road		
Downstream Waterbody	Butano Creek, Pescadero Creek	
Watershed HUC and Name	180500060102, Butano Creek	
Section, Township, Range	S00 T8S R5W	
USGS Quadrangle(s)	Franklin Point	
Directions	From San Francisco, CA, take U.S. 101 south for 2 miles, then merge onto I-280 south. Continue on CA-1 S/Cabrillo Highway south for 34 miles. Turn left onto Pescadero Creek Road and continue for 2.5 miles and then make a slight right and continue on Cloverdale Road. Site 190 is immediately south of the intersection of with Butano Park Road where Little Butano Creek passes under the roadway.	
Access Restrictions	The site can be viewed from Cloverdale Road. Access to the creek channel crosses private parcels and is prohibited without prior authorization from the County and local land owners.	
Site(s)	Site 190 (Figure 5, sheet 5)	37.199867, -122.344175

2.1 TOPOGRAPHY AND HYDROLOGY

The study area is located within the Pescadero-Butano watershed. The watershed has two principal streams, Pescadero Creek and Butano Creek, which have their confluence in Pescadero Marsh. The watershed drains approximately 81 square miles within the Santa Cruz Mountains and the coastal valleys into the Pacific Ocean near the Town of Pescadero. The headwaters of Pescadero and Butano creeks originate within the Santa Cruz Mountains before transitioning to a more gradually sloped alluvial valley and relatively flat coastal terrace at the confluence in Pescadero Marsh Natural Preserve and eventually flowing into the Pacific Ocean. The Project area ranges from approximately 1,000 feet (Sites 128.1 on Pescadero Creek Road) to 210 feet (Site 190 at Cloverdale Road) in elevation.

Culvert sites are located along perennial and intermittent streams, including Little Butano Creek, Peterson Creek, Bloomquist Creek, and unnamed intermittent and ephemeral drainages to Pescadero Creek. Bloomquist and Peterson Creeks are tributaries of Pescadero Creek, flowing south to north and draining to Pescadero Creek in Memorial County Park. Existing stormwater infrastructure within the Project area includes roadside ditches and culverts that convey stormwater to ephemeral channels and/or tributary creeks to Pescadero Creek. The Project sites are located in a rural and sparsely inhabited area that is not served by a municipal storm sewer system.

The study area also includes Little Butano Creek at Cloverdale Road (Site 190), a main tributary to Butano Creek. Little Butano Creek originates in Butano State Park and passes through the Project area at Cloverdale Road, flowing north parallel to the west side of Cloverdale Road before discharging to Butano Creek near Eden W Road approximately 1.5 miles north of the Project area.

2.2 LAND USE

The study area is located in Santa Cruz Mountains near the communities of Loma Mar and Pescadero in unincorporated San Mateo County. The upper watershed area is undeveloped, forested, natural watershed lands. The study area generally consist of parklands and open space areas, rural residential communities, and rural County roadways. Several sites are adjacent to Memorial County Park and one is adjacent to Butano State Park.

2.3 CLIMATE

The study area exhibits a Mediterranean climate with mild, wet winters and warm, dry summers. Regional climatic conditions are moderated by a cooler, moist marine layer from the Pacific Ocean with precipitation patterns influenced by the orographic effects of the relatively steep Santa Cruz Mountains. Average annual precipitation in the study area may range from 22-29 inches of precipitation along the Pacific Coast, and 42-50 inches in the upper watershed areas, with the majority of precipitation occurring from November through April (Western Regional Climate Center 2025). Temperatures are strongly influenced by the Pacific Ocean to the west, and the Santa Cruz Mountains, which results in a variety of microclimates. The Coast side region has a stronger maritime influence on its climate, characterized by cool, foggy summers and moist winters (NRCS 2025a).

2.4 SOILS

Eleven (11) soil types are present within the study area (NRCS 2025a). These soil mapping units are listed in **Table 2**; **Figure 3** shows the soils mapped in the study area. Due to the dispersed nature of the study area, only soils within 50 feet of the individual project sites were included in the table below. The individual site in the vicinity of each soil type is listed as well in Table 2. Two soil types mapped within the study area were included on the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) list of Hydric Soils, these soils were: (1) Mixed alluvial land, and (2) Lockwood loam, nearly level, imperfectly drained (NRCS 2025b).

Table 2. NRCS Soil Types Mapped in the Study Area

Map Unit Symbol	Map Unit Name	Map Unit Details	Hydric Soil	Site
LIE2	Lobitos loam	steep, eroded	No	128.1
LID2	Lobitos loam	moderately steep, eroded	No	128
HuF	Hugo and Josephine loams	very steep	No	119, 94
HuD2	Hugo and Josephine loams	moderately steep, eroded	No	102
HuD	Hugo and Josephine loams	moderately steep	No	94
HvC	Hugo and Josephine loams	very deep, sloping	No	94
HzD	Hugo and Josephine sandy loams	very deep, moderately steep	No	263, 265, 265.1, 266, 268, 270, 270.1
HyF	Hugo and Josephine sandy loams	very steep	No	266
Ma	Mixed alluvial land	--	Yes	190
LmB	Lockwood loam	gently sloping	No	190

Table 2. NRCS Soil Types Mapped in the Study Area

Map Unit Symbol	Map Unit Name	Map Unit Details	Hydric Soil	Site
LoA	Lockwood loam	nearly level, imperfectly drained	Yes	190

2.5 NATIONAL WETLANDS INVENTORY (NWI)

Waters mapped in the study area by the National Wetlands Inventory (NWI) are shown in **Figure 4** (USFWS 2025). Waters mapped within the study area by the NWI are classified by the U.S. Fish and Wildlife Service (USFWS) according to the Cowardin convention (Cowardin et *al.* 1979) as Riverine (R3UBH and R4SBC). According to NWI wetland maps (USFWS 2025), aquatic resources are not mapped within the study areas sites of 119, 128.1, 265, 265.1, 266, 270, and 270.1.

2.6 BIOLOGICAL CONDITIONS

This section describes landcover present within the study area. Vegetation in the study area was surveyed during the delineation field surveys and vegetation categories are provided below. Vegetation descriptions are based on the following resources: Holland's system of classification (Holland 1986), the California Manual of Vegetation (Sawyer et al. 2009), and CALVEG Zone 6 descriptions (U.S. Forest Service 2014). Botanical nomenclature follows the second edition of the Jepson Manual (Baldwin et al. 2012), except where synonyms are used from the National Wetland Plant List (USACE 2020). A list of plants observed in the study area is included in **Appendix B**.

2.6.1 Aquatic Habitats

Aquatic habitat includes areas that are permanently or persistently inundated. Aquatic habitats that occur in the study area are described below.

Riverine

Riverine habitat in the study area includes streams and intermittent drainages. Streams and drainages on steep slopes convey water in narrow channels at fast flow rates, typically have rocky bottoms, and can be episodic with higher flows responding to more intensive precipitation events. These channels are typically situated at higher elevations in the Santa Cruz Mountains. Streams and drainages on more gradual slopes tend to exhibit wider channels with slower moving water, have fine substrate bottoms, and generally convey longer to continuous, perennial flows. Perennial and intermittent streams may support a variety of aquatic species depending on hydrological conditions and habitat structure, including California, rough-skinned and hybridized newts (*Taricha* spp.), California giant salamander (*Dicamptodon ensatus*), California red-legged frog (*Rana draytonii*), Pacific chorus frog (*Pseudacris regilla*), and garter snake (*Thamnophis* spp.).

2.6.2 Terrestrial Habitats

Terrestrial habitats include upland areas, including riparian woodland, redwood forest, mixed conifer-hardwood forest, upland Chapparal, and grassland areas. Developed areas are also classified as terrestrial habitat. Terrestrial habitats in the study area are described below.

Riparian Woodland

Riparian woodland is a tree-dominated community, with typical species including white alder (*Alnus rhombifolia*), Pacific willow (*Salix lasiandra*), bigleaf maple (*Acer macrophyllum*), California bay laurel (*Umbellularia californic*a), Coast live oak (*Quercus agrifolia*), Oregon ash (*Fraxinus latifolia*), and American dogwood (*Cornus sericea*). The understory within the bank is variable in composition, including a shrub or vine layer that includes California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), spreading gooseberry (*Ribes divaricatum*), western thimbleberry (*Rubus parviflorus*), red elderberry (*Sambucus racemosa var. racemosa*), and young willows. Other understory species present include native species such as great horse tail (*Equisetum telmateia*), California mugwort (*Artemisia douglasiana*), field horsetail (*Equisetum arvense*), California bee plant (*Scrophularia californica*), stinging nettle (*Urtica dioica*), and western dock (*Rumex occidentalis*). Non-native species present include poison hemlock (*Conium maculatum*), and grasses such as Harding grass (*Phalaris aquatica*), Italian ryegrass (*Festuca perennis*), slender oat (*Avena barbata*). In the study area, this habitat occurs at Little Butano Creek at Cloverdale Road (Site 190).

Redwood Forest

Redwood forest is a composite habitat name for a variety of conifer species that grow in the coastal influence zone. Redwood forest habitats are largely restricted to areas of coastal influence with relatively stable temperatures and summer coastal fog. The tree composition includes redwood (*Sequoia sempervirens*) as the dominant or co-dominant species with a mixture of other conifer species, including Douglas fir (*Pseudotsuga menziesii*), and mixed with coastal oak woodland. San Mateo County is located near the southern end of the distribution of the redwood community, and therefore the associates can also include California bay and Oregon ash. The understory contains species such as sword fern (*Polystichum californicum*), thimbleberry, wood sorrel (*Oxalis corniculata*), tanoak (*Notholithocarpus densiflorus*), and bee plant. In the study area, this habitat occurs at the Pescadero Creek Road (Site 94 and 102) and the Wurr Road areas (Sites 263 through 270.1).

Mixed Conifer-Hardwood Forest

This habitat type contains both hardwoods and conifers in a closed canopy forest setting. Characteristically, this habitat contains a mixture of small stands, either pure conifer stands or small pure broadleaf tree stands. Common trees are Douglas fir, tanoak, Pacific madrone (*Arbutus menziesii*), coast live oak, big leaf maple, and redwood. This habitat represents a transition between conifer forests and montane hardwood. It may also occur as a transition zone between other habitats, including chaparral and other open woodlands. Mixed conifer-hardwood forest occurs in the outer coast range in inland portions of the range, often at redwood forest margins. In the study area, this habitat occurs along many of the Wurr Road and Pescadero Creek Road sites.

Upland Chapparal

Upland chapparal communities are characterized by woody shrub-dominated landscapes, with few to no trees. Common dominant species associated with this land cover type within the study area include coyote brush and poison oak. Upland chapparal habitat is present along the

Pescadero Creek Road sites (119 and 128.1). Non-native grasses and herbaceous species are often prevalent in this community, such as ripgut brome (*Bromus diandrus*), rattlesnake brome (*Bromus briziformus*), hairy vetch (*Vicia villosa*), Italian thistle (*Carduus pychocephalus*), bristly oxtongue (*Helminthotheca echioides*), and Italian ryegrass.

Ruderal & Developed

Ruderal vegetation is characterized by non-native forbs and grasses in a disturbed habitat typically along the edges of developed/landscaped cover or areas with frequent disturbance. Dominant ruderal species include Harding grass, rattlesnake brome, Italian thistle, Italian ryegrass, ripgut brome, soft chess, foxtail barley (*Hordeum jubatum*), and other opportunistic weedy species. Ruderal cover in the study area was observed along Wurr Road, Pescadero Creek Road, and Cloverdale Road.

3.0 METHODS

A routine wetland delineation was conducted in accordance with:

- Corps of Engineers Wetland Delineation Manual (1987);
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (2010); and
- A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (2014).

In addition, the following information was reviewed prior to conducting the delineation:

- Natural Resources Conservation Service (NRCS) Soil Survey Data (NRCS 2024a);
- NRCS National Hydric Soils List (NRCS 2024b); and
- USFWS NWI data (USFWS 2024).

3.1 DATA COLLECTION

Field data collection for this delineation was conducted May 31, 2024, by Montrose Environmental (Montrose) certified wetland delineator, Brian Piontek, and biologists, Jessica Gonzalez and Alex Kellogg. An additional site visit to delineate additional downstream area of Little Butano Creek at Cloverdale Road (Site 190) was conducted on July 22, 2025 by Jessica Gonzalez and Susannah Kiteck.

The study area was investigated for evidence of wetland indicators such as hydrophytic vegetation, ponded water, or saturated soil conditions. Soil conditions were investigated in locations that could potentially support wetlands (e.g., streambanks, floodplains, drainage channels). Evidence of the OHWM (e.g., presence of bed/banks, scour lines, change in vegetative cover, changes in soil texture, presence of leaf litter and debris deposits) was used to determine the location of the OHWM along channels.

The locations of the OHWM were mapped using an Arrow 100 GPS receiver with sub-meter accuracy where possible (see Section 3.2., *Limitations of Survey* below). GPS data were imported into ESRI ArcGIS Pro software for developing aquatic resource maps. Georeferenced, high resolution aerial photographs, and topographical survey data were used in ArcGIS to interpret waters boundaries in conjunction with data collected in the field. Because the study area encompasses many small drainage features, the majority of waters of the U.S. were delineated to the top of bank instead of the OHWM. At these locations, the boundaries of waters of the U.S. were expanded to match waters of the state. This method is conservative, and slightly overestimates the area of waters of the U.S. In a few instances where there was a substantial difference between waters of the U.S. and waters of the state, jurisdictional boundaries were mapped separately.

3.2 LIMITATIONS OF SURVEY

The survey was limited by the lack of aerial imagery of streams and rivers in portions of the study area due to the dense canopy cover of forested areas. This dense canopy cover, along with steep terrain, also reduced the accuracy of the GPS by limiting the horizontal extent of view and

satellite connectivity. In such situations, potential jurisdictional waters were mapped based on GPS data points overlayed on CAD and topographical data, supplemented by field notes to correct GPS data errors or inaccuracies. Therefore, the exact positioning of some stream channels may vary slightly in the field as compared to delineation mapping.

3.3 REGULATORY DEFINITION OF JURISDICTIONAL WATERS AND HABITATS

3.3.1 Potential Waters of the U.S.

Waters of the U.S., including wetlands, are defined in 33 CFR Section 328.3 and under the regulatory authority of the USACE. In non-tidal waters USACE jurisdiction extends to the OHWM, defined in 33 CFR Section 328.3 as "the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris." When non-isolated wetlands are present, the jurisdiction extends beyond the OHWM to the boundary of those wetlands.

Wetlands are defined using a three-parameter approach (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) based on USACE regulatory guidance and the Corps of Engineers Wetland Delineation Manual (1987) and corresponding regional supplements. Alternatively, a two-parameter approach to identifying wetlands may be appropriate in atypical situations where vegetation, soils, or hydrology indicators are absent due to recent human disturbances or natural events.

3.3.2 Other Features Likely Not Waters of the U.S.

As stated in 33 CFR 328.3, "Non-tidal drainage and irrigation ditches excavated on dry land" are generally not considered to be waters of the U.S. Additionally, the June 5, 2007, *CWA Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* memorandum to Environmental Protection Agency (EPA) regions and USACE districts states, "The agencies generally would not assert jurisdiction over the following features: (1) Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow), and (2) Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water" (USACE and EPA 2007). These features may include concrete lined and unlined channels, that generally begin or end in a culvert. In general, these features do not have an apparent nexus to traditionally navigable waters, and include engineered features, features that drained only uplands, and features without a defined bed and bank or hydrophytic vegetation.

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act) was enacted in 1969, and together with the federal Clean Water Act, provides regulatory guidance to protect water quality and water resources. The Porter-Cologne Act established regulatory authority over "waters of the State," which are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (California Water Code, Division 7, Section 13050). More specifically, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over the bed and banks of a stream channel, its riparian corridor, and its beneficial uses.

4.0 AQUATIC RESOURCES

This section presents the results of the delineation of aquatic resources. Aquatic resources delineated in the study area are shown in **Table 3**. Table 3 provides a summary of the location, aquatic resource type, Cowardin classification, latitude and longitude, size (acres), and length (linear feet) of aboveground aquatic resources delineated in the study area.

Figure 5 provides the aquatic resources delineation maps. Datasheets are included in **Appendix C**. This information is also provided in **Appendix D** (ORM upload sheet).

Table 3. Aquatic Resources in the Study Area

Location (Site)	Latitude, Longitude	Aquatic Resources Classification			Aquatic Resource Size	
		Aquatic Resource Code	Type	Cowardin Code	Area (acre)	Length (LF)
Potential Non-Wetland Waters of the U.S.						
Site 94 (Figure 5, sheet 1)	37.278302, -122.294876	94 WOTUS	Water	R4SB3	0.024	196
Site 102 (Figure 5, sheet 2)	37.282198, -122.284452	102 WOTUS	Water	R4SB5	0.013	198
Site 119 (Figure 5, sheet 3)	37.292778, -122.27865	119 WOTUS	Water	R4SB5	0.011	36
Site 263, Bloomquist Creek (Figure 5, sheet 6)	37.271687, -122.299245	263 WOTUS	Water	R3UB2	0.020	125
Site 265 (Figure 5, sheet 7)	37.271786, -122.297325	265 WOTUS	Water	R4SB5	0.004	114
Site 266 (Figure 5, sheet 9)	37.271805, -122.295186	266 WOTUS	Water	R4SB5	0.002	70
Site 268, Peterson Creek (Figure 5, sheet 10)	37.271868, -122.292955	268 WOTUS	Water	R3UB3	0.003	34
Site 190, Little Butano Creek (Figure 5, sheet 5)	37.199867, -122.344175	190 WOTUS	Water	R3UB1	0.104	429
Total – Potential Non-Wetland Waters of the U.S.[1]					**0.181**	**1,202**

Location (Site)	Latitude, Longitude	Aquatic Resources Classification			Aquatic Resource Size	
		Aquatic Resource Code	Type	Cowardin Code	Area (acre)	Length (LF)
Additional Waters of the State (not considered Waters of the U.S.)						
Site 94 (Figure 5, sheet 1)	37.278302, -122.294876	94 WOTS	Water	R4SB3	0.043	211
Site 263, Bloomquist Creek (Figure 5, sheet 6)	37.271687, -122.299245	263 WOTS	Water	R3UB2	0.062	125
Site 268, Peterson Creek (Figure 5, sheet 10)	37.271868, -122.292955	268 WOTS	Water	R3UB3	0.004	37
Site 190, Little Butano Creek (Figure 5, sheet 5)	37.199867, -122.344175	190 WOTS	Water	R3UB1	0.203	429
Additional Waters of the State (not considered Waters of the U.S.)[1]					**0.312**	**802**
Total – Potential Non-Wetland Waters of the U.S.					**0.181**	**1,202**
Total – Waters of the State[2]					**0.493**	**1202**

[1] The sum of some numbers may not add up due to rounding.

[2] Additional waters of the state are parallel to waters of the U.S. Therefore, the total additional waters of the state include areas that extend beyond waters of the U.S.

4.1 POTENTIAL WATERS OF THE U.S.

Waters of the U.S. include non-wetland waters and wetlands. Wetlands exhibit three parameters (i.e., hydric soils, dominance of hydrophilic plants, and hydrology), while non-wetland waters lack at least one of these wetland parameters.

4.1.1 Potential Non-wetland Waters

A total of 0.181acre (1,202 LF) of non-wetland waters was delineated within the study area (see Figure 5). These include riverine perennial and intermittent features.

Riverine Perennial

Perennial streams maintain flowing water year-round during a typical year. A total of 0.127 acre (588 LF) riverine perennial non-wetland waters of the U.S. were delineated based on the presence of the following geomorphic indicators: break in bank slope, change in vegetation species, change in vegetation cover, and presence of drift and/or debris. Geomorphic indicators of riverine perennial features were found at:

- Site 190 Cloverdale at Little Butano Creek (190 WOTUS; Figure 5, sheet 5)
- Site 263 at Bloomquist Creek (263 WOTUS; Figure 5, sheet 6)
- Site 268 at Peterson Creek (268 WOTUS; Figure 5, sheet 10)

Riverine Intermittent

Intermittent streams lack unidirectional flowing water during certain periods of the year. A total of 0.054 acre (614 LF) of riverine intermittent non-wetland waters of the U.S. were delineated based on the presence of the following geomorphic indicators: break in bank slope, change in vegetation species, change in vegetation cover, and presence of drift and/or debris. Riverine intermittent features were found at:

- Site 94 at unnamed drainage (94 WOTUS; Figure 5, sheet 1)
- Site 102, unnamed drainage ditch (102 WOTUS; Figure 5, sheet 2)
- Site 119, unnamed drainage ditch (119 WOTS; Figure 5, sheet 3)
- Site 265, unnamed drainage ditch (265 WOTUS; Figure 5, sheet 7)
- Site 266, unnamed drainage ditch (266 WOTUS; Figure 5, sheet 9)

4.1.2 Potential Wetlands

No potential jurisdictional wetlands were mapped in the study area.

4.2 OTHER FEATURES NOT LIKELY WATERS OF THE U.S.

4.2.1 Non-jurisdictional Stormwater Features

Features classified as non-jurisdictional features were either small drainage features that did not meet the relatively permanent standard and/or were roadside ditches excavated wholly in and draining only uplands that conveyed surface waters for a short duration after precipitation events

(i.e., hours or days). These features can generally be described as roadside ditches or earthen swales connected by stormwater culverts. These features are generally less than or equal to 3 feet in width, depending on the size of the associated culvert and did not exhibit a hydrological surface connection to waters of the U.S. and/or navigable water.

A total of 0.009 acre (248 LF) of non-jurisdictional roadside ditches were mapped in the study area.

4.2.2 Waters of the State

Several features were not considered waters of the U.S. but would be considered waters of the state. As described in Section 3.1, in instances where there was a substantial difference between waters of the U.S. and waters of the state, additional areas of waters of the state were delineated above the OHWM. Mapped waters of the state were delineated to include the channels from top-of-bank to top-of-bank.

A total of 0.312 acre (802 LF) of additional waters of the state above the OHWM were mapped in the study area and are shown on Figure 5:

- Site 94 at unnamed drainage (94 WOTS; Figure 5, sheet 1)
- Site 190 Cloverdale at Little Butano Creek (190 WOTS; Figure 5, sheet 5)
- Site 263 at Bloomquist Creek (263 WOTS; Figure 5, sheet 6)
- Site 268 at Peterson Creek (268 WOTS; Figure 5, sheet 10)

The total waters of state (i.e., waters of the U.S. and waters of the state) mapped in the study area was 0.493 acre (1,202 LF).

5.0 SUMMARY

A delineation for aquatic resources was conducted to support the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project in San Mateo County. The study area includes twelve (12) individual culvert sites.

A total of 0.181 acre (1,202 LF) of potential non-wetland waters of the U.S. were delineated within the study area.

No potentially jurisdictional wetlands were mapped in the study area.

An additional 0.312acre (802 LF) of waters of the state, not considered waters of the U.S., were delineated within the study area.

A total of 0.009 acre (248 LF) of non-jurisdictional roadside ditches were mapped in the study area.

6.0 REFERENCES

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Figures

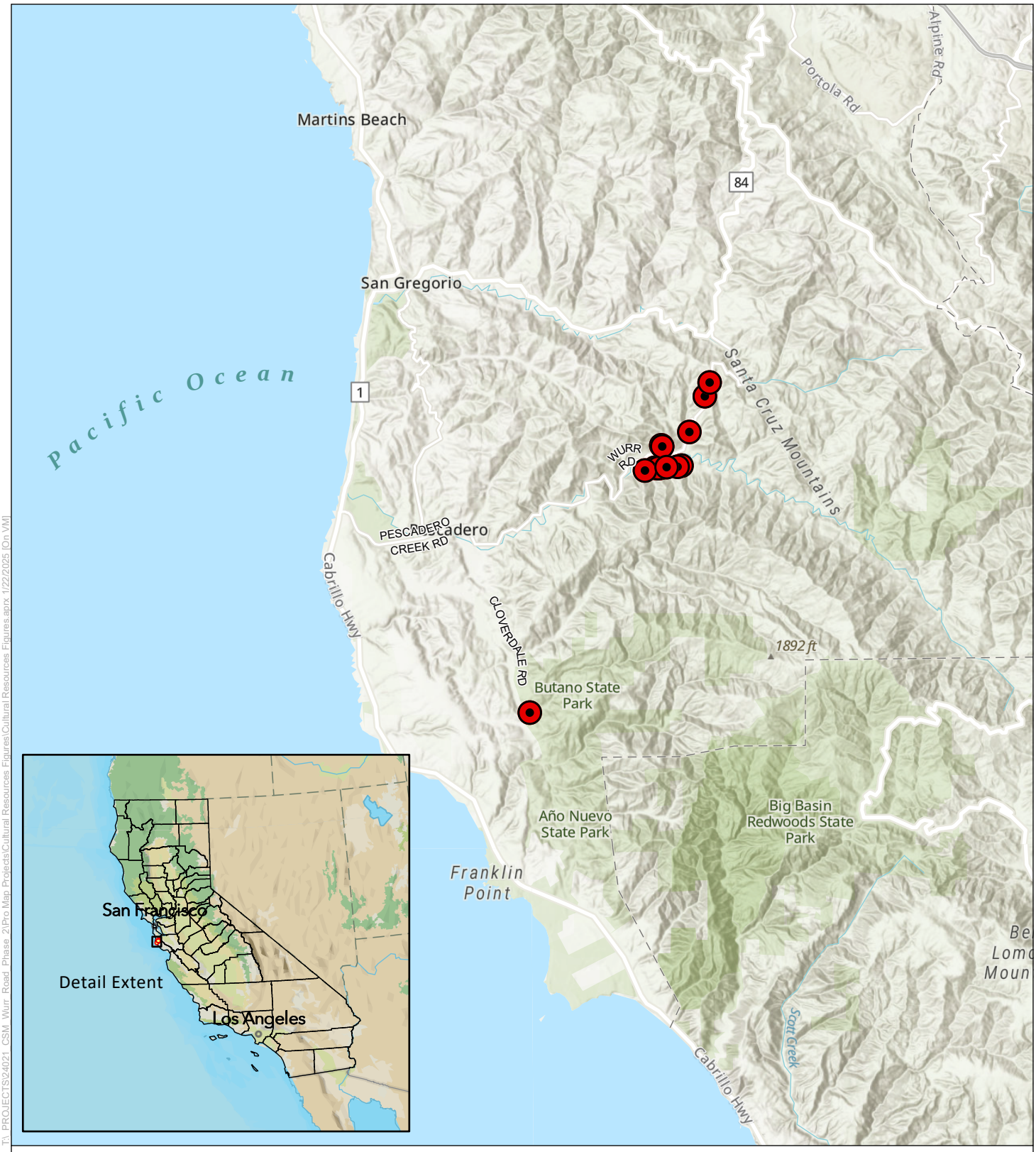


Figure 1
Project Vicinity

Project Locations

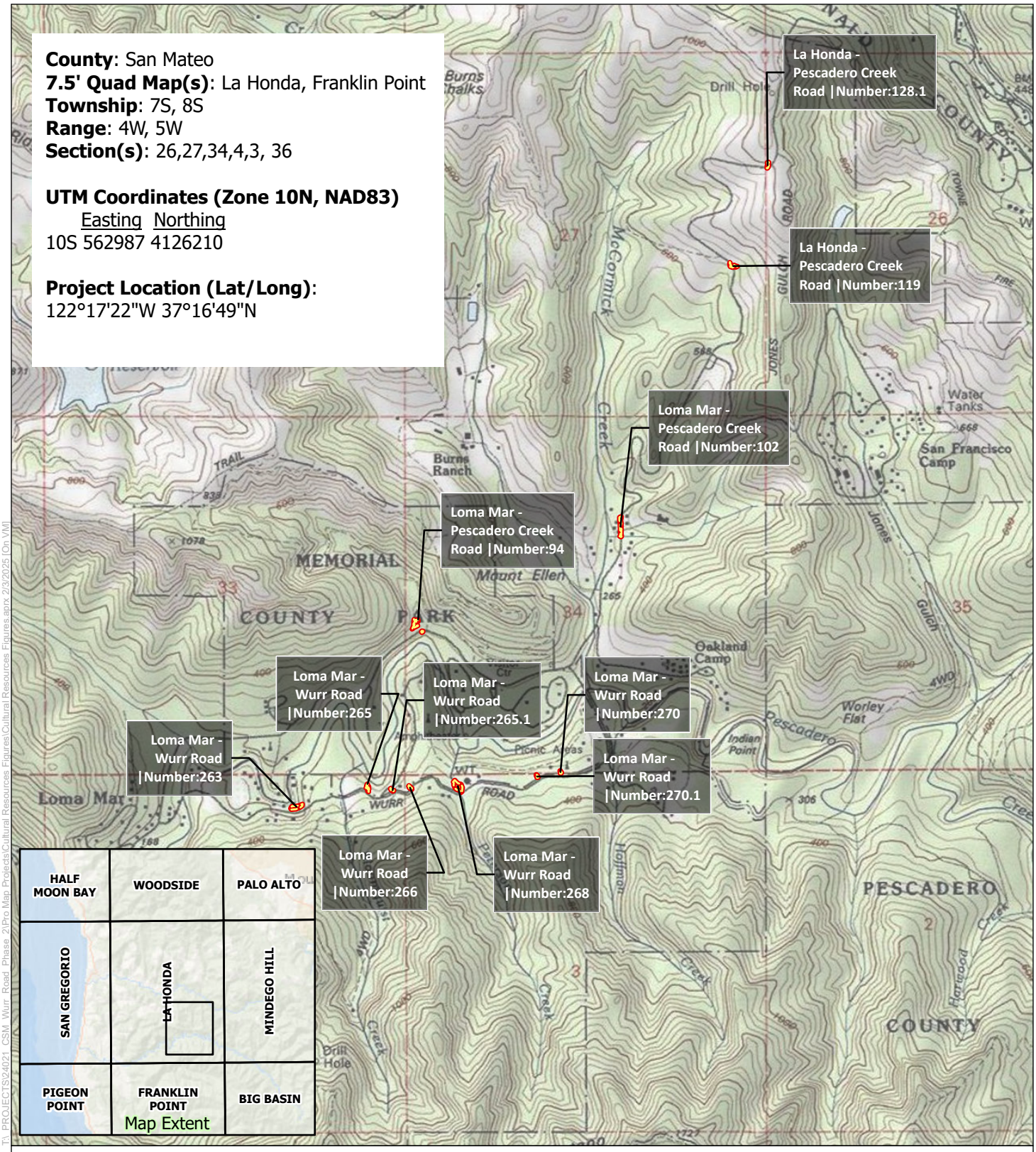
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Miles

MONTROSE ENVIRONMENTAL

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

T:_PROJECTS\2024\021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 1/22/2025 [On VM]



County: San Mateo
7.5' Quad Map(s): La Honda, Franklin Point
Township: 7S, 8S
Range: 4W, 5W
Section(s): 26,27,34,4,3, 36

UTM Coordinates (Zone 10N, NAD83)

	Easting	Northing
10S	562987	4126210

Project Location (Lat/Long):
122°17'22"W 37°16'49"N

Figure 2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

T:_PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Cultural Resources Figures\Cultural Resources Figures.aprx 2/3/2025 [On VM]

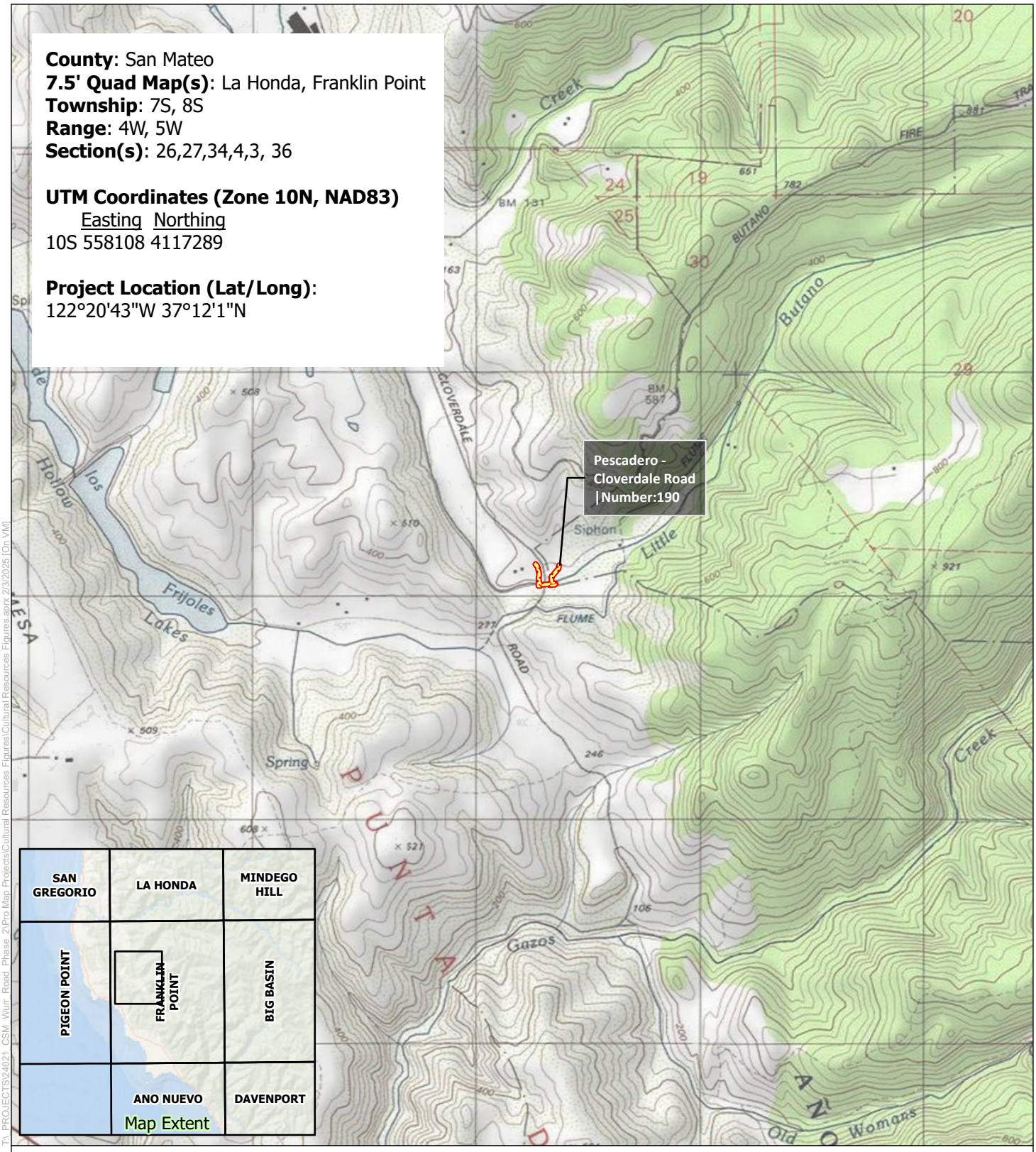
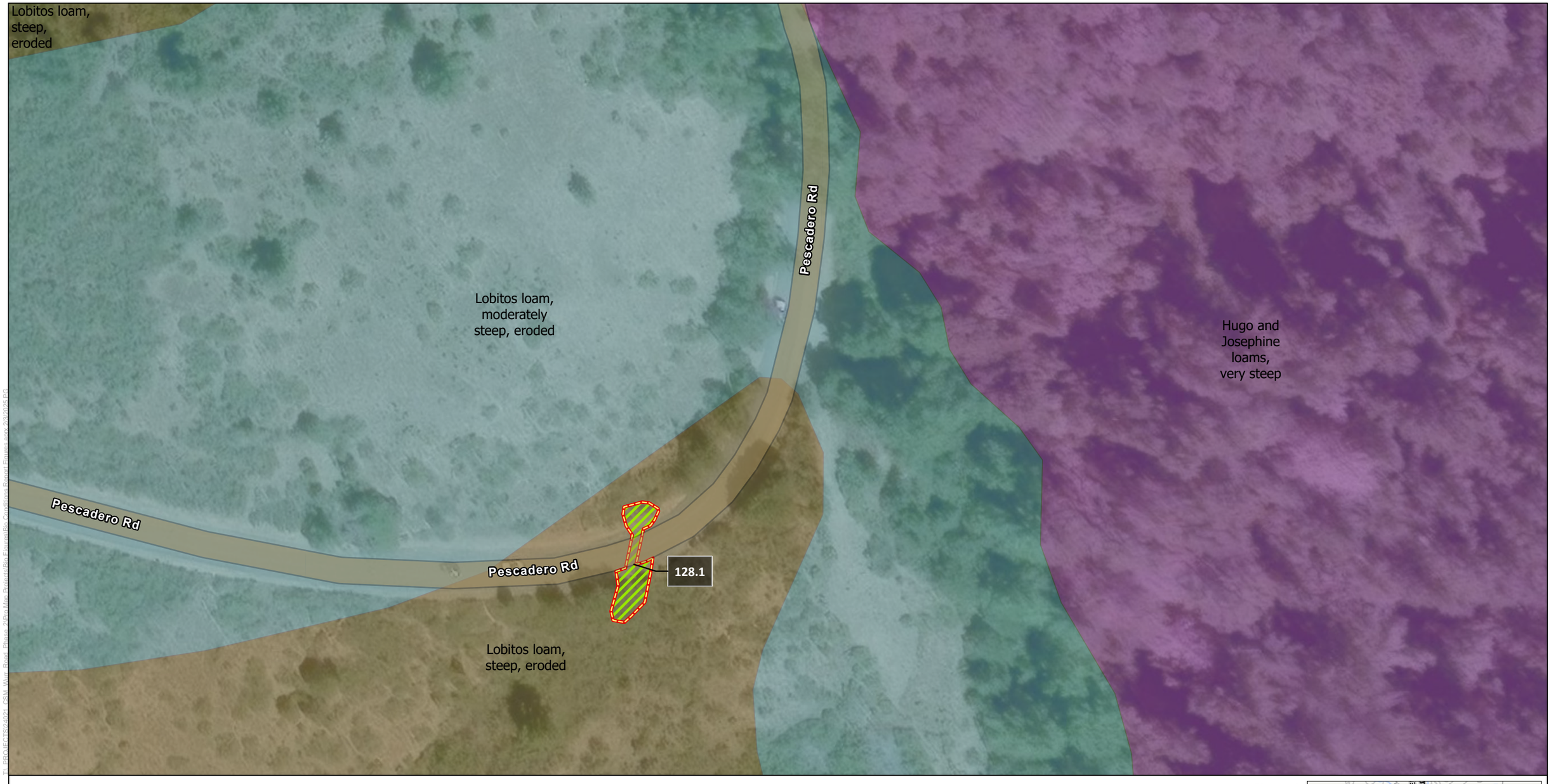


Figure 2
Project Location

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL



Project Location

Soil Units

- Hugo and Josephine loams, very steep
- Lobitos loam, moderately steep, eroded
- Lobitos loam, steep, eroded

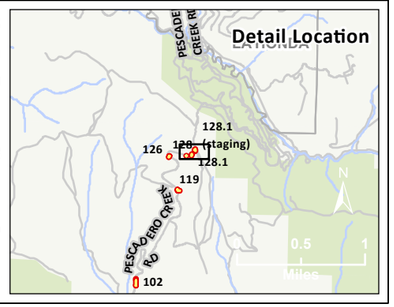
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0 50 100 Feet

MONTROSE ENVIRONMENTAL

Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area



Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

T:\PROJECTS\2021_CSM_Wurr_Road_Phase_2\Pre_Map_Projects\Pre_Figures\Pre_Conditions_Report_Figures.mxd 2/2/2022 RS

Gazos and Lobitos soils, steep and very steep, severely eroded

Pomponio loam, moderately steep, eroded

Hugo and Josephine loams, very steep

Lobitos loam, moderately steep, eroded

Pescadero Rd

119

Project Location

N

0 50 100 Feet

Soil Units

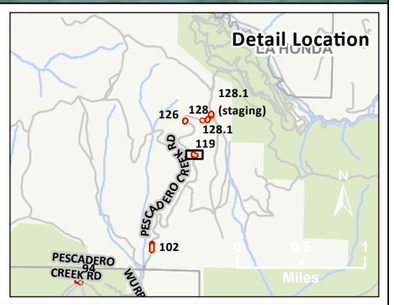
- Gazos and Lobitos soils, steep and very steep, severely eroded
- Hugo and Josephine loams, very steep
- Lobitos loam, moderately steep, eroded
- Pomponio loam, moderately steep, eroded

MONTROSE ENVIRONMENTAL

Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



T:\PROJECTS\2021_GSM_Wurr_Road_Phase_2\Doc Mgmt\Projects\Bio Figures\Bio Conditions Report Figures.aprx 2/2/2022 RG



Project Location

Soil Units

- Botella loam, sloping, eroded
- Hugo and Josephine loams, moderately steep, eroded
- Hugo and Josephine loams, very steep
- Mixed alluvial land

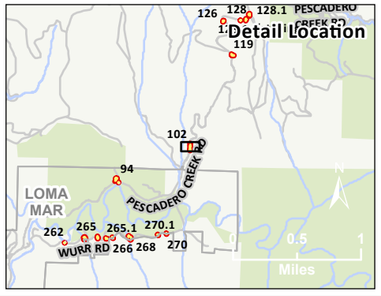
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0 50 100 Feet

MONTROSE ENVIRONMENTAL

Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

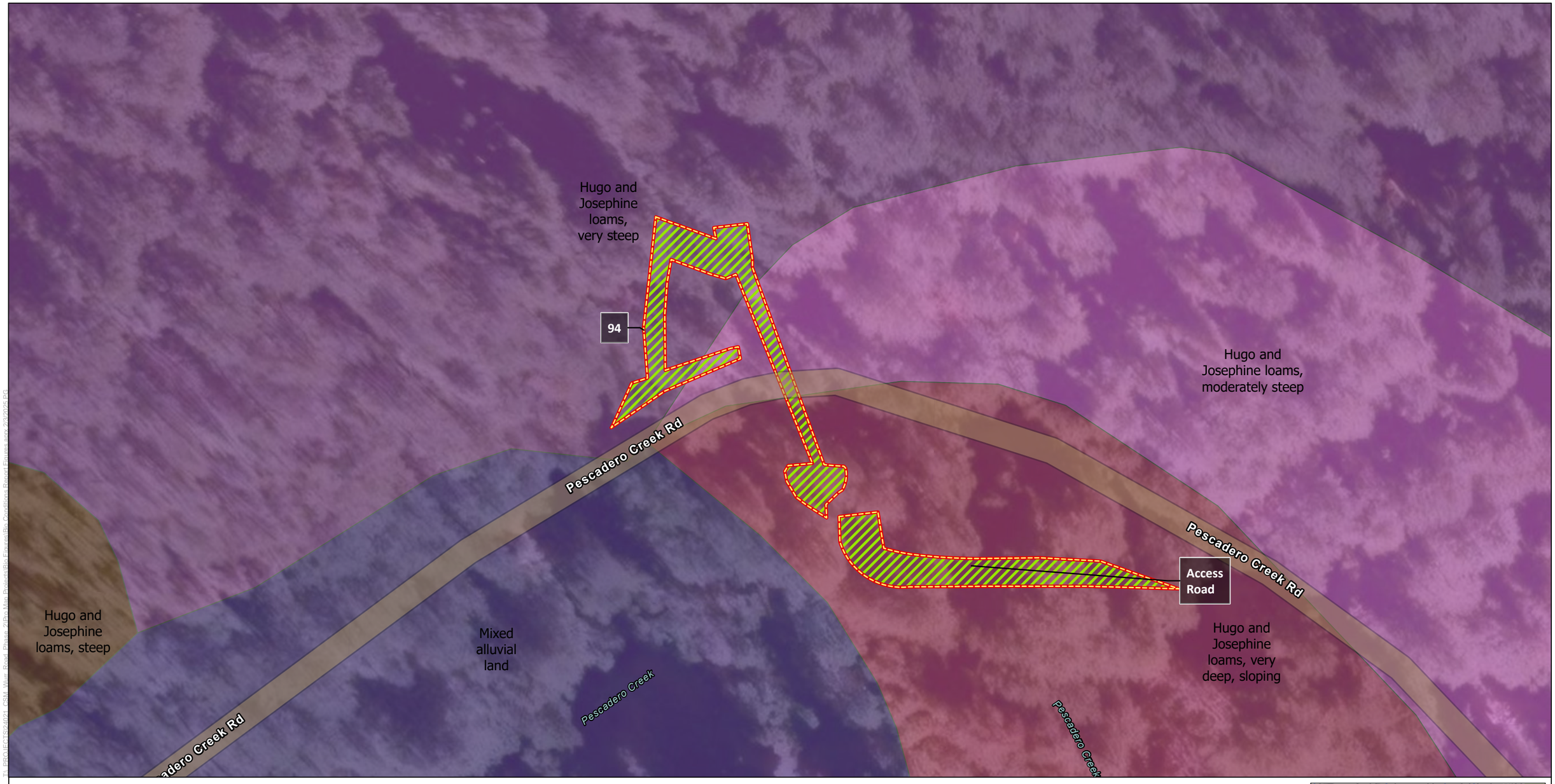
Figure 3
NRCS Soils within the Study Area



Page 3 of 8
Site 102

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

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MONTROSE ENVIRONMENTAL

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

T:\PROJECTS\2024_GSN_Wurr_Road_Phase_2\Pre_Map_Projects\Bio_Figures\Bio_Conditions_Report_Figures.aprx 2/3/2025 RS



Project Location

Soil Units

- Hugo and Josephine sandy loams, very deep, moderately steep
- Hugo and Josephine sandy loams, very steep

N

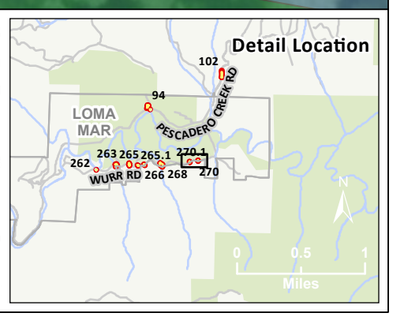
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MONTROSE ENVIRONMENTAL

Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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Mixed alluvial land

Sequoia

Hugo and Josephine sandy loams, very deep, moderately steep

Wurr Rd

Peterson Creek

265

265.1

Wurr Rd

266

268

Wurr Rd

Hugo and Josephine sandy loams, very steep

Peterson

Project Location

Soil Units

Hugo and Josephine sandy loams, very deep, moderately steep

Hugo and Josephine sandy loams, very steep

Mixed alluvial land

N

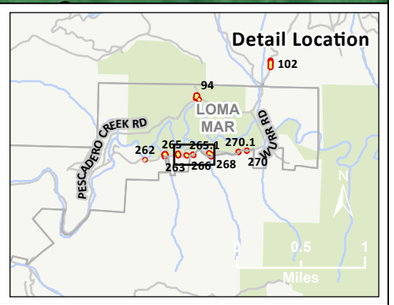
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MONTROSE ENVIRONMENTAL

Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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Project Location

Soil Units

- Hugo and Josephine sandy loams, very deep, moderately steep
- Hugo and Josephine sandy loams, very deep, sloping
- Hugo and Josephine sandy loams, very steep
- Mixed alluvial land

N

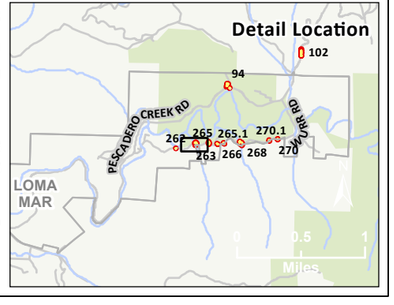
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MONTROSE ENVIRONMENTAL

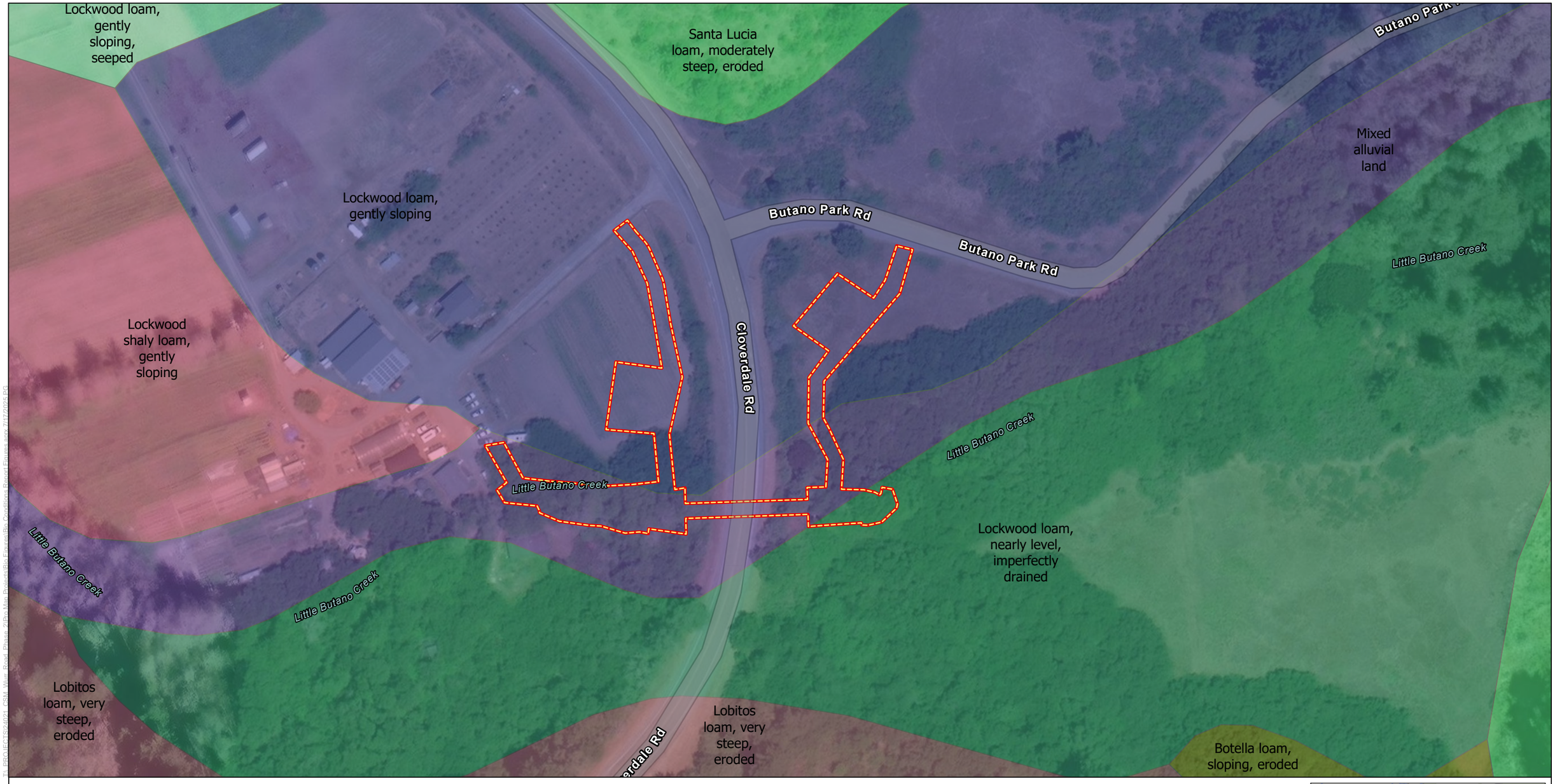
Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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Project Limits

Soil Units

- Botella loam, sloping, eroded
- Lobitos loam, very steep, eroded
- Lockwood loam, gently sloping
- Lockwood loam, gently sloping, seeped
- Lockwood loam, nearly level, imperfectly drained
- Lockwood shaly loam, gently sloping
- Mixed alluvial land
- Santa Lucia loam, moderately steep, eroded

N

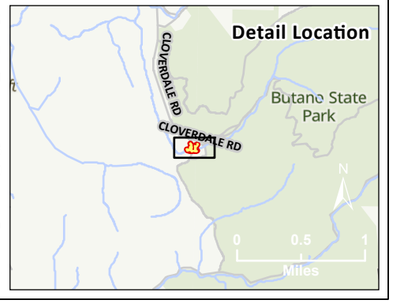
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MONTROSE ENVIRONMENTAL

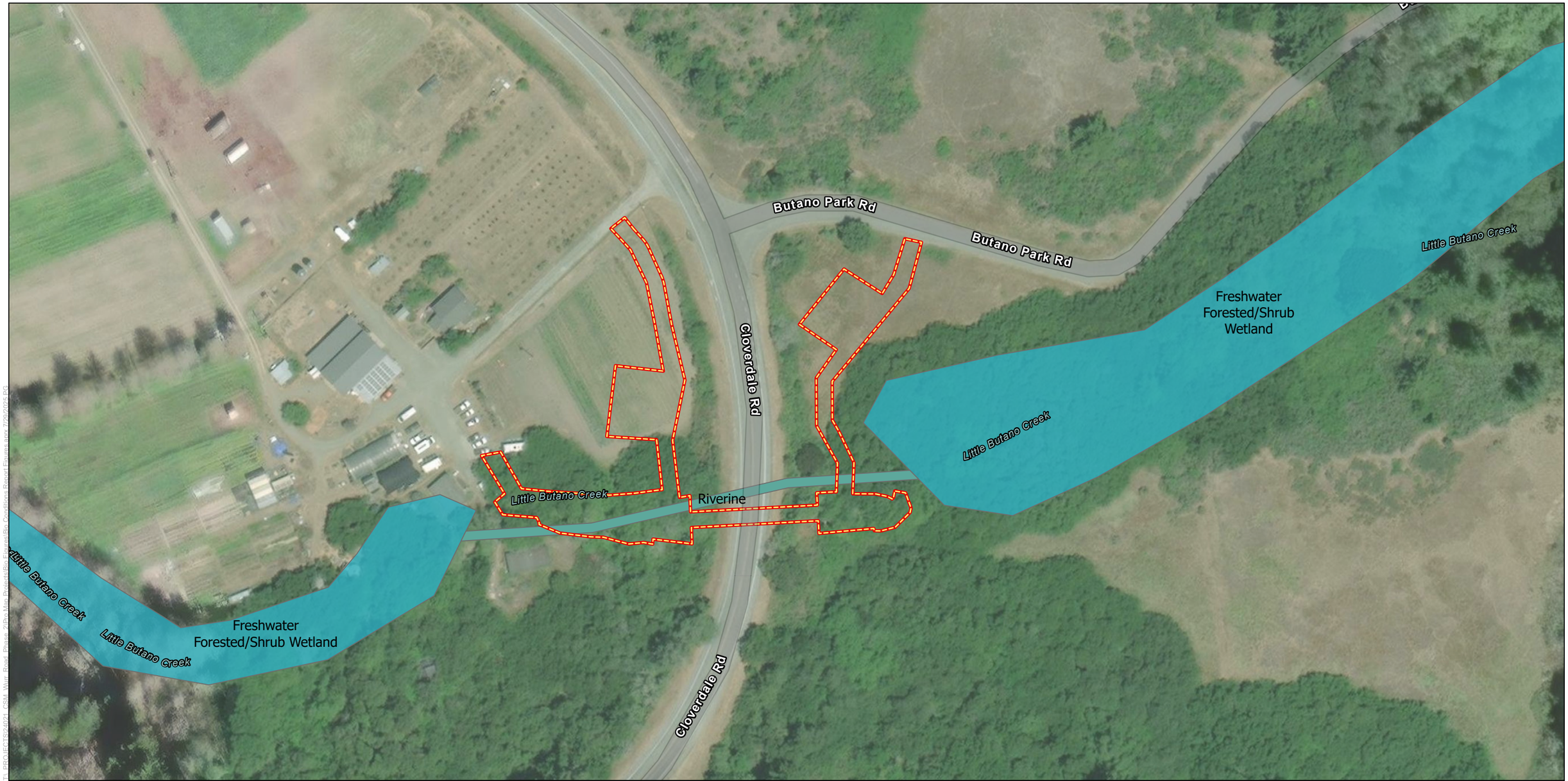
Data Source: Soil Survey Geographic Database (SSURGO), 2021. https://arcg.is/1Oy8um0

Figure 3
NRCS Soils within the Study Area

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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N

0 50 100 Feet

Project Limits

National Wetland Inventory

- Freshwater Forested/Shrub Wetland
- Riverine

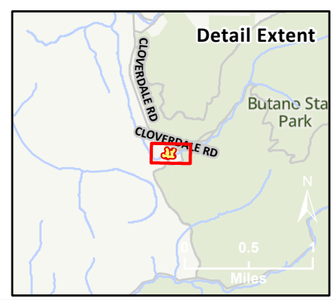
MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

Figure 2
National Wetland Inventory

Location Site 190

Wurr Road, Pescadero
Creek Road, and Cloverdale Road
Culvert Repairs Project



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N

0 50 100 Feet

Project Location

National Wetland Inventory

Riverine

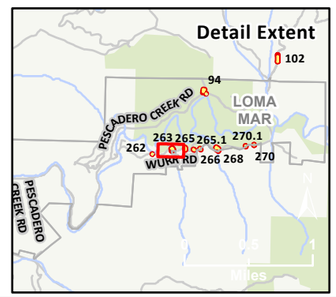
MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

Figure 2
National Wetland Inventory

Location Site 263

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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N

0 50 100 Feet

Project Location

National Wetland Inventory

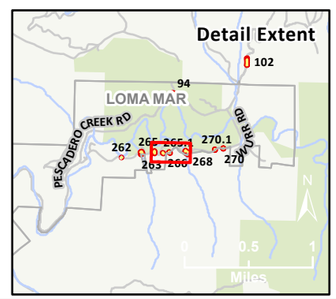
Riverine

Figure 2

National Wetland Inventory

Page 3 of 8

Location Sites 268, 266, 265.1, and 265



Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

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Project Location

N

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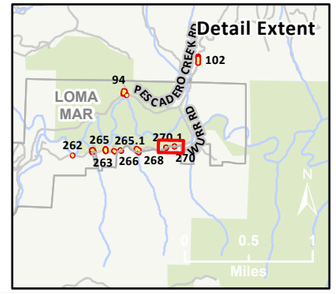
MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

Figure 2
National Wetland Inventory

Location Sites 270 and 270.1

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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Project Location

National Wetland Inventory

Riverine

N

0 50 100 Feet

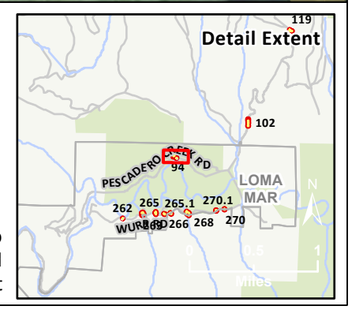
MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

Figure 2
National Wetland Inventory

Location Site 94

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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0 50 100 Feet

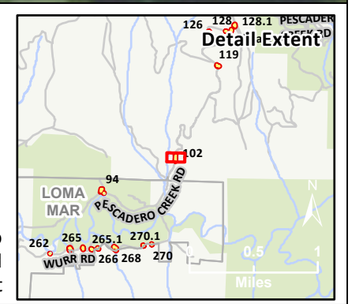
Project Location

National Wetland Inventory

Riverine

Figure 2
National Wetland Inventory

Location Site 102



Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project

MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

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Project Location

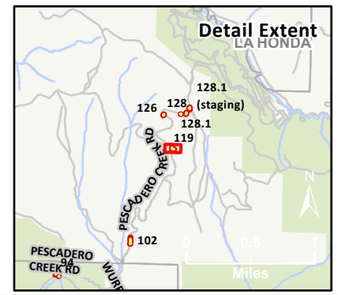
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0 50 100 Feet

Figure 2
National Wetland Inventory

Location Site 119

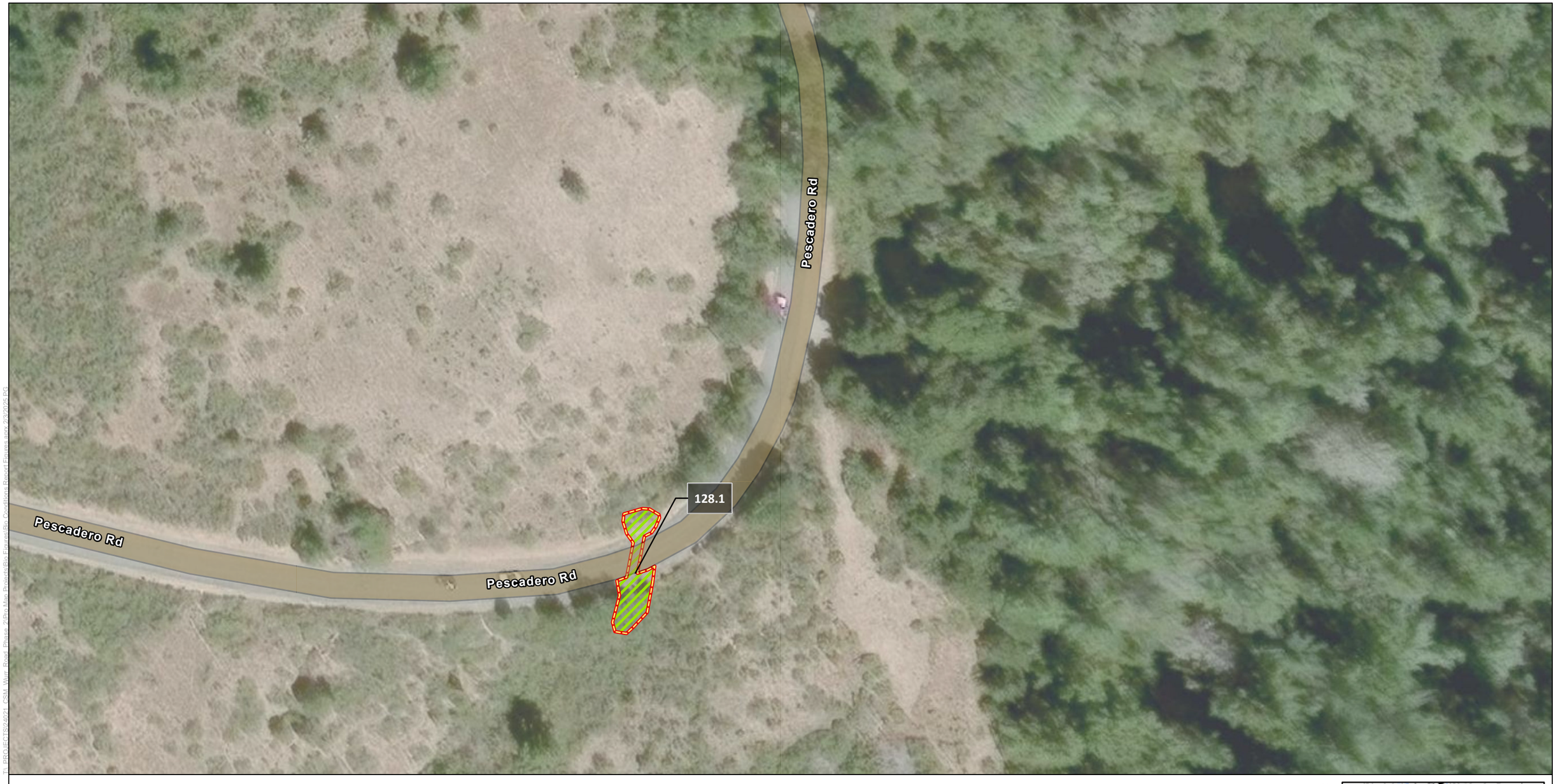
Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

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Project Location

N

0 50 100 Feet

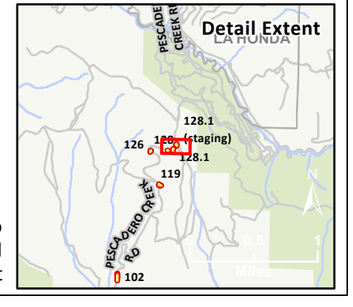
MONTROSE ENVIRONMENTAL

Data Source: National Wetland Inventory, https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/services
Note: If no NWI data shown, no mapped wetlands occur in this location.

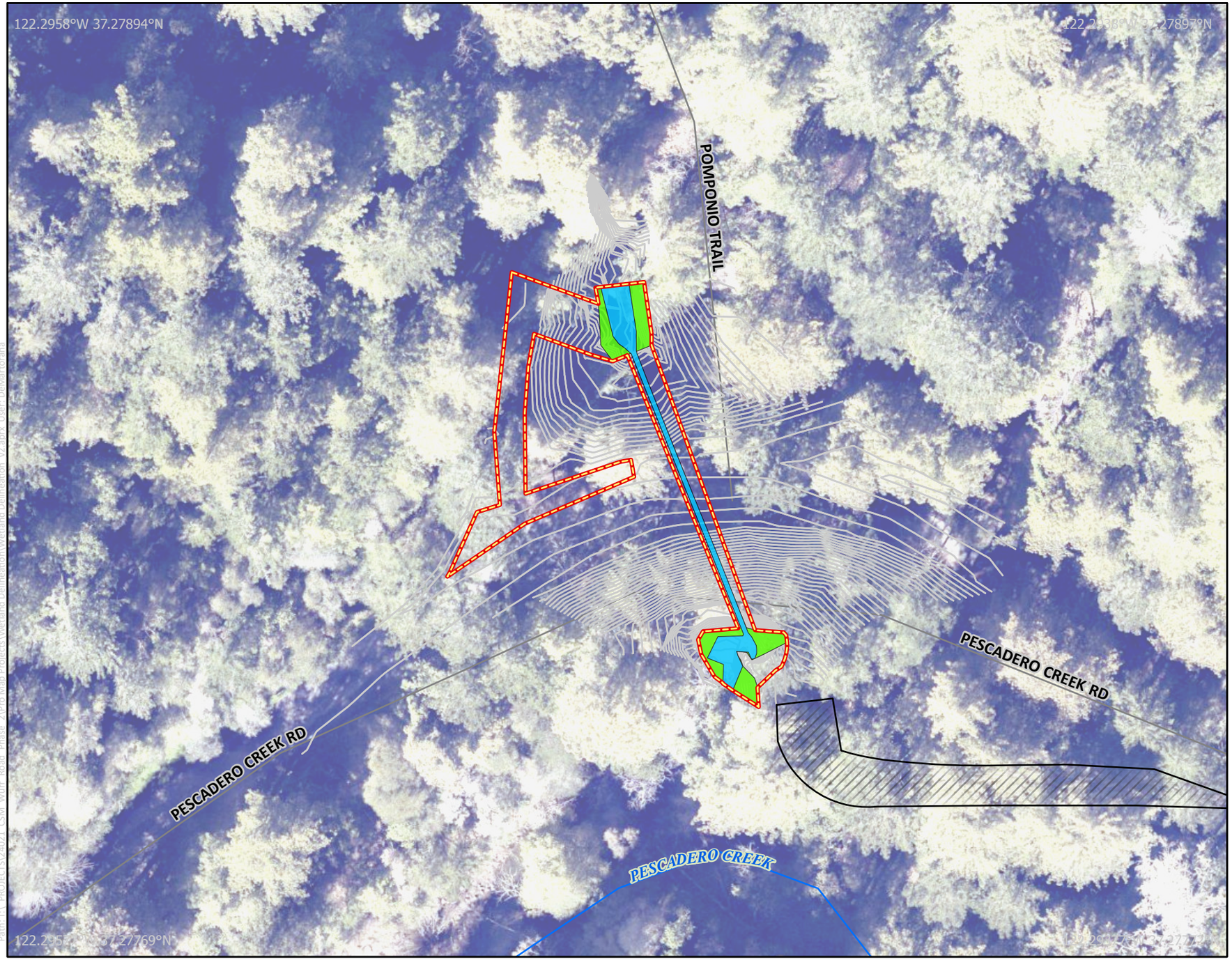
Figure 2
National Wetland Inventory

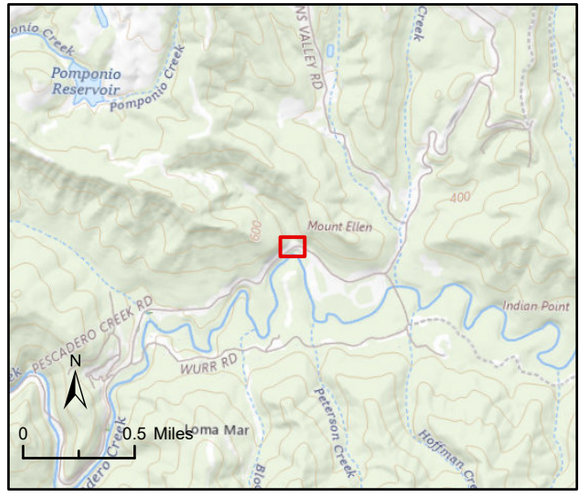
Location Site 128.1

Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project



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- Access Road
- Project Limits
- WOTS
- WOTUS
- Contours
- Streams
- Roads

0 30 60
Feet

N

1:700
1 inch equals 58 feet

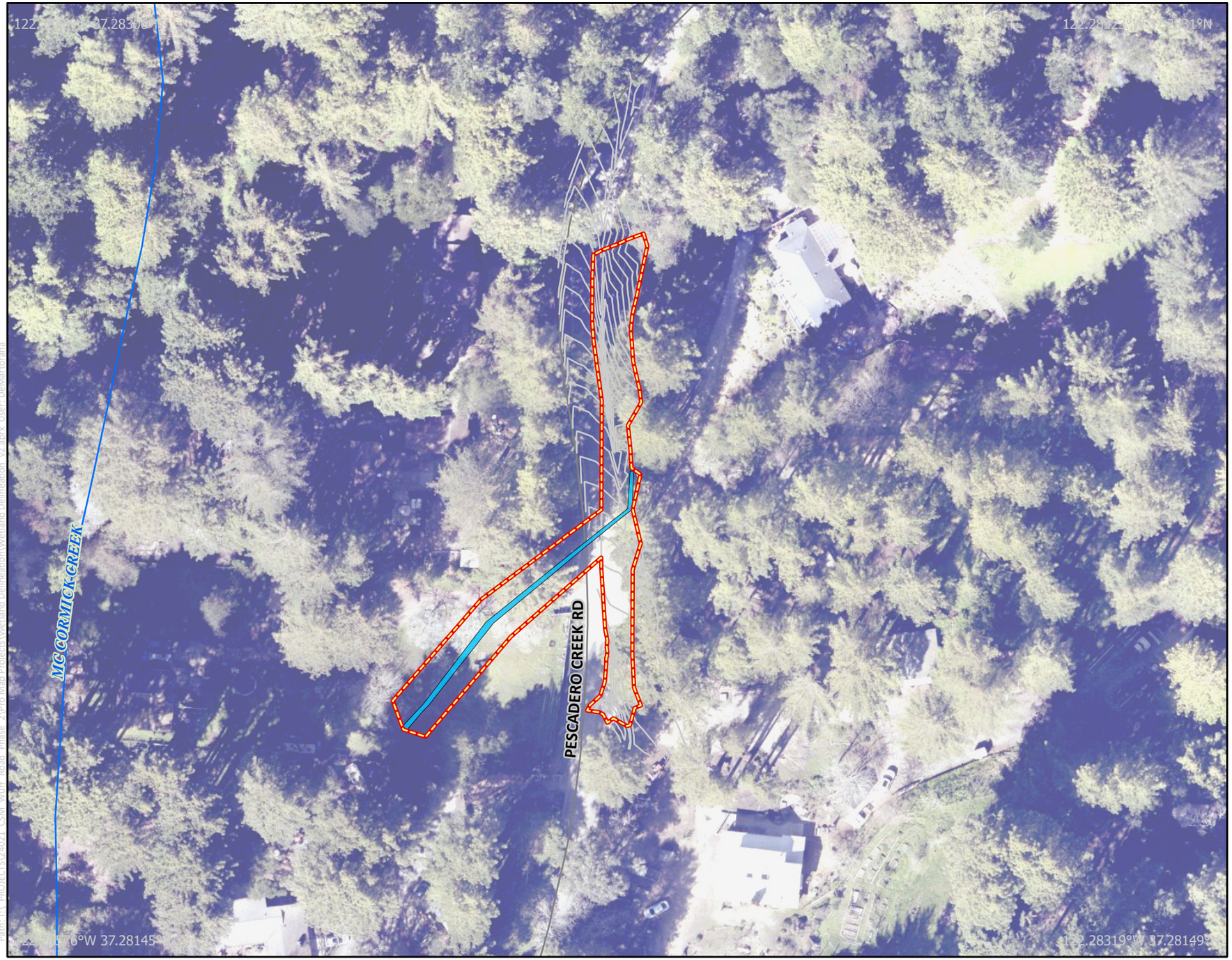
PREPARED BY:	PREPARED FOR:
MONTROSE ENVIRONMENTAL 1 Kaiser Plaza Suite 340 Oakland, CA 94612 510-986-1850	County of San Mateo Public Works
DRAWN BY: A. Kellogg & D. Martorana 3/24/2025 DELINEATION BY: A. Kellogg, J. Gonzalez, B. Piontek DATE OF FIELD WORK:	USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:

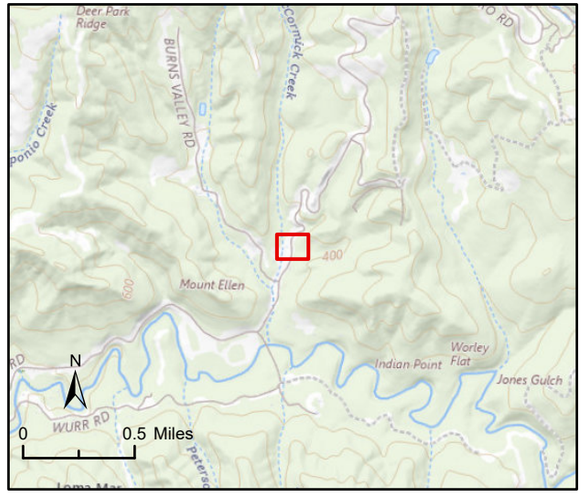
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DaMartorana





Project Limits
WOTUS
Contours
Streams
Roads

0 37.5 75
Feet

N
1:900
1 inch equals 75 feet

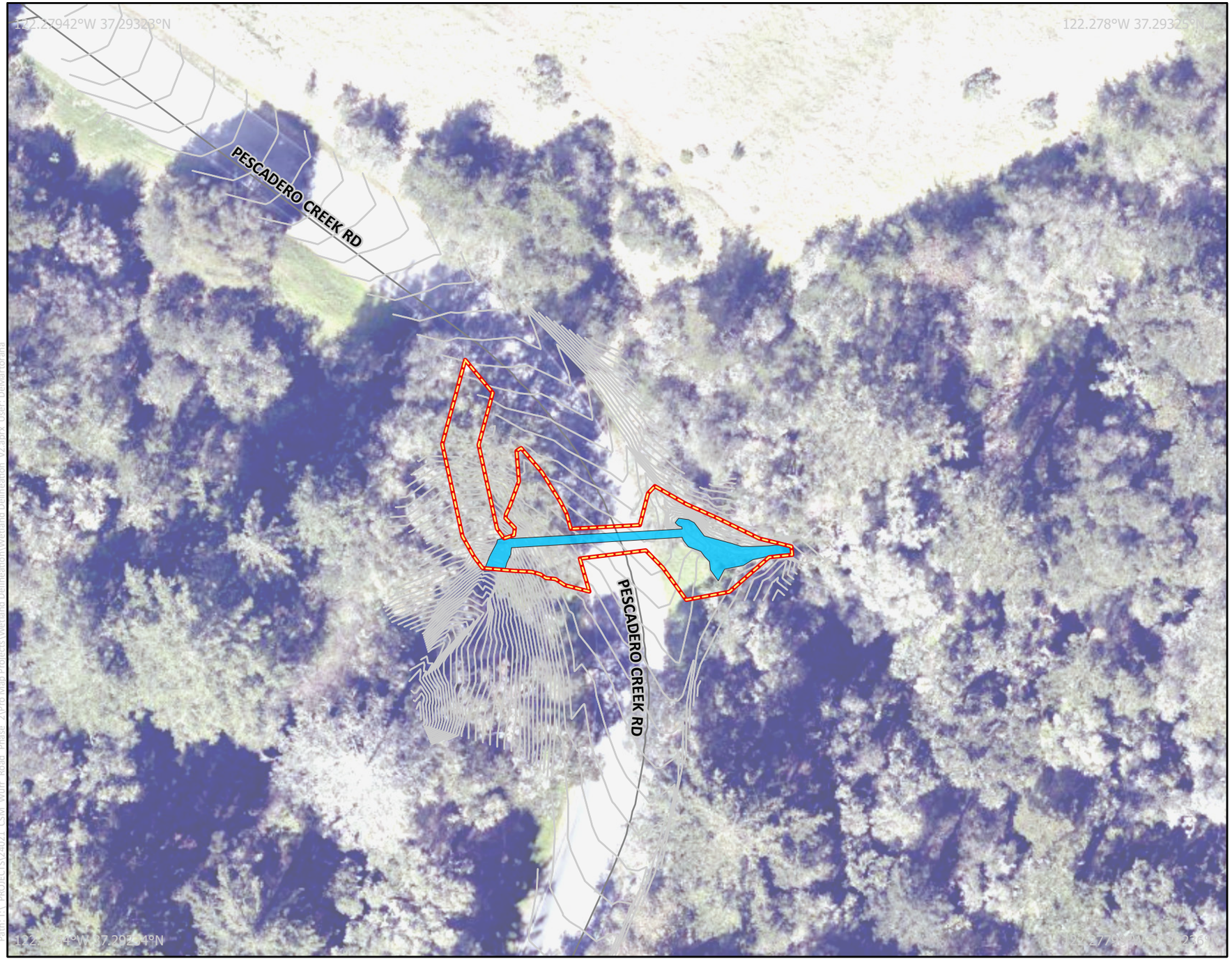
PREPARED BY:	PREPARED FOR:
MONTROSE ENVIRONMENTAL 1 Kaiser Plaza Suite 340 Oakland, CA 94612 510-986-1850	County of San Mateo Public Works
DRAWN BY: A. Kellogg & D. Martorana 3/24/2025 DELINEATION BY: A. Kellogg, J. Gonzalez, B. Piontek DATE OF FIELD WORK:	USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:

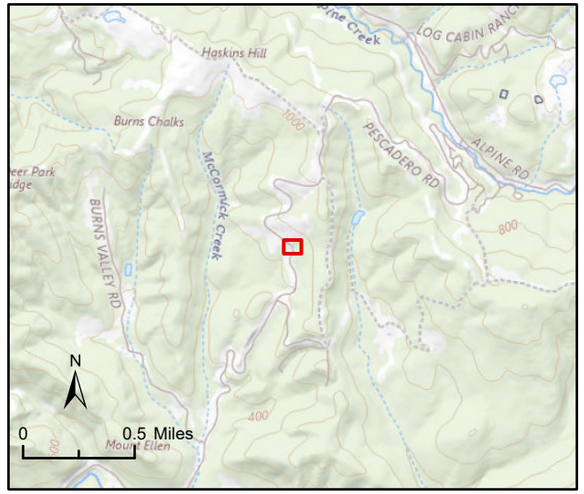
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DoMartorana





Project Limits
WOTUS
Contours
Roads

0 20 40
Feet

N
1:500
1 inch equals 42 feet

PREPARED BY:	PREPARED FOR:
MONTROSE ENVIRONMENTAL 1 Kaiser Plaza Suite 340 Oakland, CA 94612 510-986-1850	County of San Mateo Public Works
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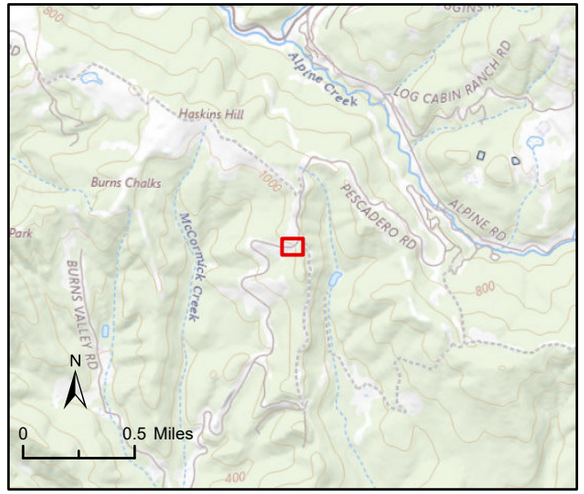
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx, User: DaMartorana





Project Limits
Non-Jurisdictional Stormwater Ditch
Contours
Roads

0 25 50
Feet

N

1:600
1 inch equals 50 feet

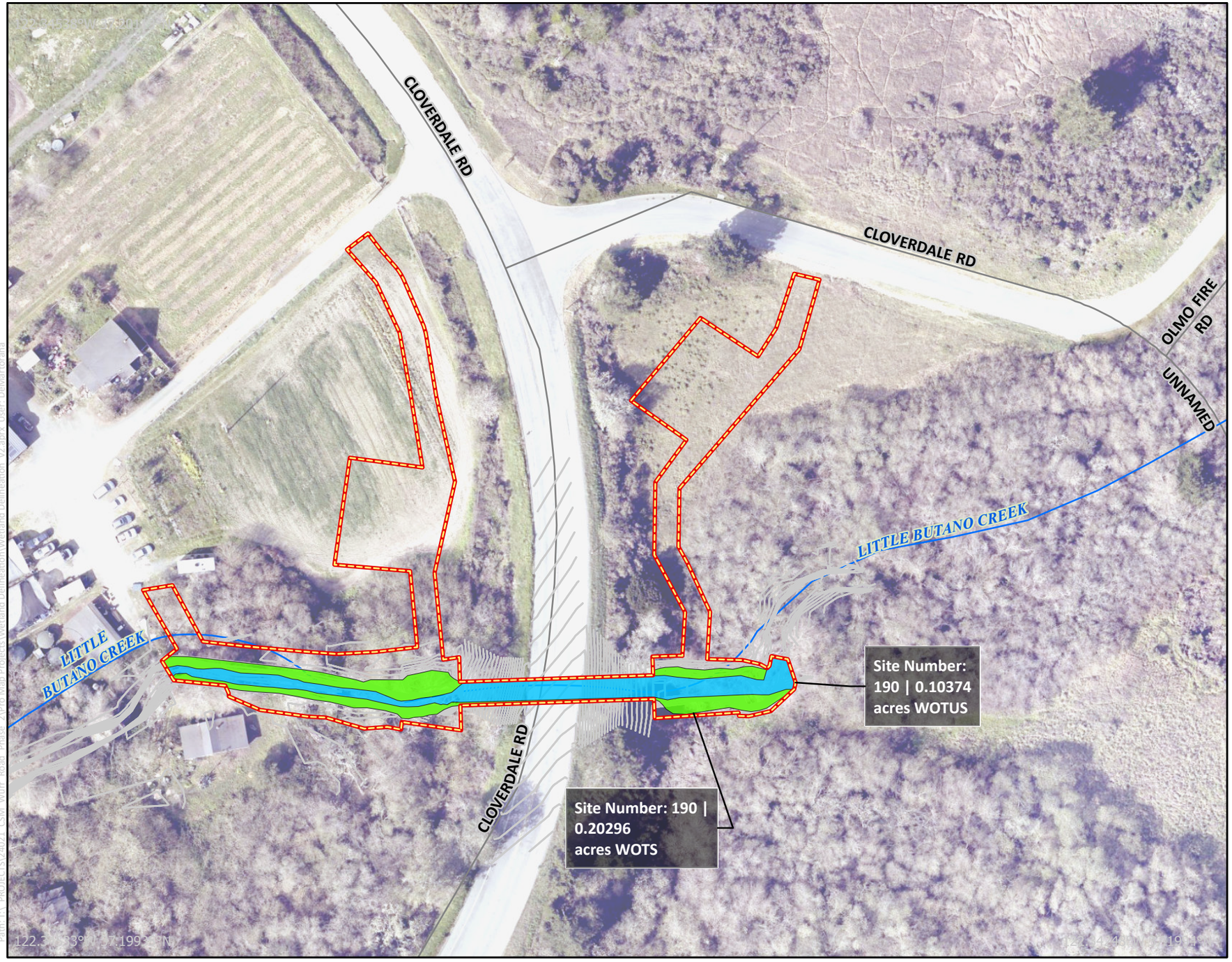
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DRAWN BY: A. Kellogg & D. Martorana 3/24/2025 DELINEATION BY: A. Kellogg, J. Gonzalez, B. Piontek DATE OF FIELD WORK:		USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:

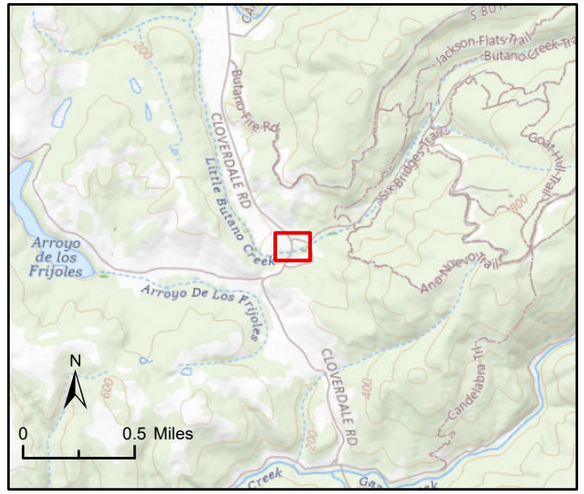
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DaMartorana





- Project Limits
- WOTS
- WOTUS
- Contours
- Streams
- Roads

0 40 80 Feet

N

1:1,000

1 inch equals 83 feet

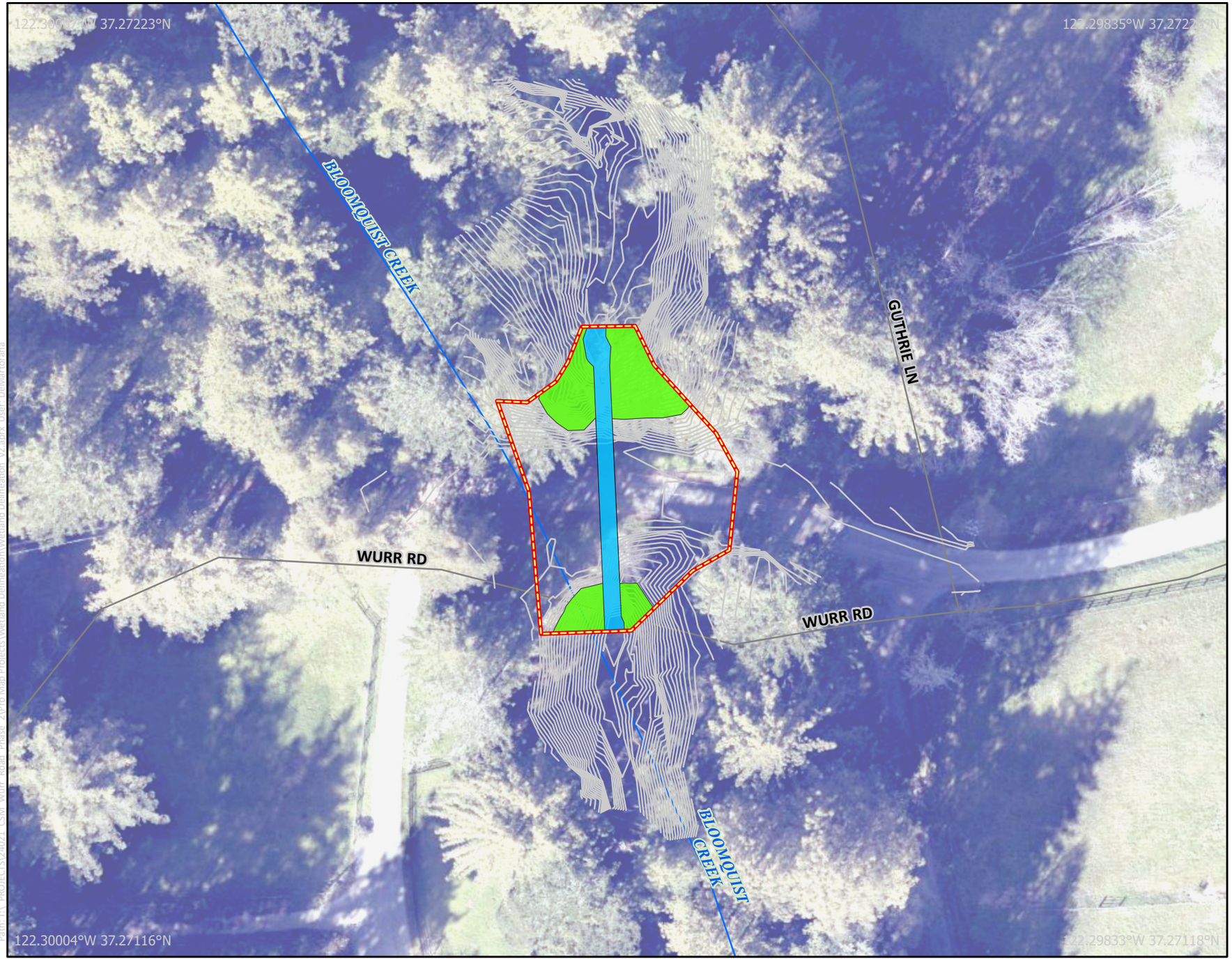
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MONTROSE ENVIRONMENTAL	1 Kaiser Plaza Suite 340 Oakland, CA 94612 510-986-1850	County of San Mateo Public Works
DRAWN BY: A. Kellogg & D. Martorana 7/29/2025 DELINEATION BY: A. Kellogg, J. Gonzalez, B. Piontek DATE OF FIELD WORK:		USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:

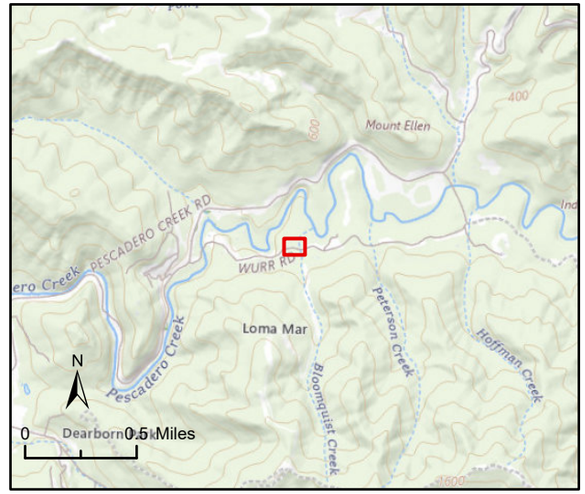
REVISIONS		
DATE	DESCRIPTION	BY
7/29/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Location: 190 | Page 5 of 12

Figure 5
Aquatic Resources





Project Limits
WOTS
WOTUS
Contours
Streams
Roads

0 25 50
Feet

N

1:600
1 inch equals 50 feet

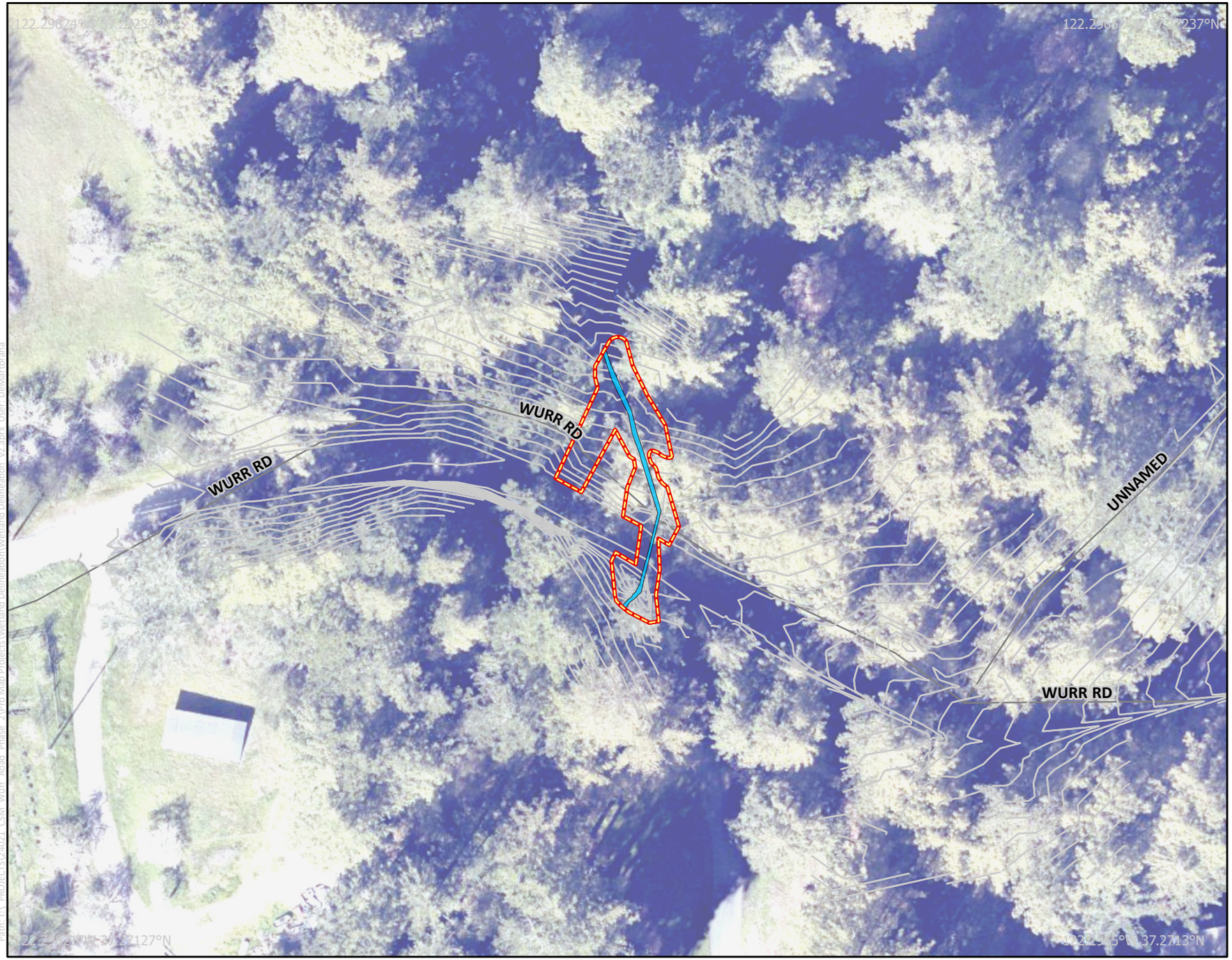
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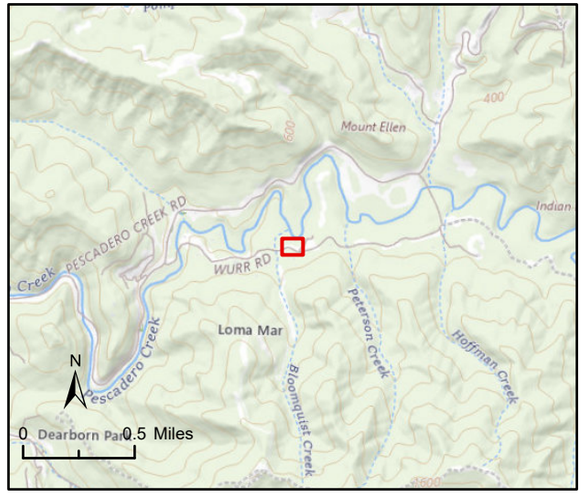
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DaMartorana





Project Limits
WOTUS
Contours
Roads

0 25 50
Feet

N
1:600
1 inch equals 50 feet

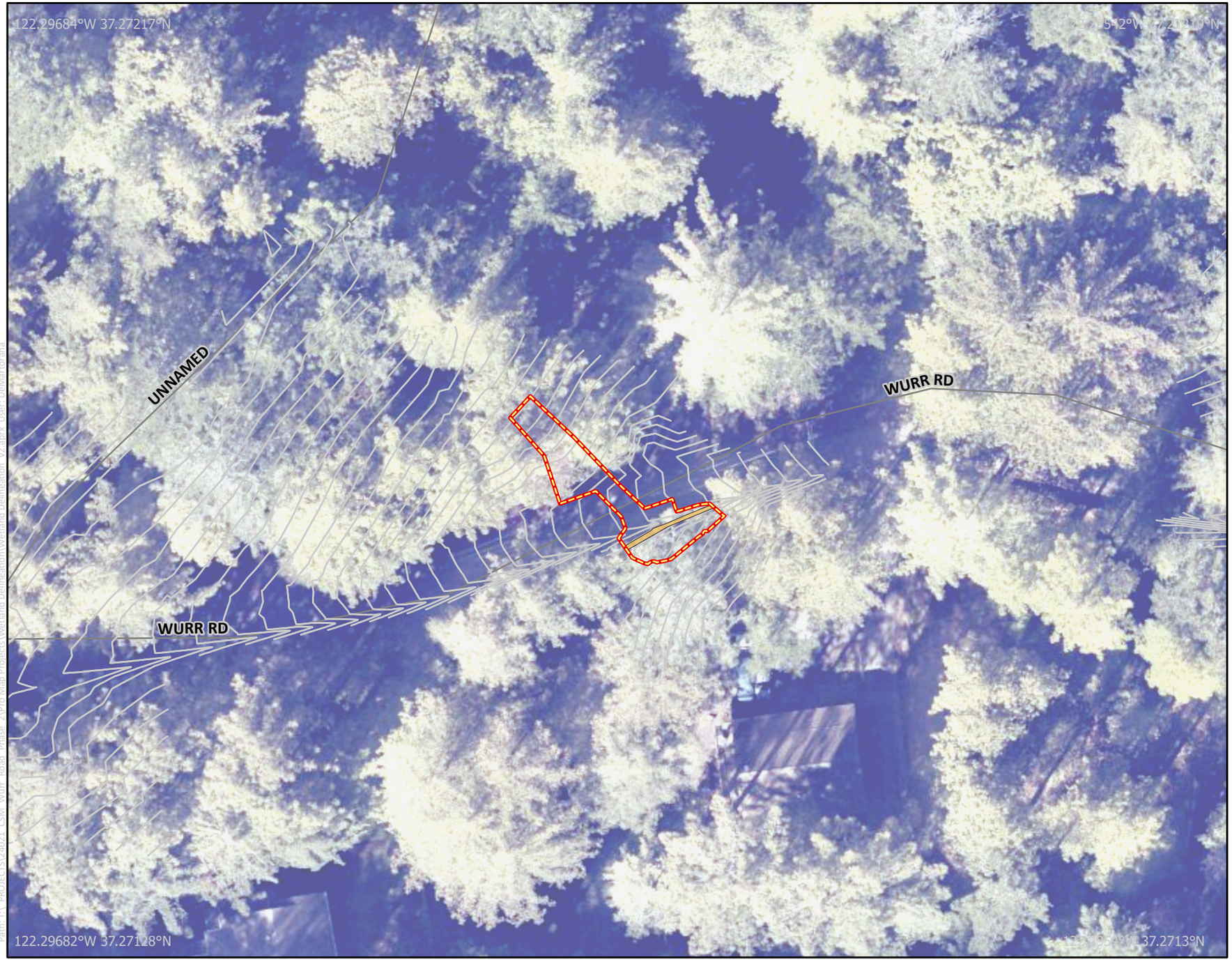
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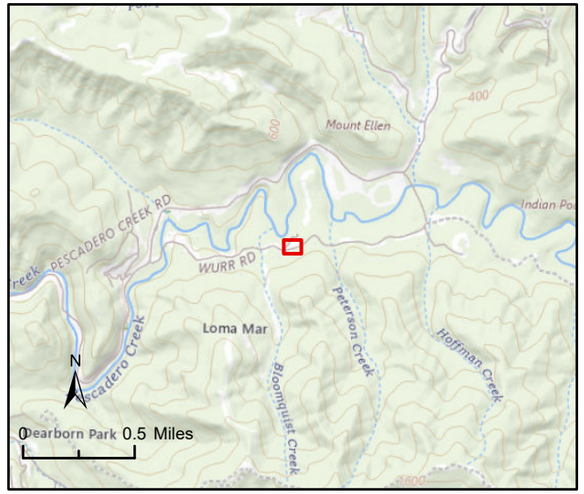
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DeMartorana





Project Limits
Non-Jurisdictional Stormwater Ditch
Contours
Roads

0 20 40
Feet

N
1:500
1 inch equals 42 feet

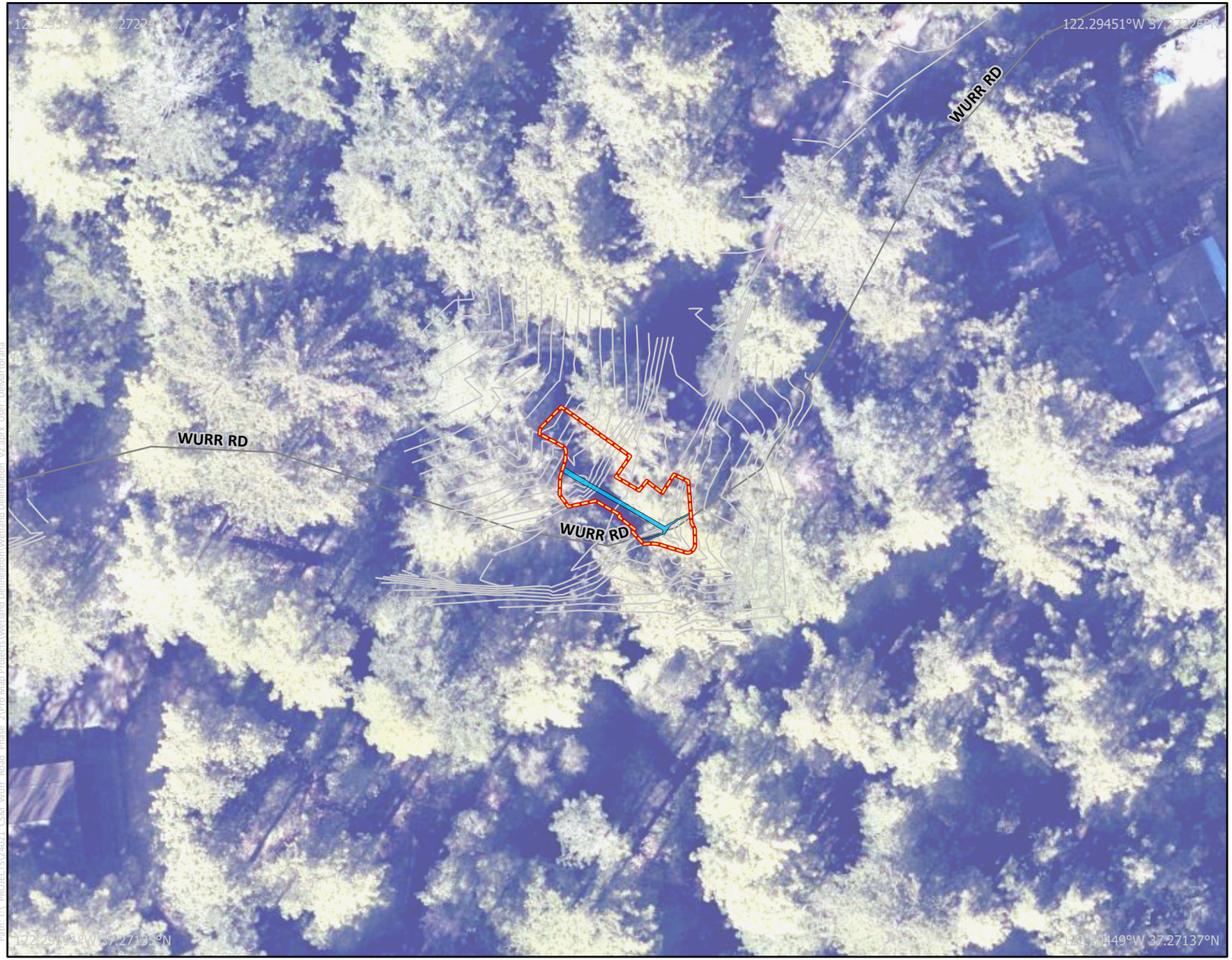
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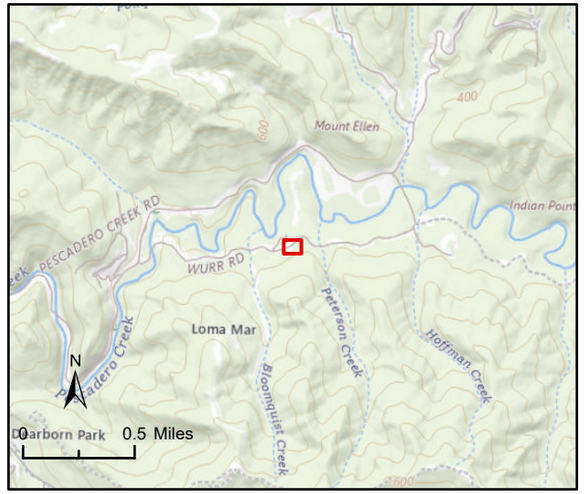
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DATE	DESCRIPTION	BY
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County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\ProMap Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DaMartorana





Project Limits
WOTUS
Contours
Roads

0 20 40
Feet

N
1:500
1 inch equals 42 feet

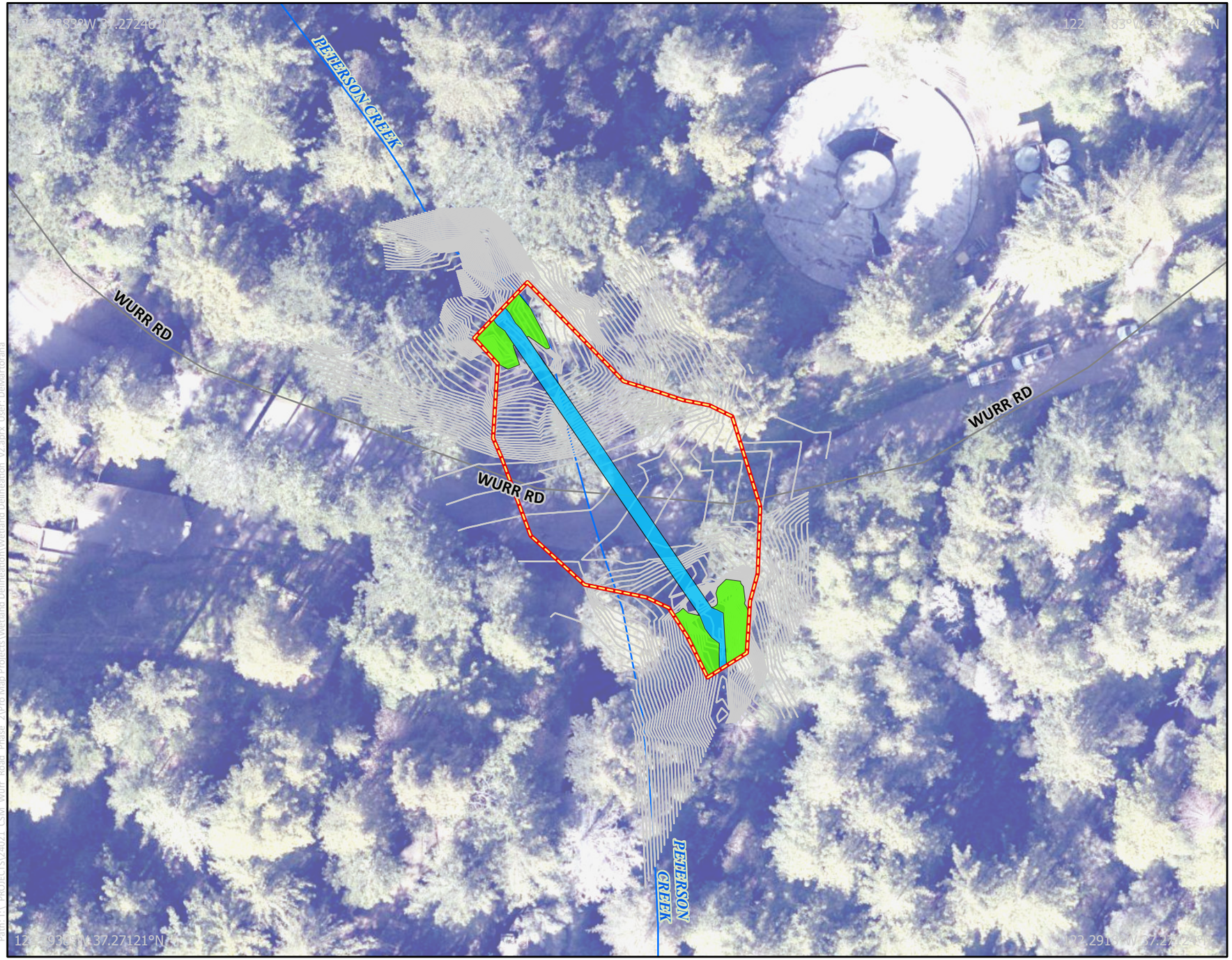
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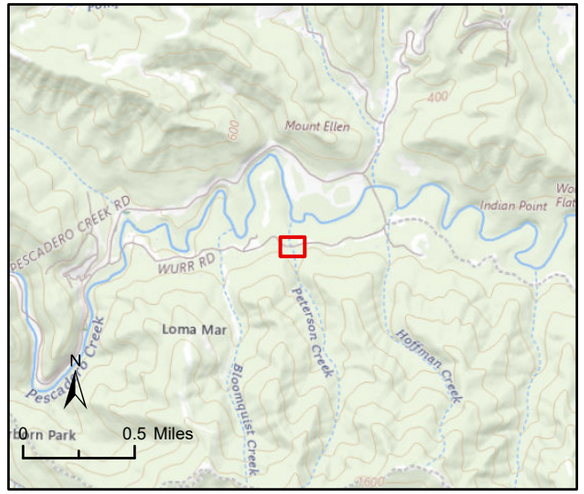
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx, User: DeMartorana





Project Limits
WOTS
WOTUS
Contours
Streams
Roads

0 30 60
Feet

N

1:700
1 inch equals 58 feet

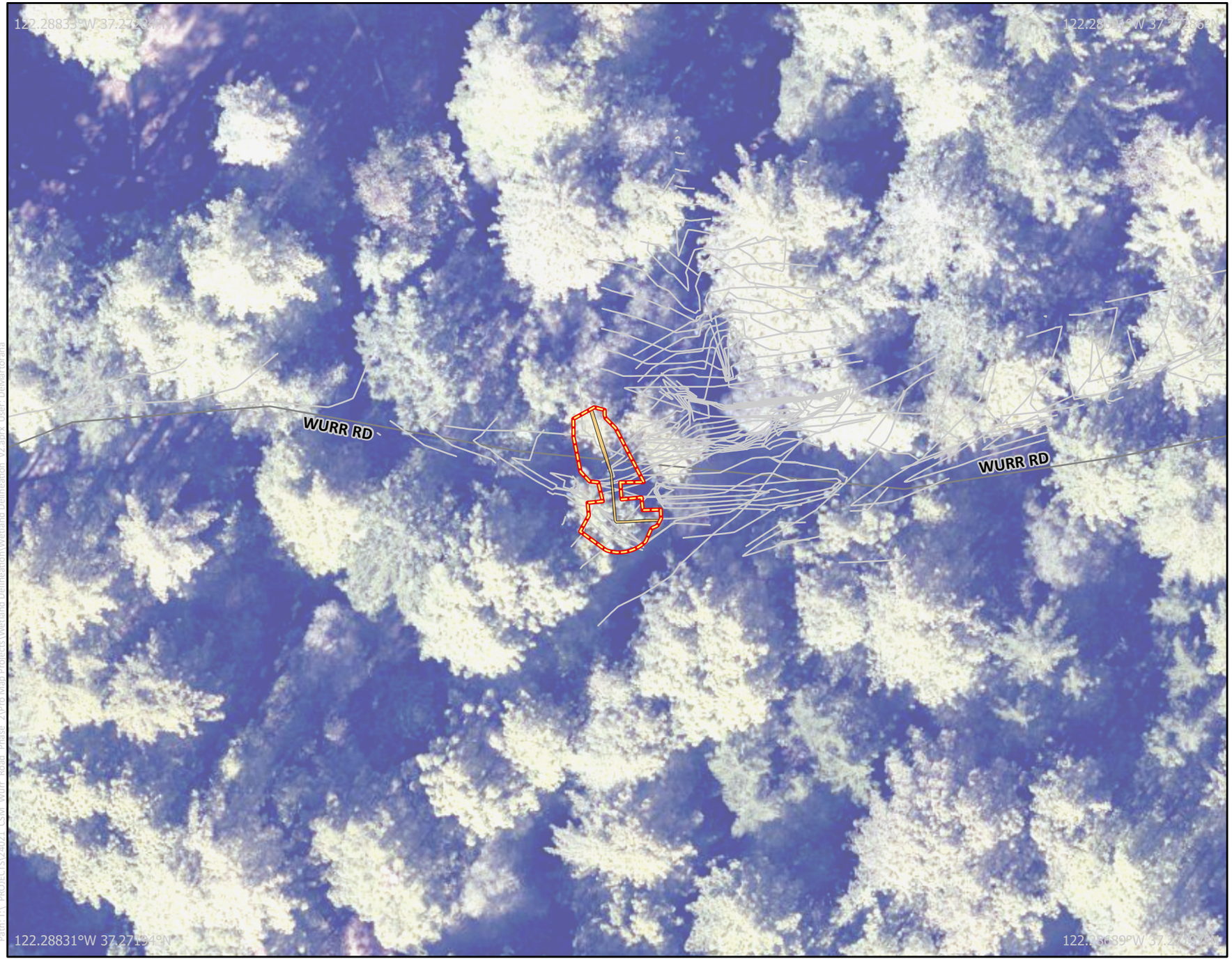
PREPARED BY: MONTROSE ENVIRONMENTAL 1 Kaiser Plaza Suite 340 Oakland, CA 94612 510-986-1850	PREPARED FOR: County of San Mateo Public Works
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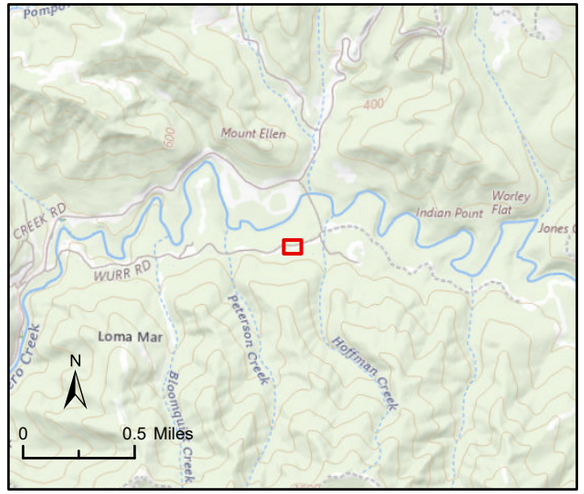
REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DeMartorana





Project Limits
Non-Jurisdictional Stormwater Ditch
Contours
Roads

0 20 40
Feet

N
1:500
1 inch equals 42 feet

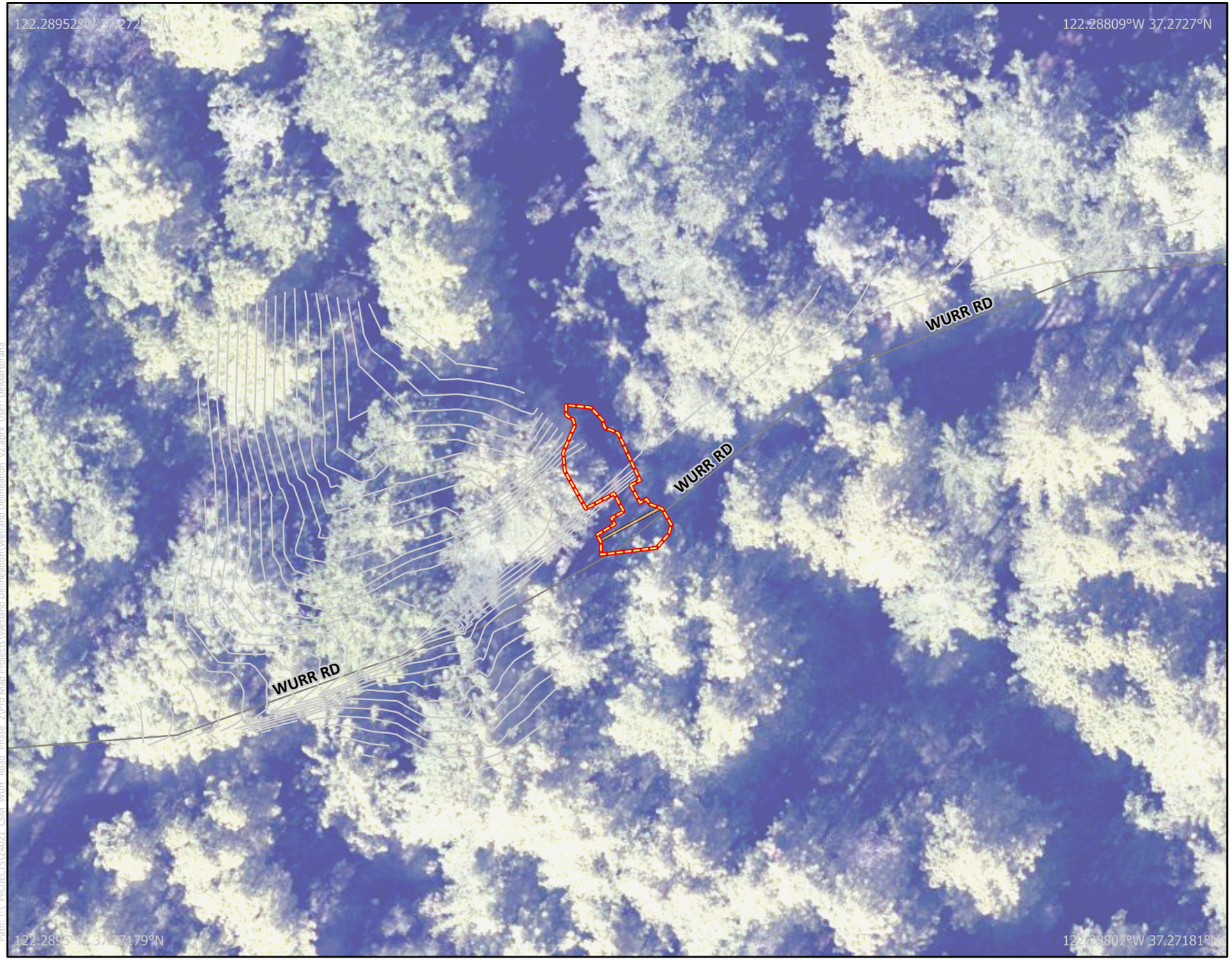
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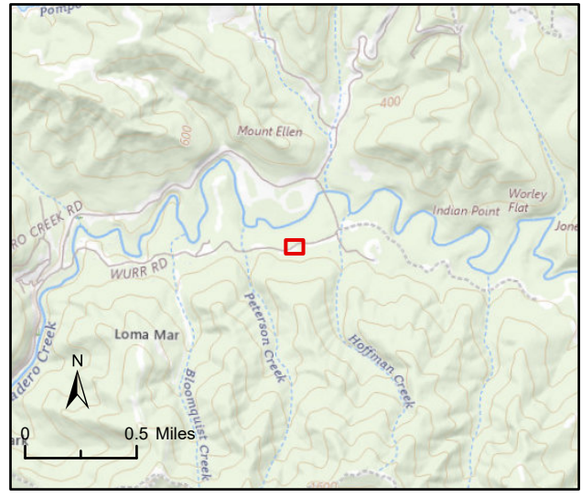
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DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DeMartorana





Project Limits

Non-Jurisdictional Stormwater Ditch

Contours

Roads

0 20 40
Feet

N

1:500

1 inch equals 42 feet

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REVISIONS		
DATE	DESCRIPTION	BY
3/24/2025	Stormwater Acreages and OHWM acreage	B. Piontek

County of San Mateo
Wurr Road Culvert Repairs Project

Location: 270.1 | Page 12 of 12

Figure 5
Aquatic Resources

Path: T:_PROJECTS\24021_CSM_Wurr_Road_Phase_2\Pro Map Projects\Wetland Delineation\Wetland Delineation_v2.aprx User: DeMartorana

Appendix A

Site Photographs

Appendix A. Site Photographs

Site 94, unnamed drainage at Pescadero Creek Road			
Photo No.	1	**Photo No.**	2
Date	February 2024	**Date**	May 2024
Road Side	South; Upstream	**Road Side**	North; Downstream
			
Culvert inlet on unnamed drainage.		Culvert outlet area.	

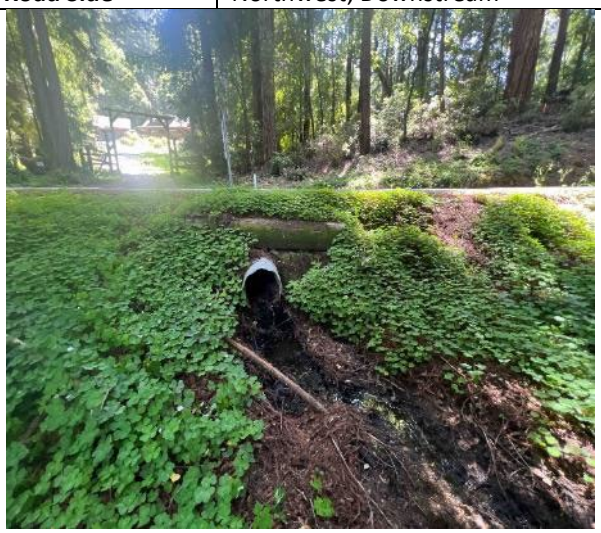
Site 102, unnamed drainage at Pescadero Creek Road			
Photo No.	3	**Photo No.**	4
Date	May 2024	**Date**	February 2024
Road Side	South; Upstream	**Road Side**	South; Downstream
			
Culvert inlet area that goes underneath roadway.		Drainage ditch on opposite (downstream) side of road.	

Appendix A. Site Photographs

Site 119, unnamed drainage at Pescadero Creek Road			
Photo No.	5	**Photo No.**	6
Date	February 2024	**Date**	February 2024
Road Side	West; Downstream	**Road Side**	West; Downstream
			
Headwall; Culvert inlet area.		Culvert outlet area.	
Site 128.1 at Pescadero Creek Road			
Photo No.	7	**Photo No.**	8
Date	May 2024	**Date**	May 2024
Road Side	North; inlet area	**Road Sid**	South; outlet area
			
Proposed new culvert inlet area (roadside ditch).		Proposed outfall area.	

Appendix A. Site Photographs

Site 263, Bloomquist Creek at Wurr Road			
Photo No	9	**Photo No.**	10
Date	May 2024	**Date**	May 2024
Road Side	North; Upstream	**Road Side**	South; Downstream
			
Culvert inlet area (yellow) on Bloomquist Creek.		Culvert outfall on Bloomquist Creek.	

Site 265, unnamed drainage at Wurr Road			
Photo No.	11	**Photo No.**	12
Date	May 2024	**Date**	May 2024
Road Side	Northwest; Upstream	**Road Side**	Northwest; Downstream
			
Culvert inlet of an unnamed drainage passing under Wurr Road		Culvert outfall of unnamed drainage.	

Appendix A. Site Photographs

Site 265.1 at Wurr Road			
Photo No.	13	**Photo No.**	14
Date	May 2024	**Date**	May 2024
Road Side	Southwest; inlet area	**Road Side**	Northwest; outlet area
			
Proposed culvert inlet area along Wurr Road.		Proposed culvert outfall area along Wurr Road.	

Site 266, unnamed drainage at Wurr Road			
Photo No.	15	**Photo No.**	16
Date	May 2024	**Date**	May 2024
Road Side	Southeast; Upstream	**Road Side**	West; Downstream
			
Culvert inlet area (unnamed drainage) approaching Wurr Road.		Culvert outfall area.	

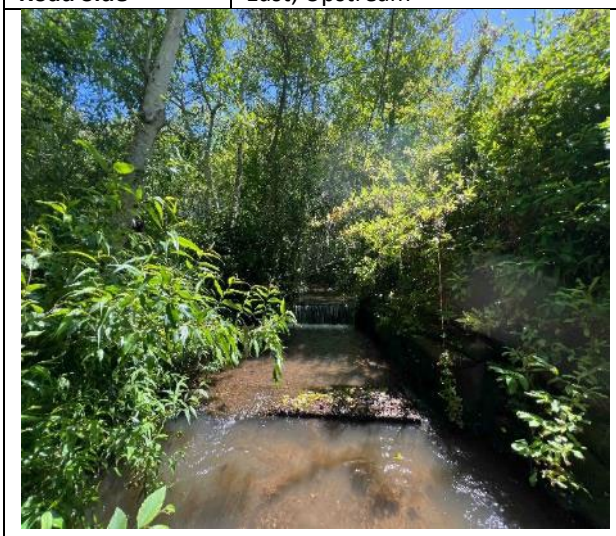
Appendix A. Site Photographs

Site 268, Peterson Creek at Wurr Road			
Photo No.	17	**Photo No.**	18
Date	May 2024	**Date**	May 2024
Road Side	Southeast; Downstream	**Road Side**	Southwest; Downstream
			
Culvert inlet indicated with yellow circle (Peterson Creek).		Culvert outlet area (Peterson Creek).	
Site 270 at Wurr Road			
Photo No.	19	**Photo No.**	20
Date	December 2024	**Date**	December 2024
Road Side	West; inlet area	**Road Side**	North; outlet area
			
Culvert inlet area and inboard drainage ditch parallel to Wurr Road.		Culvert outlet area. The culvert discharge has formed a channel that dissipates downstream of the trees (yellow arrow).	

Appendix A. Site Photographs

Site 270.1 at Wurr Road			
Photo No.	21	**Photo No.**	22
Date	December 2024	**Date**	December 2024
Road Side	South; inlet area	**Road Side**	North; outlet area
			
Proposed culvert inlet area (yellow) parallel to Wurr Road.		Proposed culvert outfall area on the downslope side of Wurr Road.	
Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	23	**Photo No.**	24
Date	May 2024	**Date**	June 2024
Road Side	East; Upstream	**Road Side**	East; Upstream
			
Little Butano Creek looking upstream from the upstream extent of the project. Stream depth was approximately 6-8 inches at the time of the site visit.		Upstream of the culvert crossing looking at the concrete streambed, concrete drop structure, and sacked concrete banks with by overhanging vegetation.	

Appendix A. Site Photographs

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	25	**Photo No.**	26
Date	May 2024	**Date**	May 2024
Road Side	East; Upstream	**Road Side**	West; Upstream
			
Standing at the culvert upstream face looking upstream. The streambed is concrete with sacked concrete on both banks.		The left culvert opening facing downstream. The culvert had a relatively thin layer of sediment along the bottom with sediment plugging much of the right culvert (not shown, photo right).	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	27	**Photo No.**	28
Date	June 2024	**Date**	May 2024
Road Side	Northeast; Downstream	**Road Side**	West; Downstream
			
The culvert outfall area with significant sediment accumulated in the right culvert (yellow circle) and on the concrete apron.		Downstream view of Little Butano Creek from the edge of the concrete apron. The cascade has created a drop between the apron and the streambed below.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	29	**Photo No.**	30
Date	July 2025	**Date**	July 2025
Road Side	East; Upstream	**Road Side**	Northwest; Downstream
			
Upstream view of Little Butano Creek from the edge of the concrete apron.		Downstream view of Little Butano Creek downstream of the concrete apron.	

Site 190 at Little Butano Creek, Cloverdale Road			
Photo No.	31	**Photo No.**	32
Date	July 2025	**Date**	July 2025
Road Side	East -southeast; Upstream	**Road Side**	Northeast; Upstream
			
Upstream view of Little Butano Creek downstream of the concrete apron.		Upstream view from the edge of the Project area (bridge crossing).	

Appendix B

Plant Species List

Scientific Name	Common Name	Indicator Status	Native
Acer macrophyllum	Big-leaf Maple	FACU	Yes
Adiantum jordanii	California Maidenhair	FAC	Yes
Alnus rhombifolia	White Alder	FACW	Yes
Athyrium cyclosorum	Western lady fern	FAC	Yes
Avena barbata	Slender oat	NL	No
Baccharis pilularis	Coyote Brush	NL	Yes
Bromus briziformus	Rattlesnake brome	UPL	No
Bromus diandrus	Rip-gut brome	NL	No
Carduus tenuiflorus	Italian thistle	NL	No
Centromadia pungens	Common tarweed	UPL	Yes
Chlorogalum pomeridianum	Soap plant	NL	Yes
Claytonia perfoliata	Minor's lettuce	FAC	Yes
Conioselinum pacificum	Hemlock parsley	FACW	Yes
Cornus sericea	American dogwood	NL	Yes
Equisetum arvense	Field Horsetail	FAC	Yes
Equisetum telmateia	Giant Horsetail	FACW	Yes
Fragaria vesca	Woodland strawberry	FACU	Yes
Fraxinus latifolia	Oregon ash	FACW	Yes
Galium aparine	Common Bedstraw	FACU	Yes
Genista monspessulana	French broom	NL	No
Hedera helix	English Ivy	FACU	No
Helminthotheca echioides	Bristly Ox-Tongue	FAC	No
Hordeum jubatum	Foxtail barley	FAC	Yes
Juncus effuses	Common bog rush	FACW	Yes
Lapsana communis	Common nipplewort	FACU	No
Lotus corniculatus	Bird's-foot-trefoil	FAC	No
Myosotis latifolia	Forget-Me-Not	NL	No
Notholithocarpus densiflorus	Tanoak	NL	Yes
Oxalis oregana	Redwood Sorrel	FACU	Yes
Pinus contortata	Lodgepole pine	FAC	Yes
Pinus pinea	Italian stone pine	NL	No
Plantago major	Great plantain	FAC	No
Polystichum munitum	Western sword fern	FACU	Yes
Pseudotsuga menziesii	Douglas Fir	FACU	Yes
Quercus agrifolia	Coast live oak	NL	Yes
Rubus parviflorus	Western thimble-berry	FACU	Yes
Rubus ursinus	California Blackberry	FACU	Yes
Rumex occidentalis	Western Dock	FACW	Yes
Salix lasiandra	Pacific willow	FACW	Yes
Scoliopus bigelovii	Slink pod	NL	Yes
Scrophularia californica	California bee plant	FAC	Yes
Sequioa sempervirens	Coast redwood	NL	Yes
Soleirolia soleirolii	Baby's tears	FAC	No
Taraxacum officinale	Commen dandelion	FACU	No
Toxicodendron diversilobum	Poison Oak	FACU	Yes
Trifolium angustifolium	Narrow leafed clover	NL	No

Trillium ovatum	Western trillium	FACU	Yes
Umbellularia californica	Bay laurel	FAC	Yes
Urtica dioica	Stinging nettle	FAC	Yes
Vaccinium ovatum	California-huckleberry	FACU	Yes
Veronica americana	American Brooklime	OBL	Yes
Vicia villosa	Hairy vetch	NL	No

Appendix C

Wetland Delineation and Ordinary High Water Data Sheets

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Muir road | **Date:** 5/31 | **Time:** 1106
Project Number: | **Town:** | **State:** CA
Stream: | **Photo begin file#:** | **Photo end file#:**
Investigator(s): J.gandar, B Pinnock, A Kellogg

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: downstream @ Cleveland

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:
sacked concrete on left bank

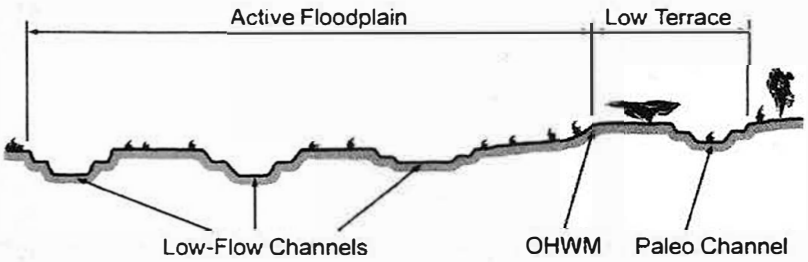
Brief site description: 6x7 double box culvert concrete drop with sedimentation RB culvert w/ sedimentation. sacked concrete on LB. sediment @ outlet: material at outlet & downstream of concrete drop

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

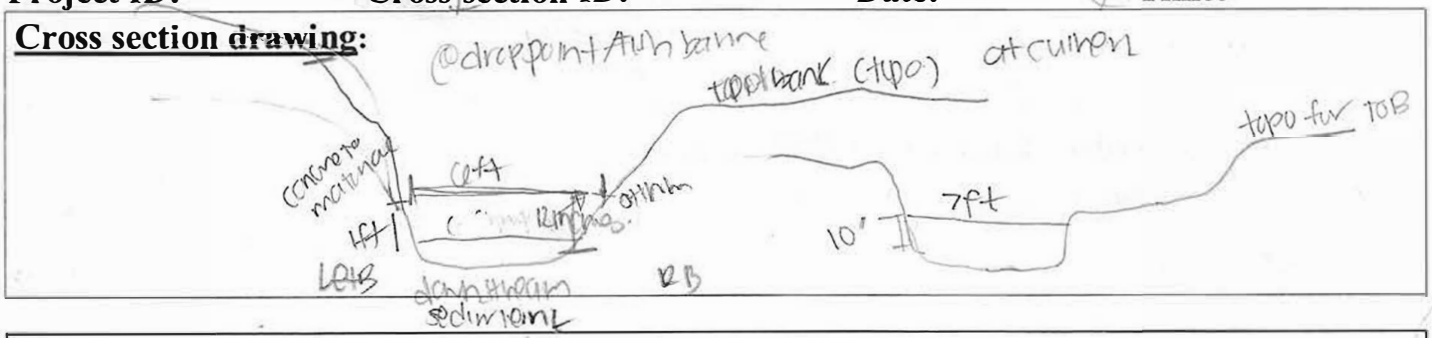
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

downstream DS

upstream BNE of face

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☑ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: concrete bed downstream @ fish barrier, pebbles, rock @ culvert

Total veg cover: 1 % Tree: ____% Shrub: ____% Herb: ____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☑ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

veg rooted above OHWM canopy variable 5% to 80%

Indicators:

- ☐ Mudcracks
- ☑ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

sediment bed w/ fish barrier downstream. concrete sac on LB.
scouring along bank further downstream
sedimentation within culvert & for right bank

Cloverdale upstream Bridge

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Mill road | **Date:** 5/31/24 | **Time:** 1225
Project Number: | **Town:** Pescadero | **State:**
Stream: | **Photo begin file#:** | **Photo end file#:**
Investigator(s): J. Gonzalez, B. Pickrell, Aerie

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: upstream cloverdale

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:

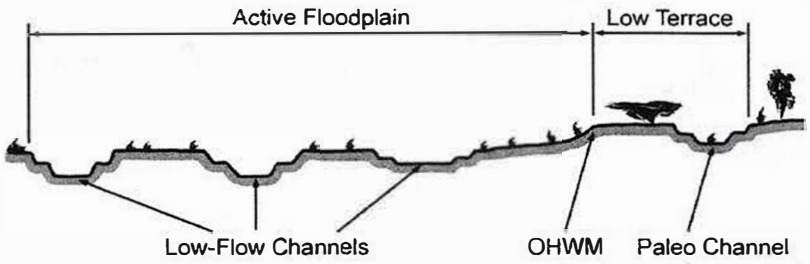
Brief site description: upstream of bridge/culvert

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

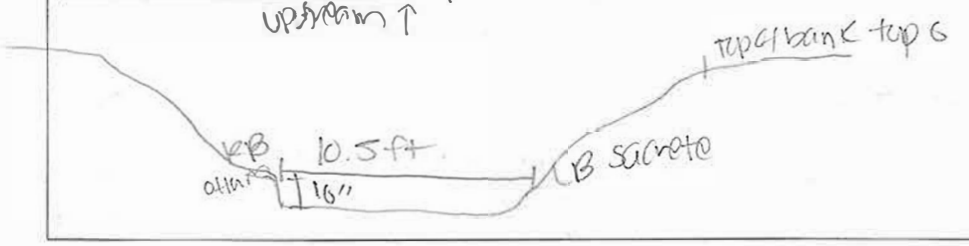


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☒ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing: upstream of concrete drop



OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments: pools upstream of drop structure.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: pebbles & fine sediment concrete at drop structure

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

tree cover variable 5% - 10 50 %

Indicators:

- [ ] Mudcracks
- [x] Ripples
- [x] Drift and/or debris
- [ ] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Wurr Rd
Project Number:
Stream:
Investigator(s): B Ponte's, J Gonzalez, A Kellogg

Date: 5/31
Town: Pescadero
Time: 3:00pm
State: CA
Photo begin file#:
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Wurr Rd 263

Projection: **Datum:**
Coordinates:

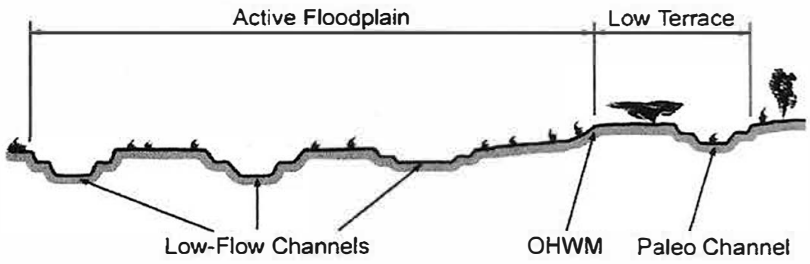
Potential anthropogenic influences on the channel system:
Wurr Road

Brief site description:
78" Culvert under Wurr Rd, ~40LF. Rusted out bottom in sections.

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

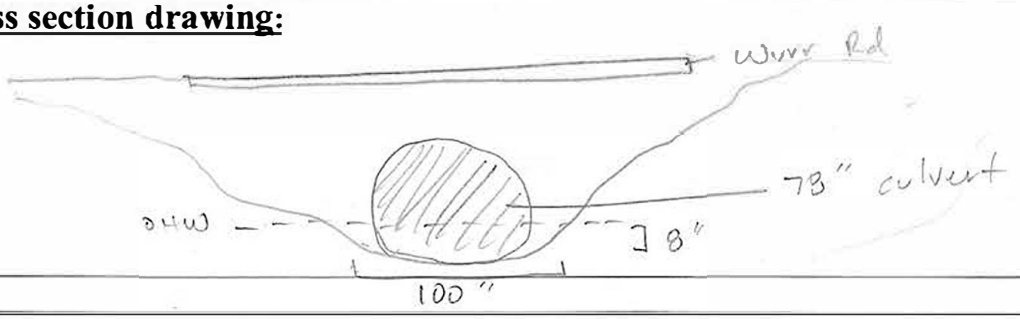


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: WWW 269

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
No vegetation on tributary bed. Minor break in slope @ 6"-8" above channel bed.

Floodplain unit:

☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: fines

Total veg cover: 75 % Tree: 50 % Shrub: 5 % Herb: 40 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Worr Rd
Project Number:
Stream:
Investigator(s): B. Prentice, J. Gonzalez, M. Kelley

Date: 5/31
Town: Pescadero
Photo begin file#:

Time: 2:00pm
State: CA
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Worr Road 263

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:
Worr Road

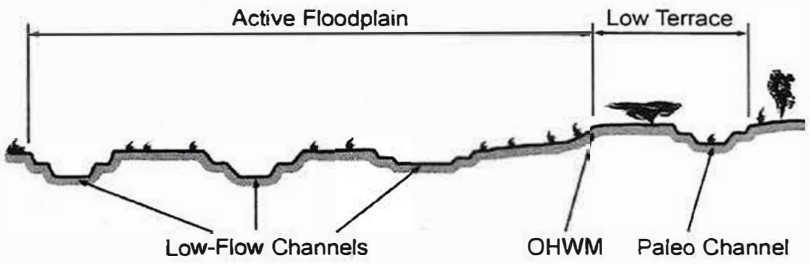
Brief site description:
78" culvert conveying tributary under Worr Rd.

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

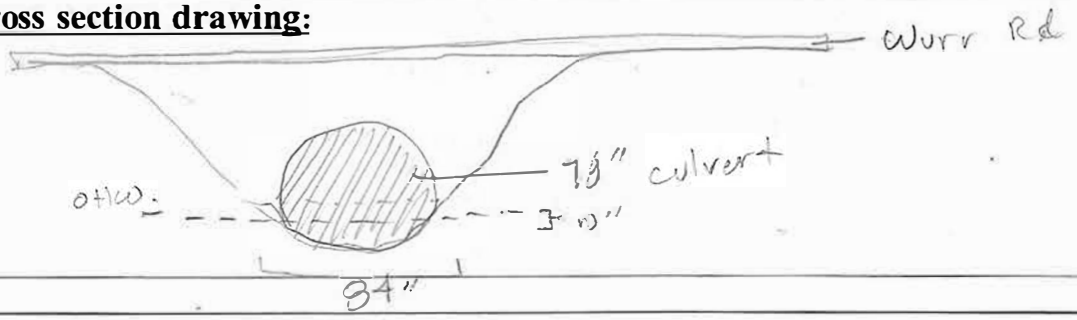


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☑ Digitized on computer
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: Wurr 263

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
channel bed is unvegetated. Defined topographical break ~10" above bed elevation indicating OHWM.

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: —

Characteristics of the floodplain unit:

Average sediment texture: fines

Total veg cover: 35 % Tree: 5 % Shrub: 5 % Herb: 25 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:
No vegetation on bed, moderate cover on banks.

NR-1 262

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Murr Road | **Date:** 5/21 | **Time:** 130
Project Number: | **Town:** | **State:**
Stream: N/A | **Photo begin file#:** | **Photo end file#:**
Investigator(s):

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
TMDL 262

Projection: 37.271142 **Datum:**
Coordinates: -122.302025

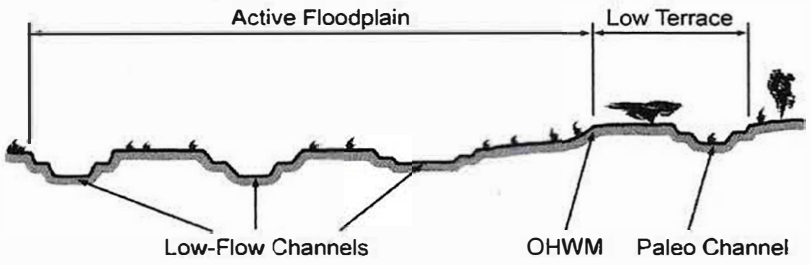
Potential anthropogenic influences on the channel system:
Murr Rd and adjacent private properties

Brief site description:
15" CMP draining ~890' ditch; thru culvert to junction box

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

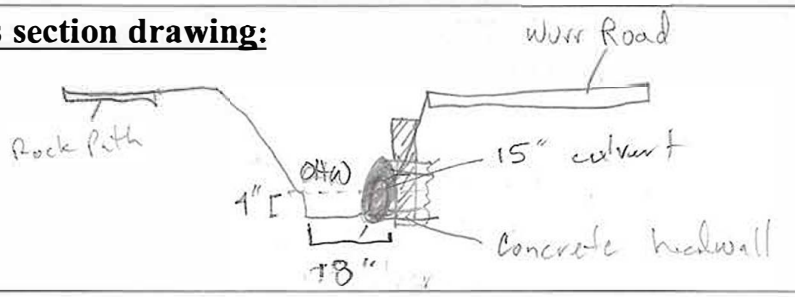


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: Wurr 262.3

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
No vegetation on ditch bottom.

Floodplain unit:

☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: —

Characteristics of the floodplain unit:

Average sediment texture: fines

Total veg cover: 30 % Tree: — % Shrub: — % Herb: 30 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: WWV road
Project Number: 23039
Stream:
Investigator(s): J-gonzalez

Date:
Town:
Photo begin file#:

Time:
State:
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: 102

Projection:
Coordinates:

Datum:

Potential anthropogenic influences on the channel system:
pescadero creek road. small unamed drainage roadside drainage ditch.
2.5-3ft wide, 12" deep ephemeral, stormwater, not delineated

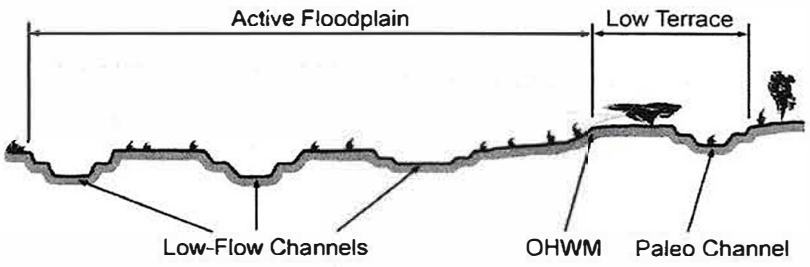
Brief site description:

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

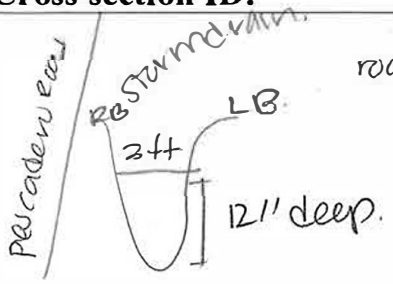


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



drive way culvert then parallel to road, drainage goes under pescadro creek road

standing water, no flow.

OHWM

GPS point: location 102

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

overgrown vegetation, culvert inlet/outlet clogged
small roadside drainage runs parallel to road, driveway culvert, then crosses under pescadro creek road

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: fine ddebris from driveway culvert

Total veg cover: 60 % Tree: ++ % Shrub: 0 % Herb: 80 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Wurr Rd
Project Number:
Stream:
Investigator(s): B Pinnock, A Kellogg
Date: 5/31
Time: 5:00 pm
Town:
State: CA
Photo begin file#:
Photo end file#:

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: RESC 119

Projection: **Datum:**
Coordinates:

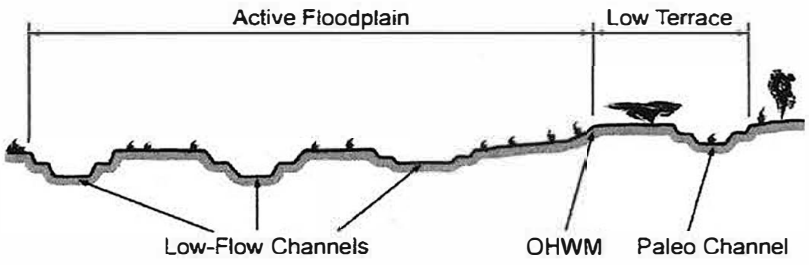
Potential anthropogenic influences on the channel system:
Pescadero Rd

Brief site description:
36" culvert, bolt, cross drain

Checklist of resources (if available):

- [ ] Aerial photography
  Dates:
- [X] Topographic maps
- [X] Geologic maps
- [ ] Vegetation maps
- [X] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

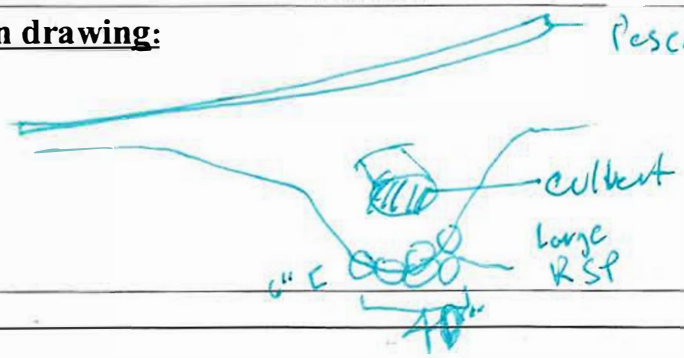


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] Digitized on computer
   - [X] GPS
   - [ ] Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: Pesc 119

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:
Rock boulder channel, very steep

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: ~

Characteristics of the floodplain unit:
Average sediment texture: RSP
Total veg cover: 70 % Tree: 50 % Shrub: 20 % Herb: 10 %
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Wurr Rd
Project Number:
Stream:
Investigator(s):

Date:
Town:
Photo begin file#:

Time:
State:
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Wurr 128

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:
Pescadero Rd

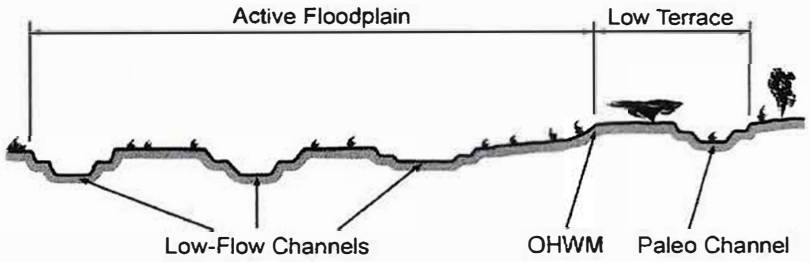
Brief site description:
24" HDPE with slope drain and gullying on downstream side

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☒ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

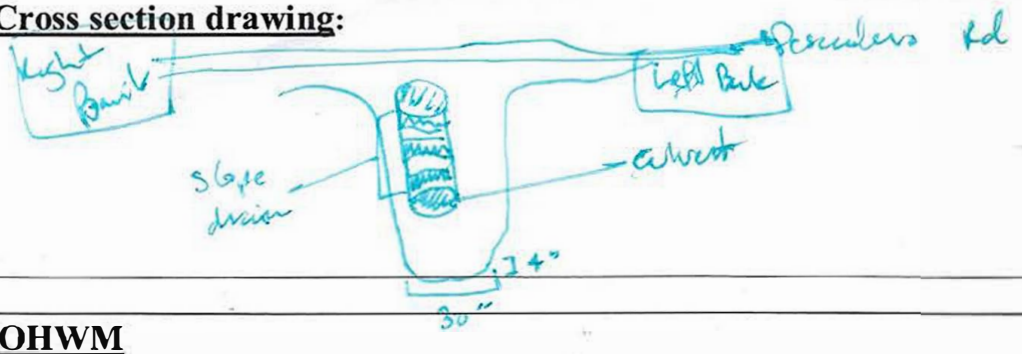


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: WW 123

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Eroding / gullying at outfall and downslope

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: fine

Total veg cover: 50 % Tree: — % Shrub: 40 % Herb: 20 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Chaparral

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

OMB Control No. 0710-XXXX
Approval Expires:

Project ID #: Wurr Rd | Site Name: Cloverdale Rd | Date and Time: 7/22; 8:20am

Location (lat/long): 37.199892, -122.344676 | Investigator(s): J. Gonzalez, S. Kiteck

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [ ] satellite imagery
- [ ] land use maps
- [x] aerial photos
- [x] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources.
Were there any recent extreme events (floods or drought)?
None

Step 2 Site conditions during field assessment
First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Fish barrier present; concrete drop. Erosion present along the banks. Bridge at western end of Project Area.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
OHWM. Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:**
  - [x] *on the bank:*
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [x] **Shelving:**
  - [x] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [x] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [x] *vegetation transition (go to veg. indicators)*
  - [x] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [x] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., poofs, riffles, steps, etc.):*
  - [x] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [x] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [x] **Changes in particle-sized distribution:**
  - [x] *transition from* silt to cobble
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:**

Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

- [1] *vegetation absent to:*
- [2] *moss to:*
- [2] *forbs to:*
- [ ] *graminoids to:*
- [3] *woody shrubs to:*
- [4] *deciduous trees to:*
- [ ] *coniferous trees to:*

- [ ] **Vegetation matted down and/or bent:**
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [ ] **Leaf litter disturbed or washed away:**
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators?

Describe:

Step 4 Is additional information needed to support this determination?

- [ ] Yes
- [ ] No

If yes, describe and attach information to datasheet:

Project ID #: Wurr Rd / Cloverdale Rd

Step 5 Describe rationale for location of OHWM

- Scouring present
- Sediment transition from silt to cobble
- channel free of vegetation, transition to moss/forbs to woody shrubs to deciduous trees

Additional observations or notes

99" – widest part of the stream channel @ OHWM

55" – narrowest part of the stream, @ OHWM

10" to 20" – depth of the stream

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
	See Appendix A.

Appendix D

OMBIL Regulatory Module (ORM)

Upload Sheet

Appendix G

Noise Calculations

Noise Calculations for Wurr Road Culvert Repair Project

Mechanical		
Construction Equipment 1 (Vibratory Roller)	85	dBA at 50 feet
Construction Equipment 2 (Trucks)	84	dBA at 50 feet
Combined Daytime Noise at 50 feet (Ltotal at 50 feet)	87.5	dBA
Ltotal=10 log(10^L1/10+10^L2/10)		

Noise Threshold Limits and Distances from Project Sites to those Limits for Construction Equipment by Technique

Noise Threshold	**Threshold Level - Leq (dBA)**	**Distance to Leq Threshold from Middle of Project Site (feet)**
Sensitive Receptors	90	37.7
Source: FTA 2018		

Vibration Source Levels for Construction Equipment (FTA 2018)

Equipment	**PPV at 25 feet**	**VBA**
Vibratory Roller	0.21	94
Loaded Trucks	0.076	86

Vibration Calculations with Equations for Vibration-Causing Equipment for Project Site (Roller)

Threshold	**Distance to Threshold from Middle of Project Site (feet)**	**Notes**
PPV=PPVref * (25/d)^1.5	36.3	Building damage threshold - 0.12 PPV (extremely susceptible buildings)
VdB=VdBref-30log(d/25)	73.2	Human Annoyance (80 VdB)

Vibration Calculations with Equations for Vibration-Causing Equipment for Project Site (Loaded Trucks)

Threshold	**Distance to Threshold from Middle of Project Site (feet)**	**Notes**
PPV=PPVref * (25/d)^1.5	18.4	Building damage threshold - 0.12 PPV (extremely susceptible buildings)
VdB=VdBref-30log(d/25)	39.6	Human Annoyance (80 VdB)

Appendix H

Mitigation Monitoring and Reporting Plan

WURR ROAD, PESCADERO CREEK ROAD, AND CLOVERDALE ROAD CULVERT REPAIRS PROJECT

MITIGATION MONITORING AND REPORTING PLAN

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the Wurr Road, Pescadero Creek Road, and Cloverdale Road Culvert Repairs Project Draft Initial Study/ Mitigated Negative Declaration (IS/MND). For each mitigation measure, this table identifies monitoring and reporting actions that shall be carried out, the party responsible for implementing these actions, and the monitoring schedule. This table also includes a column where responsible parties can check off monitoring and reporting actions as they are completed. It is the responsibility of the contractor to ensure that actions required for all the mitigation measures listed herein are included in the project plans and specifications. It is the responsibility of the County of San Mateo (County) to review and confirm that all the mitigation measure actions described herein are in the project plans and specifications.

Aesthetics

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Agriculture and Forestry Resources

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Air Quality

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Biological Resources

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Cultural Resources

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
CUL-1. A Qualified Archaeologist Shall Monitor Project Activities on Cloverdale Road (Site No. 190) Prior to the onset of construction activities, the County shall retain a qualified archaeologist, per the Secretary of Interior's Standards (36 CFR § 800.2(a)(1)), to monitor all ground disturbing activity during construction at the Project site located on Cloverdale Road (Site No. 190). The consulting archaeologist will determine the most suitable levels of monitoring (e.g., full time or spot checking) based on the proposed types of construction activities. In addition, the consulting archaeologist shall have the authority, with the County's approval, to discontinue monitoring if the project activities will no longer have the potential to cause adverse effects to archaeological deposits (e.g., activities occurring directly in the streambed). In the event that cultural resources are exposed during construction, the monitor shall temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance and communicate with the County regarding the find. The resource shall be evaluated as a unique cultural resource based on the criteria set forth in § 21083.2 of CEQA and as necessary, the County will seek Native American	1. NA 2. Comply with archaeologist recommendations during ground disturbing activities at Site 190. 3. Halt work and comply with archaeologist recommendations, if necessary. 4. NA 5. Comply with archeologist and County recommendations and measures. 6. Do not resume work until clearance is given.	1. Retain a qualified archaeologist prior to the start of ground disturbing activities. 2. Ensure that archaeologist recommendations are followed. 3. Work with archaeologist to evaluate resources, if necessary. 4. Consult with responsible agencies and interested tribes for archaeological resource discoveries and ensure that native American consultation is completed if an archaeological site is determined to be a Tribal Cultural Resource. 5. Ensure recommended measures are followed, if deemed necessary.	1. Prior to the start of ground disturbing activities. 2. During ground disturbing activities at Site 190. 3. Following any cultural resource discovery. 4. Following any cultural resource discovery. 5. Following any cultural resource discovery. 6. Following any cultural resource discovery.	

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
input and consultation. If the resource is determined to not be considered "unique" then no further mitigation would be required. However, if the archeologist determines that the cultural resources exposed are unique archeological resources, and construction cannot avoid the location, then the archeologist shall follow CEQA Guidelines § 15126.4 (b)(3) to determine the most suitable mitigation, which may require full data recovery of the site(s), in consultation with the County and any consulting Tribal representatives as needed.		6. Provide contractor clearance on when work may resume.		

Energy

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Geology, Soils, and Seismicity

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.		1.	1.	

Greenhouse Gas Emissions

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Hazards and Hazardous Materials

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Hydrology and Water Quality

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Land Use and Planning

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Mineral Resources

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Noise

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
NOI-1. Implement Construction Noise Reduction Measures. • To the extent feasible, contractor shall restrict the operation of noise-generation equipment to 7:00 am – 6:00 pm, Monday through Friday. • If weekend work is required, these activities would be further restricted to between 9:00 a.m. to 5:00 p.m. on Saturdays in compliance with the San Mateo County Noise Ordinance Code Chapter 4.88 • All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or noise-reducing features in good	1. Comply with recommended restrictions regarding hours of operation, equipment noise shielding mechanisms, and shutting off equipment when not in use, to measure specifications.	1. Ensure contractor compliance with listed measures.	1. During work activities.	

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
operating condition that met or exceed original factory specifications. • Mobile noise-generation equipment and machinery shall be shut off when not in use.				

Population and Housing

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Public Services

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Recreation

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Transportation

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Tribal Cultural Resources

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Utilities and Service Systems

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Wildfire

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				

Cumulative Impacts

Mitigation Measures	Contractor Responsibility	County Responsibility	Monitoring Schedule	Completion Date and Initials
None required.				