State Route 116 – Stage Gulch Road/Lakeville Highway Intersection Safety Project

Initial Study with Negative Declaration

SONOMA COUNTY, CALIFORNIA
DISTRICT 4 – SON – 116 (PM 39.3)
04-2Q770/0419000047
SCH No. 2023040010

Prepared by the
State of California, Department of Transportation

May 2023

Caltrans

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Negative Declaration (IS/ND) for the State Route (SR) 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project (Project). Caltrans proposes two Build Alternatives to improve the safety of this intersection at post mile (PM) 39.3 on SR 116 in Sonoma County: Build Alternative 1 would install traffic signals, or Build Alternative 2 would construct a roundabout. Additional Project information is provided in Chapter 2.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This IS/ND describes why Caltrans proposes the Project, how the existing environment could be affected by the Project, potential environmental impacts, and the Project features and avoidance and minimization measures that would minimize Project impacts.

The Proposed IS/ND was circulated to the public between April 3 and May 3, 2023. Caltrans received 17 comment submittals. Responses to these comments are included in Appendix D. Throughout this document, a vertical line in the margin indicates a change made since the Proposed IS/ND was circulated for public review. Minor editorial changes and clarifications are not so indicated.

Document Available Upon Request:

A printed copy of the IS/ND is available upon request by emailing SR116stagegulch@dot.ca.gov.

For individuals with sensory disabilities, this IS/ND can be made available in Braille, in large print, on audiocassette, or on computer disk by writing to the Caltrans District 4 mailing or email address or by calling **California Relay Service** at **(800) 735-2929 (TTY)**, **(800) 735-2922 (Voice)**, or **711**.

An accessible electronic copy of this IS/ND is available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Initial Study with Negative Declaration

04-SON-116	39.3	04-2Q770
Dist. – Co. – Rte.	PM	E.A.

Project title:	SR 116 - Stage Gulch Road/ Lakeville Highway Intersection Safety Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Maxwell Lammert, Office Chief (Acting) (510) 506-9862
Project location:	Sonoma County
General plan description:	Two-lane Conventional Highway
Zoning:	Transportation Corridor
State Clearinghouse (SCH) #	2023040010
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	• U.S. Army Corps of Engineers • San Francisco Bay Regional Water Quality Control Board • California Department of Fish and Wildlife • U.S. Fish and Wildlife Service • California Transportation Commission

This IS/ND, maps, and Project information are available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Maxwell Lammert

Maxwell Lammert
Acting Chief, Office of Environmental Analysis
California Department of Transportation, District 4

5/11/2023
Date

To obtain a copy in Braille, in large print, on audiocassette, or on computer disk, please mail Caltrans, District 4, ATTN: Arnica MacCarthy, Senior Environmental Planner, P.O. Box 23660, MS-8B, Oakland, CA 94623-0660; email to: sr116stagegulch@dot.ca.gov; or call **California Relay Service** at **(800) 735-2929 (TTY)**, **(800) 735-2922 (Voice)**, or **711**.

Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS) with Negative Declaration (ND) for the State Route (SR) 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project (Project). Caltrans proposes two Build Alternatives to improve the safety of this intersection at post mile (PM) 39.3 on SR 116 in Sonoma County. Build Alternative 1 would install traffic signals; Build Alternative 2 would construct a roundabout. Additional Project information is provided in Chapter 2.

Determination

Caltrans has prepared this IS/ND for the Project and, following public review, has determined from this study that the Project will not have a significant effect on the environment for the following reasons:

- The Project will have no impacts on mineral resources, population and housing, public services, and recreation.
- The Project will have less than significant impacts on aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire.

5/11/2023

Christopher Caputo
Acting Deputy District Director
Environmental Planning and Engineering
California Department of Transportation, District 4

Date

Table of Contents

General Information about this Document i
Initial Study with Negative Declaration iii
Negative Declaration v
Project Description v
Determination v
List of Abbreviated Terms xi
Chapter 1 Introduction 1-1
1.1 Introduction 1-1
1.2 Purpose and Need 1-1
1.3 Existing Conditions 1-2
1.3.1 Existing Guardrail 1-2
1.3.2 Existing Drainage Facilities 1-7
1.3.3 Existing Structures 1-7
1.3.4 Existing Utilities and Signage 1-7
1.3.5 Existing Trees and Vegetation 1-8
Chapter 2 Project Description 2-1
2.1 Build Alternative 1 – Signalized Intersection 2-1
2.1.1 Pedestrian and Bicycle Facilities 2-2
2.1.2 Structures: Bridge Widening and Retaining Wall Reconstruction 2-2
2.1.3 Drainage Systems 2-2
2.1.4 Electrical 2-7
2.1.5 Signage 2-7
2.1.6 Ground Disturbance, Planting and Irrigation 2-8
2.1.7 Erosion Control 2-9
2.1.8 Utilities 2-9
2.1.9 Right of Way 2-9
2.2 Build Alternative 2 - Roundabout (Preferred Alternative) 2-10
2.2.1 Pedestrian and Bicycle Lane Improvements 2-13
2.2.2 Structures 2-13
2.2.3 Drainage Systems 2-13
2.2.4 Electrical 2-14
2.2.5 Signage 2-14
2.2.6 Ground Disturbance, Planting and Irrigation 2-14
2.2.7 Erosion Control 2-15
2.2.8 Utilities 2-15
2.2.9 Right of Way 2-15
2.2.10 Parking and Property Access 2-15
2.3 Construction Methods 2-16
2.3.1 Construction Schedule 2-17
2.3.2 Construction Sequence 2-17
2.3.3 Traffic Control 2-20
2.3.4 Staging Areas 2-21
2.3.5 Construction Equipment 2-21
2.4 Project Features 2-21
2.5 No-Build Alternative 2-21
2.6 Selection of the Preferred Alternative 2-21
2.7 Alternatives Considered but Eliminated from Further Discussion 2-25

2.8 Permits, Licenses, Agreements, Certifications, and Approvals Required 2-27
2.8.1 Other Agreements..... 2-28
2.8.2 Title VI Non-Discrimination Policy Statement..... 2-28
Chapter 3 California Environmental Quality Act Evaluation 3-1
3.1 Environmental Factors Potentially Affected..... 3-1
3.2 Determination 3-2
3.3 CEQA Environmental Checklist..... 3-3
3.3.1 Aesthetics..... 3-5
3.3.2 Agriculture and Forest Resources 3-11
3.3.3 Air Quality..... 3-18
3.3.4 Biological Resources..... 3-21
3.3.5 Cultural Resources 3-47
3.3.6 Energy..... 3-51
3.3.7 Geology and Soils 3-53
3.3.8 Greenhouse Gas Emissions..... 3-59
3.3.9 Hazards and Hazardous Materials..... 3-62
3.3.10 Hydrology and Water Quality..... 3-69
3.3.11 Land Use and Planning..... 3-79
3.3.12 Mineral Resources..... 3-85
3.3.13 Noise..... 3-86
3.3.14 Population and Housing..... 3-93
3.3.15 Public Services..... 3-94
3.3.16 Recreation 3-96
3.3.17 Transportation 3-97
3.3.18 Tribal Cultural Resources 3-101
3.3.19 Utilities and Service Systems..... 3-104
3.3.20 Wildfire..... 3-107
3.3.21 Mandatory Findings of Significance 3-113
Chapter 4 Community Outreach and Consultation and Coordination with Public Agencies 4-1
4.1 Community Outreach 4-1
4.2 Consultation and Coordination with Public Agencies..... 4-1
Chapter 5 List of Preparers and Reviewers..... 5-1
Chapter 6 Circulation List..... 6-1
6.1 Agencies 6-1
6.2 Elected Officials..... 6-1

List of Tables

Table 2-1. Opening Year 2026 Peak Hour Operation Analysis..... 2-23
Table 2-2. Design Year 2046 Peak Hour Operation Analysis..... 2-24
Table 2-3. Build Alternative 1: Permits, Licenses, Agreements, Certifications, and Approvals Required..... 2-27
Table 2-4. Build Alternative 2: Permits, Licenses, Agreements, Certifications, and Approvals Required..... 2-27
Table 3-1. Right of Way Acquisition by Build Alternative..... 3-15
Table 3-2. Build Alternative 2: Proposed Farmland Conversion as a Percent of Total Available Countywide Land 3-16

Table 3-3. Summary of Construction-related GHG Emissions by Build Alternative.....3-60
Table 4-1. Agency Coodination Meetings and Contacts.....4-2
Table 5-1. List of Preparers and Reviewers 5-1

List of Figures

Figure 1-1. Project Location.....1-3
Figure 1-2. Existing Conditions.....1-5
Figure 2-1. Project Components - Build Alternative 1 Signalization Layout.....2-3
Figure 2-2. Build Alternative 1 - Bridge Widening 2-5
Figure 2-3. Project Components - Build Alternative 2 Roundabout Layout 2-11
Figure 3-1. Farmlands 3-13
Figure 3-2. Biological Study Area 3-23
Figure 3-3. National Wetland Inventory Map 3-33
Figure 3-4. FEMA Flood Zones.....3-73
Figure 3-5. Sonoma County General Plan Land Use Designations 3-81
Figure 3-6. Sensitive Receptors 3-89
Figure 3-7. Fire Hazard Severity Zones 3-109

List of Appendices

Appendix A Summary of Project Features, and Avoidance and Minimization Measures
Appendix B List of Technical Studies and References
Appendix C Caltrans Title VI Policy Statement
Appendix D Responses to Comments

List of Abbreviated Terms

Abbreviation	Definition
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AMM	Avoidance and Minimization Measure
APC	alternative pipe culvert
APE	area of potential effects
APN	assessor's parcel number
BSA	Biological Study Area
BMP	best management practice
CalFire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	methane
CMP	corrugated metal pipe
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COZEEP	Construction Zone Enhanced Enforcement Program
CRLF	California red-legged frog
CSP	corrugated steel pipe
CWA	Clean Water Act

Abbreviation	Definition
DA	Diverse Agriculture
dBA	A-weighted decibels
DNAC	District Native American Coordinator
DSA	Disturbed Soil Area
ESA	environmentally sensitive area
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gases
GWP	global warming potential
HCP	Habitat Conservation Plan
HPSR	Historic Property Survey Report
IPaC	Information for Planning and Consultation Database
LED	light-emitting diodes
LVFD	Lakeville Volunteer Fire Department
L_{max}	maximum hourly noise level
LOS	Level of Service
LRA	Local Responsibility Area
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
mph	miles per hour
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NES	Natural Environment Study

Abbreviation	Definition
NIS	new impervious surface
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSSP	Nonstandard Special Provisions
OCRS	Office of Cultural Resources Studies
PDT	Project Development Team
PF	Project Feature
PG&E	Pacific Gas and Electric Company
PM	post mile
PM_{10}	particulate matter with aerodynamic diameter equal to or less than 10 micrometers
$PM_{2.5}$	particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers
PPV	peak particle velocity
PQS	Professionally Qualified Staff
PTE&C	Permit to Enter and Construct
RCEM	Road Construction Emissions Model
ROW	right of way
SCTA	Sonoma County Transportation Authority
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SHOPP	State Highway Operation and Protection Program
SLF	Sacred Lands File
SR	State Route
SRA	State Responsibility Areas
SSC	Species of Special Concern

Abbreviation	Definition
STAA	Surface Transportation Assistance Act
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TCDS	temporary creek diversion system
THPO	Tribal Historic Preservation Officer
TMP	Traffic Management Plan
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
WEF	wildlife exclusion fencing
WPCP	Water Pollution Control Program
WPT	western pond turtle
XPI	Extended Phase I Report

Chapter 1 Introduction

1.1 Introduction

The California Department of Transportation (Caltrans), as the California Environmental Quality Act (CEQA) lead agency and sponsor for the State Route (SR) 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project (Project), has prepared this Initial Study with Negative Declaration (IS/ND) for the Project.

The Project would occur along SR 116 at the intersection of Stage Gulch Road and Lakeville Highway at post mile (PM) 39.3 in Sonoma County (Figure 1-1). Caltrans proposes two Build Alternatives: Build Alternative 1 would install traffic signals or Build Alternative 2 would construct a roundabout. After consideration of the whole record, including input from the community during public meetings and through comments received by Caltrans, the Project Development Team (PDT) identified Alternative 2 as the preferred alternative. An explanation supporting the selection of the preferred alternative has been included in Section 2.6, Selection of the Preferred Alternative.

The Project would be funded by the State Highway Operation and Protection Program (SHOPP) under program code 201.010 (Safety Improvements) for the 2023/2024 program year. The SHOPP is California's "fix-it-first" program, which funds the repair and preservation of the State Highway System, safety improvements, and some highway operational improvements. It has been determined that the Project would be eligible for Federal-aid funding. The Project total cost estimate, including capital and support costs, is approximately $15,500,000.

1.2 Purpose and Need

The purpose of the Project is to improve safety on SR 116 at the intersection of Stage Gulch Road and Lakeville Highway, in Sonoma County, at PM 39.3.

The Project is needed to reduce the number and severity of broadside collisions involving northbound through vehicles on Lakeville Highway with left turning vehicles going eastbound on SR 116. There were 15 accidents in the 5-year period from January 1, 2011, to December 31, 2015. From July 1, 2018 through June 30, 2021, there were an additional 15 accidents reported at the Project intersection, of which 5 resulted in injury. With this tally of accidents and the 2016 traffic volume counts, safety improvements to this intersection are warranted.

1.3 Existing Conditions

The SR 116 corridor in Sonoma County, including the portion within the Project limits, is a two-lane, rural conventional highway that provides the only link to several rural inland communities. It is also a tourist and recreational travel route, providing access to wine country destinations, parks and scenic areas. Average daily traffic SR 116 within the Project limits was 27,100 in 2017, with an estimated 7.2 percent truck traffic.

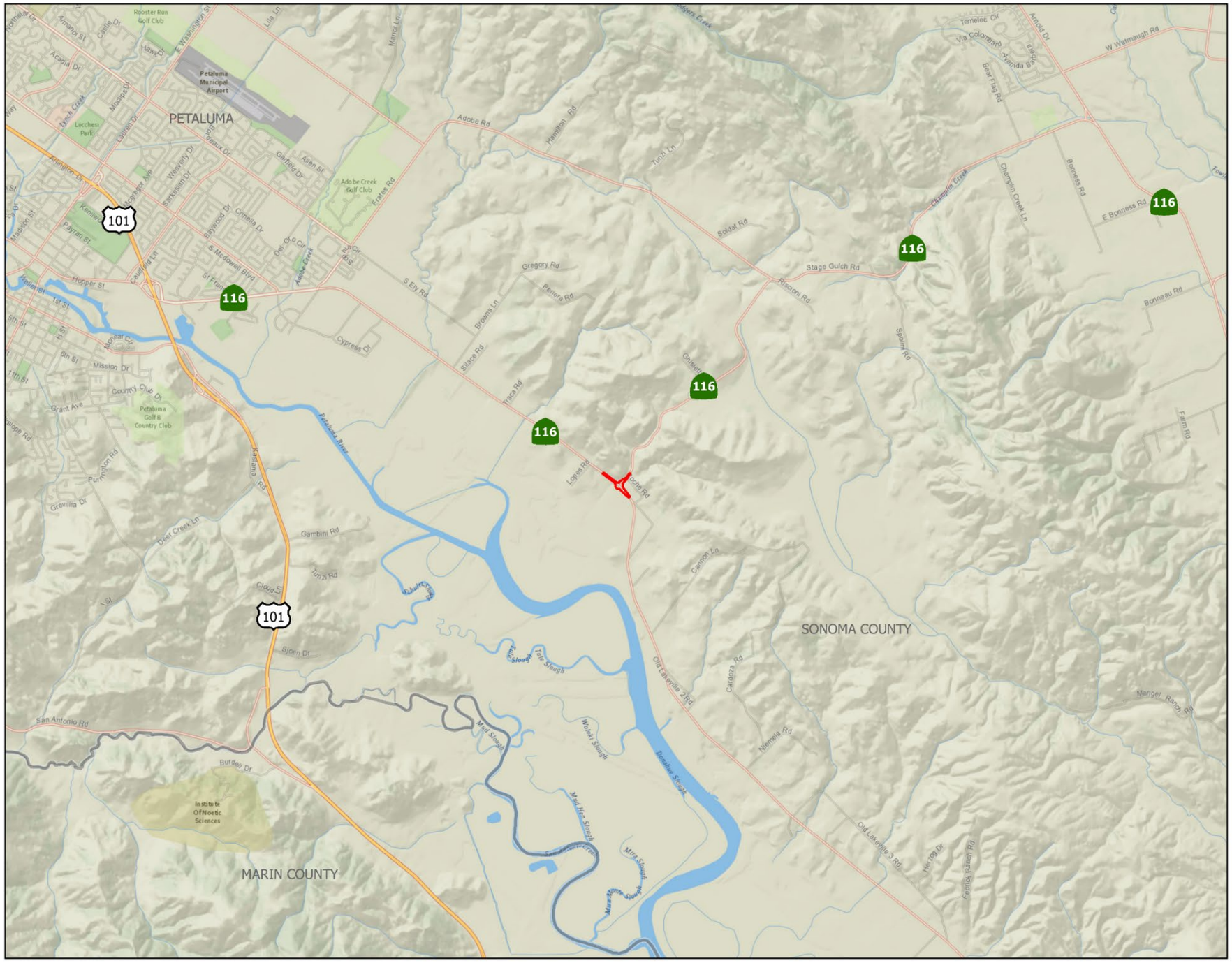
Located southeast of the City of Petaluma, the existing intersection is a three-leg intersection: the northwestern leg is the SR 116 approach from Petaluma, the southern leg is the Lakeville Highway approach linking travelers south to SR 37, and the eastern approach is the Stage Gulch Road/ SR 116 approach connecting east to Schellville and, SR 12 and SR 121 (Figure 1-1). SR 116 traverses southeastward from Petaluma, also named Lakeville Highway along this section, then turns east onto Stage Gulch Road at the T-intersection. Lakeville Highway continues to the south and connects to SR 37. The intersection is a stop-controlled intersection with one stop sign on the Stage Gulch Road/SR 116 approach (Figure 1-2). There is an existing left turn lane for continuous eastbound travel on SR 116. SR 116 crosses Stage Gulch Creek (Bridge Number 20-0142) approximately 120 feet northwest of the intersection. North of the bridge, there is an approximately 230-foot-long retaining wall (Figure 1-2).

The existing two-lane conventional highway at the intersection has 11-foot-wide travel lanes, and shoulder width varying from 0 to 5 feet wide. The lane width and the shoulder widths are existing nonstandard design features.

The Project is bordered by agricultural, open space, and rural residential land uses. Ernie's Tin Bar, a local restaurant/bar that has been operating at this intersection for generations, is located at the northeast corner.

1.3.1 Existing Guardrail

Stage Gulch Creek Bridge has Type ~~9~~ modified bridge barrier railing.



Legend

- Project Limits
- County Boundary

N

0 0.5 1
Miles

Caltrans

FIGURE 1-1
Project Location

State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

Path: D:\AWE\21-002-009 SR116 2Q770\aprx\21-002-009 SR116\21-002-009 SR116.aprx

Legend

- Retaining Wall
- Guardrail
- Existing Right Of Way
- Drainage Ditch
- Stop Sign
- Utility Pole
- Utility Pole with Street Light
- Landmark Building
- Stage Gulch Creek Bridge
- Culvert
- Inlet
- Stage Gulch Creek

0 100 200
Feet

FIGURE 1-2
Existing Conditions
State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

1.3.2 Existing Drainage Facilities

Runoff sheet flows off the highway in most areas except the north side of the intersection, adjacent to Ernie's Tin Bar, and along the existing retaining wall. Near the bar, runoff is captured by a drainage inlet at the low point and transported via an 18-inch plastic alternative pipe culvert (APC) under the shoulder and along westbound SR 116 to Stage Gulch Creek. On the northwest leg of the intersection, the existing 230-foot-long retaining wall includes a back-of-wall drainage system that discharges via a 6-inch corrugated metal pipe (CMP) culvert to Stage Gulch Creek.

There are cross-draining culverts and ditches in and around the Project (Figure 1-2). Northwest of the intersection, there is an existing 24-inch corrugated steel pipe (CSP) culvert with a metal plate covering the inlet that conveys runoff under SR 116 from the east to west. A ditch is located along the eastbound side of SR 116/Stage Gulch Road and wraps around the inside corner of the intersection, continuing to the southeast along northbound Lakeville Highway. There is also an existing 36-inch corrugated metal pipe (CMP) culvert that conveys water in an unnamed tributary to Stage Gulch Creek under SR 116/Stage Gulch Road (from south to north) east of Roche Road.

1.3.3 Existing Structures

SR 116 crosses Stage Gulch Creek, an intermittent stream, on an existing bridge approximately 120 feet northwest of the intersection (Figure 1-2). The bridge was originally constructed in 1920 with modifications in 1972 (Caltrans 2018). It is a concrete slab bridge with concrete abutments, approximately 15 feet long and 48 feet wide with an existing Type 9 barrier railing. Type 9 barrier rail consists of a single 2-by-6-inch steel rectangular tube rail attached to welded steel posts mounted on a 15-inch-high concrete parapet for an overall barrier height of 27 inches (Nordlin, E.F., et al., 1970). A five-foot-tall concrete weir is located directly under the bridge.

On the northwest leg of the intersection an existing retaining wall is located on the westbound side of the highway (Figure 1-2).

1.3.4 Existing Utilities and Signage

Two stop signs are placed on the westbound SR 116/Stage Gulch Road at the intersection. One for the right turn lane, the other one for the approach lane to the intersection. Overhead utility lines atop wooden poles run along the eastbound side of SR 116, the southbound side of Lakeville Highway, and the eastbound side of SR 116/Stage Gulch Road with drops to the nearby residences and restaurant/bar.

Two light standards for intersection lighting on wooden poles are within the Project footprint (Figure 1-2).

1.3.5 Existing Trees and Vegetation

There are rows of large eucalyptus trees on the northeast side of Lakeville Highway southeast of the intersection and on the north side of SR 116/Stage Gulch Road northeast of the intersection. There are native riparian trees in Stage Gulch Creek just northwest of the intersection. Additional information about existing vegetation communities is provided in Section 3.3.4, Biological Resources.

Chapter 2 Project Description

This chapter describes the proposed action and the Project alternatives developed to meet the identified purpose and need of the Project, while avoiding or minimizing environmental impacts. The three alternatives evaluated include:

- Build Alternative 1: Signalized Intersection
- Build Alternative 2: Roundabout
- No Build Alternative

The two Build Alternatives described below were identified because they achieve the goal of intersection safety improvements while minimizing Caltrans right of way (ROW) needs and environmental impacts. Both Build Alternatives maintain the current level of service. This document analyzes potential environmental impacts of Build Alternative 1 and Build Alternative 2, as described below. Alternative 2 was identified as the preferred alternative; for additional detail on how the preferred alternative was identified, see Section 2.6.

The Build Alternatives have incorporated Project Features (PFs), which include design elements and standardized measures that are applied to all or most Caltrans projects, including Best Management Practices (BMPs), Caltrans Standard Specifications, and Standard Special Provisions. The PFs are considered an integral part of the Project and have been considered prior to any significance determinations for CEQA. The PFs are compiled in Appendix A.

2.1 Build Alternative 1 – Signalized Intersection

The signalization alternative, herein 'Build Alternative 1,' proposes to improve safety at the SR 116 - Stage Gulch Road/Lakeville Highway intersection by adding traffic signals on the three legs of the intersection (Figure 2-1). The traffic signal components would include signal and lighting standards, flashing beacons, and controller cabinets.

To add signals and maintain highway standards, the SR 116 – Stage Gulch Road/ Lakeville Highway intersection would be realigned and widened (Figure 2-1). The Lakeville Highway northbound approach would be widened to provide a 200 foot-long right-turn lane for vehicles turning east onto SR 116/Stage Gulch Road. The SR 116 eastbound approach would be widened to allow for the extension of the existing left-turn pocket for an additional 50 feet (to provide a 150-foot-long pocket).

The SR 116/Stage Gulch Road westbound approach would be reconfigured to provide a single lane for vehicles making either left or right turns.

Stage Gulch Creek Bridge would be widened by 3 to 5 feet in both directions. The widening would accommodate standard shoulder widths and the additional 50-foot queue length for the SR 116 left-turn lane. The existing bridge rails would be replaced and upgraded to concrete barrier type 836, and approximately 230 feet of retaining wall type 1A would be reconstructed to align with the new bridge railings.

2.1.1 Pedestrian and Bicycle Facilities

Build Alternative 1 incorporates road widening and shoulder widths that allow for bicycle lanes on all approaches (Figure 2-1). The intersection signalization would create a potential conflict between vehicles and bicycles for through-bicyclists on Lakeville Highway approaching the intersection from the south and continuing onto SR 116 westbound; this would be partially addressed by green conflict zone markings across the intersection. Build Alternative 1 would increase bicyclist safety as shoulder widening would provide bicyclists with more areas for safe passage by motor vehicles.

2.1.2 Structures: Bridge Widening and Retaining Wall Reconstruction

For Build Alternative 1, road widening would require that the existing Stage Gulch Creek bridge deck and abutments are widened (Figure 2-2). The existing Type 9 bridge barrier would be removed and replaced with a Type 836 bridge barrier. The Type 836 barrier is a concrete slope barrier with a total height of 36 inches.

The existing retaining wall, approximately 230 feet in length, on the north side of the SR 116 westbound lane would be removed and reconstructed (Figure 2-1). The new retaining wall would be a Type A new concrete barrier wall on a new barrier slab and is anticipated to be set back into the hillside an additional 5 feet.

2.1.3 Drainage Systems

New drainage systems in the vicinity of the retaining wall would be constructed to accommodate runoff increases from the new construction and the new impervious area, which is estimated to be 0.48 acre for Build Alternative 1. For Build Alternative 1, two culverts would be replaced, a ditch would be reconstructed, and existing drainage systems would be modified and reconstructed.

Path: D:\AWE\21-002-009 SR116 2Q770\epix\21-002-009 SR116\21-002-009 SR116.aprx

Legend

- Project Footprint - Alternative 1
- Cut/Fill Limits
- Proposed Lane
- Replace Culvert
- Stage Gulch Creek Bridge (Widening and Railing Upgrade)
- Proposed Edge of Pavement
- Proposed Drainage System/ Reconstruct Ditch
- Remove Existing Guardrail
- Reconstruct Fence
- Remove/Reconstruct Retaining Wall
- Flashing Beacon
- Street Light (Location Approximate)
- Street Light (existing)

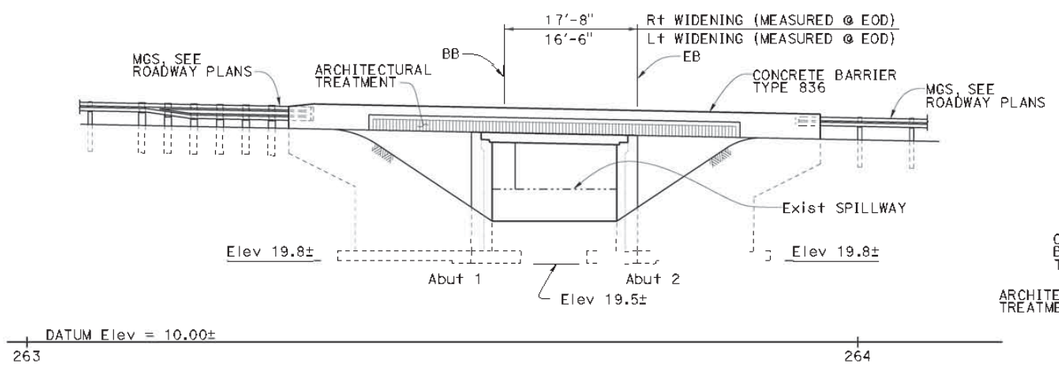
0 100 200
Feet

Caltrans

FIGURE 2-1
Project Components - Alternative 1
Signalization Layout
State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

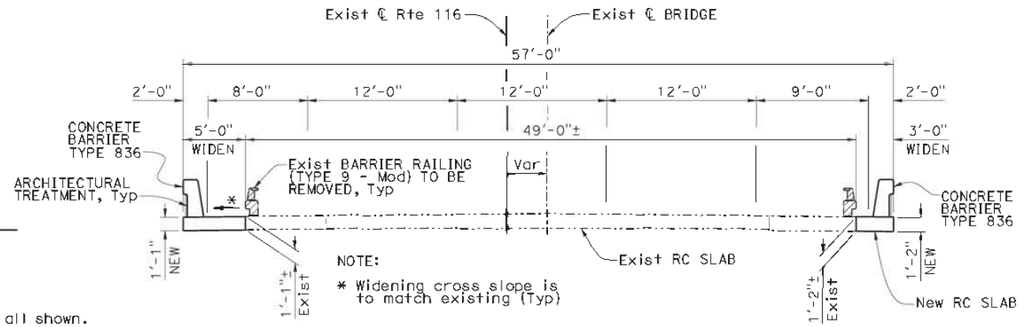
Dist	COUNTY	ROUTE	POST MILE
04	Son	116	39.28



ELEVATION
1/8" = 1'-0"

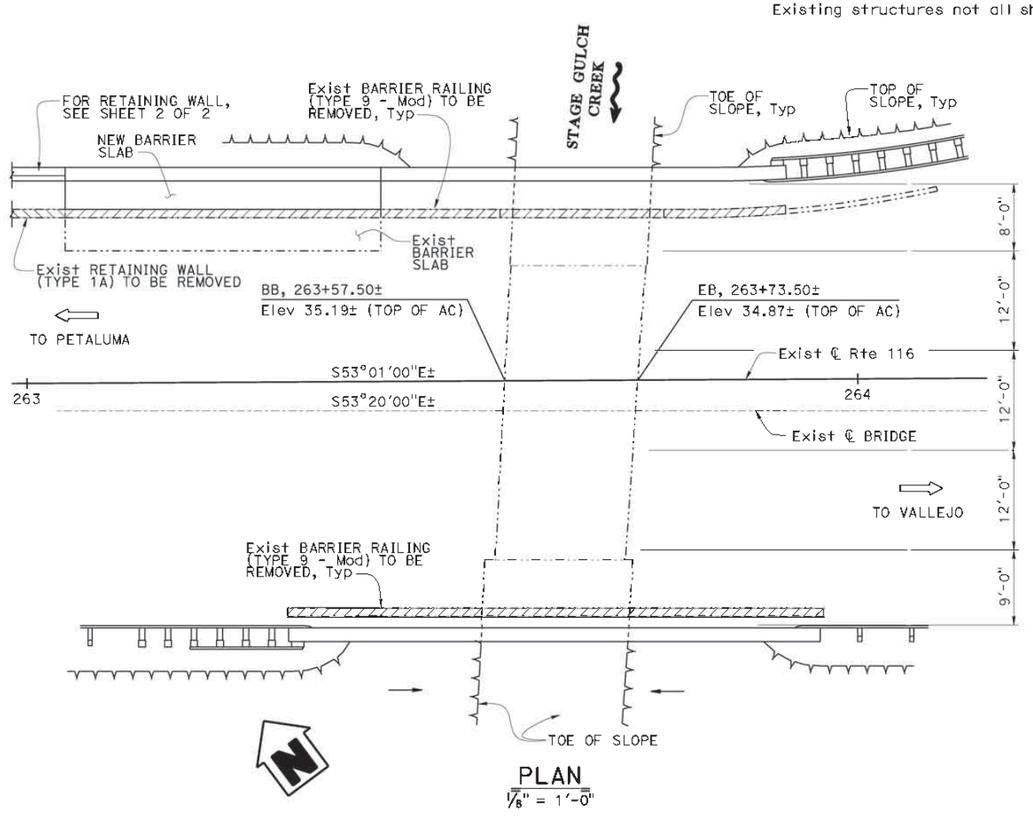
NOTE:
Existing structures not all shown.

LEGEND:
- Existing Structure
- Limits of Barrier Railing Removal
- Limits of Retaining Wall Removal



NOTE:
* Widening cross slope is to match existing (Typ)

TYPICAL SECTION
3/16" = 1'-0"



PLAN
1/8" = 1'-0"

NOTES:
1. Existing Bridge ℄ is approximate.
2. Bridge Channel skew is approximate.
3. New (widen) abutments is to match the existing.
4. New (widen) wingwalls to the left/right of the bridge is to match the existing and parallel to the road.
5. New (widen) foundation is to match the existing.
6. Top and Toe of slope is approx.

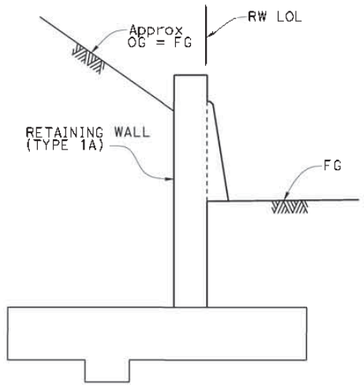
Figure 2-2 Build Alternative 1 Signalization - Bridge Widening SHEET 1 OF 2

DESIGNED BY: Daniel Ambriz	DATE: 08/12/22	BRIDGE DESIGN BRANCH 8	PLANNING STUDY
DRAWN BY: Carlo Cancino	DATE: 08/12/22		STAGE GULCH CREEK (WIDEN)
CHECKED BY: X	DATE: X		UNIT: 3593 / BRIDGE No.: 20-0142
APPROVED: X	DATE: X		PROJECT EA: 04-2Q770 / PROJECT No. & PHASE: 0419000470

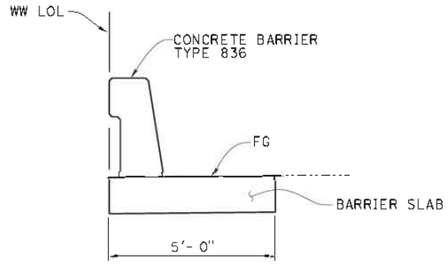
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021) — DATE PLOTTED -> 12 AUG 2022 — TIME PLOTTED -> 11:53 — FILE -> 20 0142 aps.dgn — USERNAME -> s134003

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
04	Son	116	39.28



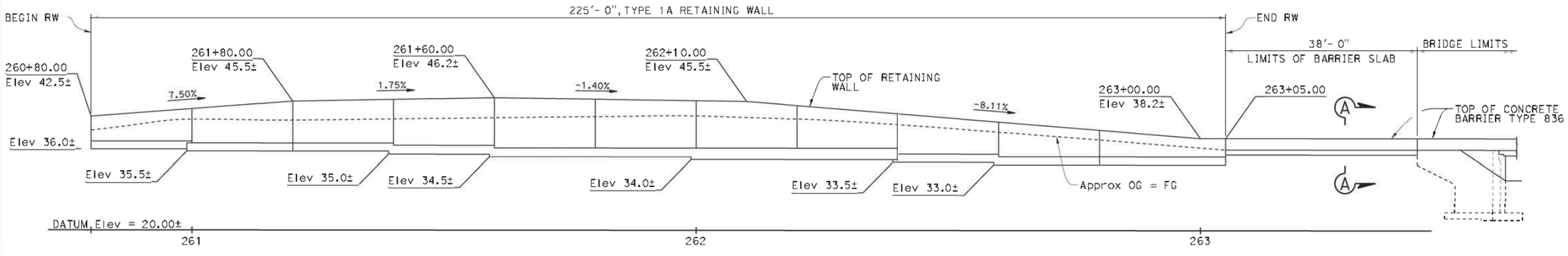
TYPICAL SECTION (RETAINING WALL)
½" = 1'-0"



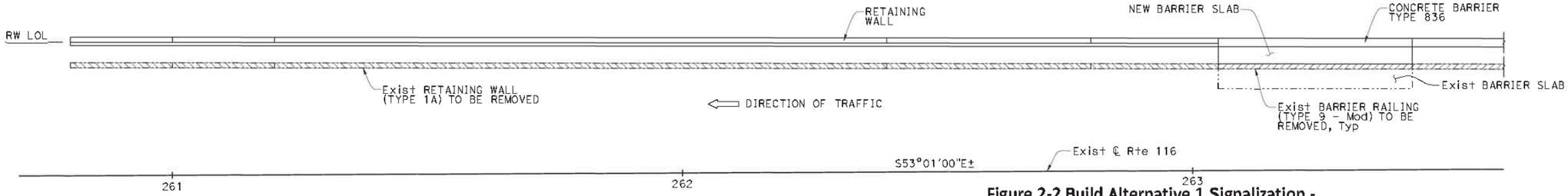
SECTION A-A
½" = 1'-0"

LEGEND:
- Existing Structure
- Limits of Barrier Railing Removal
- Limits of Retaining Wall Removal

NOTES:
1. New retaining wall to match the existing.
2. Alignment is only assumption.



ELEVATION
1" = 10'



PLAN
1" = 10'

Figure 2-2 Build Alternative 1 Signalization - Retaining Wall

SHEET 2 OF 2

DESIGNED BY: Daniel Ambriz	DATE: 08/12/22	BRIDGE DESIGN BRANCH 8	PLANNING STUDY
DRAWN BY: Carlo Cancino	DATE: 08/12/22		STAGE GULCH CREEK (WIDEN)
CHECKED BY: X	DATE: X		UNIT: 3593 / BRIDGE No.: 20-0142
APPROVED: X	DATE: X		PROJECT EA: 04-2Q770 / PROJECT No. & PHASE: 0419000470

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021)
DATE PLOTTED -> 12 AUG 2022 TIME PLOTTED -> 11:53
FILE -> 20 0142 aps.dgn USERNAME -> s134003

Build Alternative 1 would install drainage inlets and pipes along the north side of the intersection, adjacent to Ernie's Tin Bar. The 18-inch APC parallel to westbound SR 116 near Ernie's Tin Bar would be removed and replaced as part of the new drainage system. The reconstructed retaining wall would, like the existing retaining wall, require a drainage system to intercept highway runoff in front of the wall and stormwater collected behind the wall via a back-of-wall gutter system.

An existing 24-inch culvert and drainage inlet crossing SR 116 northwest of the retaining wall is within the limits of the widening and would be replaced in kind since no significant increase in runoff volume is anticipated at this location. The 18-inch culvert parallel to eastbound SR 116 near Ernie's Tin Bar would be removed and replaced as part of the new drainage system.

Widening along eastbound Stage Gulch Road/ SR 116 and northbound Lakeville Highway would affect the unlined ditch that wraps around the intersection at this location. The ditch would be reconstructed after widening with the capacity maintained. No significant increase in runoff volume is anticipated at this location.

Storm water retention features (i.e., bio swales, biostrips) would be employed to the extent feasible (see section 3.3.10), with specifications determined during the Project Design Phase.

2.1.4 Electrical

Build Alternative 1 proposes a three-legged, fully actuated signals, including three signal mast arms with trenching, three advance warning flashing beacons, controllers, controller cabinets, service equipment enclosures, and lighting. The lighting for intersection safety would be provided by five new overhead streetlights with light-emitting diodes (LED) bulbs and one preexisting LED streetlight (Figure 2-1). Measures to minimize light pollution and related effects on nocturnal wildlife species include retrofitting lights with shields to minimize light spill outside the traveled way and use of lights with lower correlated color temperatures. These measures are further discussed in sections 3.3.1 Aesthetics and 3.3.4 Biological Resources.

2.1.5 Signage

For Build Alternative 1, proposed signing includes removing all existing signs, upgrading all signs to current California Manual on Uniform Traffic Control Devices standards, replacing new roadside-mounted signs to assist in navigation, and installing pedestrian and bike lane signs as necessary to assist in providing safe

navigation on bike lanes. Type XI Retroreflective & Florescent yellow green would be used for all pedestrian warning signs. Steel posts are recommended as needed.

2.1.6 Ground Disturbance, Planting and Irrigation

Build Alternative 1 would disturb approximately 1.45 acres of soil to achieve planned widening and realignment. Cut and fill earthwork associated with Project improvements would be balanced onsite to the extent possible. Preliminary grading estimates indicate that Build Alternative 1 would not require imported borrow materials and may require hauling and disposal of approximately 900 cubic yards of material during construction. The final cut and fill numbers would be defined during the Project design phase. Ground disturbance would include grubbing, grading, and excavation.

Depths of disturbance for grubbing would range from 0 to 4 inches; where tree root removal is required, depth would range from 1 to 3 feet. Installation of conduit would require excavation of 18 to 30 inches. Lighting standards and flashing beacon foundations would require depths ranging from 6 to 8.5 feet. Signalization pole installation would require deeper excavation, with depth of approximately 14 feet. The removal and reconstruction of the retaining wall would require excavation to a depth of approximately 5 feet, and drainage improvements and utility relocations would require excavation to a depth of 3 to 6 feet.

To accommodate the right turn lane on the Lakeville Highway northbound approach, 18 mature eucalyptus trees may need to be removed within the existing ROW. In this area, the existing trees are close to traffic lanes and do not meet current setback requirements. If trees are removed, the area between the edge of the pavement and the ROW line would not be sufficient to allow the trees to be replaced, so replanting is not anticipated. The areas where tree removals occur would be treated for erosion control post construction.

Native and non-native trees at Stage Gulch Creek immediately northwest of the intersection could be impacted by bridge widening; pruning is anticipated but tree removal in the riparian zone is not anticipated. Additionally, there are mature trees on the slope affected by retaining wall reconstruction. At this location, proposed excavation to widen the highway an additional 5 feet would have the potential to damage trees or tree roots and therefore necessitate their removal. Based on initial plans, up to 6 trees would be removed for the new retaining wall. The extent of this

grading work has not yet been defined; final tree impacts would be determined during the Project design phase.

2.1.7 Erosion Control

In addition to temporary construction site measures designed to limit erosion and stormwater pollution, permanent erosion control measures would be implemented to allow disturbed areas to be stabilized as a means of source control. All State and federal waters and wetlands would be protected from sediment and pollutant discharges in accordance with applicable laws, permits, and Caltrans requirements. Construction spoils and debris would be environmentally cleared for handling and disposal or would be hauled to a permitted disposal site. An array of measures is expected to be employed to achieve permanent erosion control. These include, but are not limited to, rolled erosion control product (netting), fiber rolls, compost socks, hydroseed, hydromulch, compost, the incorporation of materials, and decompaction. These measures would be implemented before the completion of construction at the locations where the soil surface is disturbed, including staging areas. To treat runoff from stormwater collection systems, permanent stormwater treatment may include, but is not limited to, biostrips or bioswales. Detailed erosion control plans and permanent stormwater treatment would be developed during the Project design phase.

2.1.8 Utilities

Overhead utility lines (Pacific Gas and Electric Company [PG&E], Verizon, AT&T, and cable) on wooden poles run along eastbound SR 116, eastbound SR 116/Stage Gulch Road, and southbound Lakeville Highway. Two light standards on wooden poles are proximate to the Project footprint. These overhead utilities would be relocated under both Build Alternative 1.

Utility verification (i.e., potholing) would occur during the Project design phase to confirm the need for utility relocations. Further utilities with facilities located within Project limits that may potentially be affected by the Project include water and sewer. As needed, utility relocations would occur prior to the beginning of construction and in consultation with utility owners. Section 3.3.19 provides more detail on utilities and service systems.

2.1.9 Right of Way

Build Alternative 1 would require permits to enter and construct (PTE&Cs), temporary construction easements (TCEs), and permanent slope easements from Sonoma County. Lakeville Highway (south leg of the intersection) is a Sonoma

County road. Build Alternative 1 would not include acquisition of private property, residences or businesses, or displacement of people.

2.2 Build Alternative 2 - Roundabout (Preferred Alternative)

The roundabout alternative, herein "Build Alternative 2," is a single-lane roundabout with continuous right-turn bypass lane located 15 feet southeast of the existing intersection, away from Stage Gulch Creek (Figure 2-3). This build alternative proposes to construct a roundabout with a 180-foot inscribed circle diameter and a design entry radius of 100 feet at each approach. The roundabout would have a continuous northbound right-turn bypass lane at the south leg of the intersection (northbound Lakeville Highway turning east onto SR 116/Stage Gulch Road eastbound). The bypass lane would be 200 feet in length and terminate 200 feet past the intersection. Eastbound SR 116/Stage Gulch Road would be widened for a minimum of 200 feet to accommodate the northbound right-turn bypass lane. There would be single-lane entries for the westbound (SR 116/Stage Gulch Road) and eastbound (SR 116) approaches.

Build Alternative 2 would include 8-foot-wide shared-use path sidewalks and curb ramps adjacent to the roundabout. Raised islands would separate pedestrians, bicyclists, and vehicular traffic in the roundabout.

The inscribed circle diameter of the roundabout would be 180 feet to maintain traffic flow and facilitate the movement of truck traffic in the opening year (2026) while preserving room for future improvements. SR 116 is part of the California Terminal Access Network; thus, the federal Surface Transportation Assistance Act (STAA) allows interstate STAA-designated trucks to travel on the route. This roundabout would be designed to accommodate STAA-designed vehicle 'WB67;' WB67 are commonly used, large, single-trailer (53-foot trailer) trucks on the highway and interstate systems.

Legend

- Project Footprint - Alternative 2
- Curb
- Landscape/Buffer Strip
- Shared Use Path
- Potential Staging Area/New Driveway Access
- ADA Ramp
- Cut/Fill Limits
- Proposed Lane
- Replace Culvert
- Proposed Edge of Pavement
- Proposed Drainage System/ Reconstruct Ditch
- Remove/Replace Existing Guardrail
- Reconstruct Fence
- Crosswalk
- Flashing Beacon
- Street Light (Location Approximate)
- Street Light (existing)

0 100 200
Feet

Caltrans

FIGURE 2-3
Project Components - Alternative 2
Roundabout Layout

State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

Path: D:\AM\E\21-002-009 SR116 2Q770\gpx\21-002-009 SR116\21-002-009 SR116.gpx

2.2.1 Pedestrian and Bicycle Lane Improvements

Build Alternative 2 includes 8-foot-wide shared-use path sidewalks and curb ramps adjacent to the roundabout (Figure 2-3). Raised islands would separate the bicyclists and pedestrians from the vehicular traffic in the roundabout. Shared-use path sidewalks would be constructed adjacent to the raised islands. The roundabout option would likely have fewer conflict points than the signalization option for most bicycle movements. This lower number of conflict points is in line with the new Federal Highway Administration (FHWA) *Improving Intersections for Pedestrians and Bicyclists: Informational Guide* (April 2022).

2.2.2 Structures

Build Alternative 2 would not require modification or removal of existing structures.

2.2.3 Drainage Systems

New drainage systems in the vicinity of the roundabout would be constructed to accommodate runoff increases from the new construction and the new impervious area, which is estimated to be 1.79 acres for Build Alternative 2. Two culverts/pipes would be replaced, one new drainage system would be installed, and an existing ditch would be moved and reconstructed (Figure 2-3).

Similar to Build Alternative 1, an existing 24-inch culvert and drainage inlet crossing SR 116 northwest of the retaining wall is within the Project limits and would be replaced in kind since no significant increase in runoff volume is anticipated at this location. The existing 18-inch culvert located by Ernie's Tin Bar would be replaced with Build Alternative 2.

The roundabout location and widening along eastbound SR 116/Stage Gulch Road and northbound Lakeville Highway would affect the unlined ditch that wraps around the intersection at this location. The ditch would be reconstructed after roundabout construction.

A new drainage system consisting of drainage inlets and pipes would be needed to intercept runoff in the roundabout and convey it off the road surface. Runoff would sheet-flow to the outside of the roundabout and flow along the curb face until it reaches a drainage inlet. The drainage systems on the northeastern side of the roundabout would eventually discharge into Stage Gulch Creek, near where the existing drainage system near Ernie's Tin Bar outlets. The drainage systems for the southwestern side of the roundabout would eventually discharge into the creek on the

southwest side of the bridge. The drainage system for the southeastern side of the roundabout would discharge into the reconstructed drainage ditch. The area between the roundabout and Ernie's Tin Bar may be used for stormwater treatment, such as a biostrip or bioswale, to treat stormwater before entering the creek. Design for stormwater treatment would be determined during the Project design phase.

2.2.4 Electrical

Build Alternative 2 proposes three advance warning flashing beacons and lighting at the roundabout. The lighting for intersection safety will be provided by fifteen new overhead streetlights with LED bulbs and one preexisting LED streetlight (Figure 2-3). Measures to minimize light pollution and related effects on nocturnal wildlife species include retrofitting lights with shields to minimize light spill outside the traveled way and use of lights with lower correlated color temperatures. These measures are further discussed in sections 3.3.1 Aesthetics and 3.3.4 Biological Resources.

2.2.5 Signage

Signage for Build Alternative 2 is similar to that described for Build Alternative 1. See Section 2.1.5.

2.2.6 Ground Disturbance, Planting and Irrigation

Build Alternative 2 would disturb approximately 1.79 acres of soil to achieve the planned roundabout and road realignment. Cut and fill earthwork associated with Project improvements would be balanced onsite to the extent possible. Preliminary grading estimates indicate that Build Alternative 2 would need approximately 1,500 cubic yards of imported borrow materials and require hauling and disposal of approximately 1,500 cubic yards of material during construction. The final cut and fill numbers will be defined during the Project design phase.

Ground disturbance would include grubbing, grading, and excavation. Depths of disturbance for grubbing would range from 0 to 4 inches; where tree root removal is required, depth would range from 1 to 3 feet. Depths of disturbance for grubbing and grading would not exceed several inches. Depth of disturbance for roundabout construction would be about 3 feet. Drainage improvements, installation of conduit and service equipment enclosures, utility relocations, and new lighting and advance warning beacons, would require excavation depths from 1.5 to 8.5 feet.

Similar to Build Alternative 1, the current design of Build Alternative 2 indicates that the planned footprint of the roundabout and shared use path extends within the

dripline of multiple trees. Approximately 18 mature eucalyptus trees would be removed along northbound Lakeville Highway. Most of the existing trees that would be removed from within the ROW under Build Alternative 2 are close to traffic lanes and do not meet current setback requirements. The area between the edge of the pavement and the proposed new ROW line may not be sufficient to allow the trees to be replaced, while maintaining line of sight for roundabout users. Hence, replanting is not anticipated. The areas where tree removals occur would be treated for erosion control.

2.2.7 Erosion Control

Erosion control for Build Alternative 2 would be the same as described for Build Alternative 1. See Section 2.1.7

2.2.8 Utilities

Utility relocation for Build Alternative 2 would be similar to that described for Build Alternative 1. See Section 2.1.8.

2.2.9 Right of Way

Build Alternative 2 would require ROW acquisitions, PTE&Cs, TCEs, and permanent slope easements from Sonoma County and private landowners. Build Alternative 2 would require ROW acquisitions from private owners, including a full parcel acquisition for a nonresidential lot, and deed transfers from Sonoma County. Figure 2-3 shows the proposed new ROW limits. Build Alternative 2 would not include acquisition of residences, businesses, or displacement of people.

2.2.10 Parking and Property Access

Build Alternative 2 would require relocating access to Ernie's Tin Bar. Under existing conditions, ingress/egress is possible along the entire frontage with Stage Gulch Road. No square footage would be lost from the bar parking lot, but access would be restricted to a single point of entry from Stage Gulch Road, east of the bar, as shown on Figure 2-3, which would change maneuverability for vehicles within the parking area. The new access point and associated driveway shown on Figure 2-3 would be designed to accommodate delivery trucks and emergency vehicles. Caltrans will continue to communicate with the bar owner throughout the design phase.

During the final design phase, Caltrans will evaluate options for access to the bar, including adding separate entrance only and exit only driveways from Stage Gulch, and modifying the median with a left-turn pocket, which would allow drivers travelling from the intersection eastbound on SR 116/Stage Gulch Road to make a

safe left turn. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards. Access changes for the automotive services bay on the west end of the Ernie's Tin Bar structure along SR 116 would also be evaluated during final design; options to preserve access to this business may include ending the proposed sidewalk at the crosswalk so customers could still access the service bay from westbound SR 116.

Build Alternative 2 would require relocating access to the privately-owned 110-acre agricultural field (Sonoma County assessor's parcel number [APN] 068-020-006) located on the west side of Lakeville Highway, southwest of the Project intersection. Currently, equipment enters this hay field through an unimproved lot and gate directly across the intersection from Stage Gulch Road. The roundabout would block this access point. During the final design phase, Caltrans will evaluate options to preserve access to this parcel, which may include adding a new access point from Lakeville Highway, south of the roundabout.

The roundabout design would also affect access to a small (0.27-acre) parcel (APN 068-030-002) located immediately west of the existing intersection. This parcel, which is across SR 116 from the bar, is owned by the bar owner. As noted in Section 2.2.9, the proposed roundabout design would require full acquisition of this parcel due to loss of access. However, during the design phase, Caltrans will evaluate options to reduce the acquisition acreage and provide access to the remaining parcel, such as modifying the sidewalk design and allowing vehicle access off southbound Lakeville Highway. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards.

Build Alternative 2 would not affect access to and from the Lakeville Volunteer Fire Department, which is located on Lopes Road. Lopes Road intersects with SR 116 approximately 290 feet northwest of the existing intersection (Figure 1-1). In response to requests from the fire department, Caltrans will evaluate options during the final design phase to improve safety and warning systems at SR 116/Lopes Road, such as modifying pavement marking to indicate "DO NOT BLOCK", and installation of "DO NOT BLOCK INTERSECTION" signs and/or flashing beacons.

2.3 Construction Methods

This section discusses the anticipated methodology for construction staging, schedule, and construction-related equipment. Exact staging and scheduling of construction activities would be determined by the contractor, within the environmental limitations

and permit requirement. Project plans and specifications tell the contractor the end product; however, the contractor determines the final construction means and methods. The following description includes reasonable assumptions made based on the professional judgement of Caltrans engineers and construction personnel.

2.3.1 Construction Schedule

The Project is anticipated to start construction in April 2025 and end construction in September 2026. Construction-related activities would be limited to daytime hours. However, there may be some work during night-time hours to avoid temporary highway closures for tasks that could interfere with traffic or create safety hazards. Examples of these tasks include striping operations, traffic control setup, installation of storm drain crossings, and pavement removal and replacement. Project construction would occur over approximately 5 months for Build Alternative 1 and approximately 7 months for Build Alternative 2.

2.3.2 Construction Sequence

Prior to the beginning of construction-related activities, construction area signs; environmentally sensitive area (ESA) fencing; and construction site, water pollution control, and erosion control BMPs would be installed. ESA fencing would delineate the limits of the work area and protect vegetation, trees, and biologically or archaeologically sensitive areas from construction-related activities.

For both Build Alternatives, staging areas and traffic control would be installed, and utilities would be located and moved. Each alternative has an approximate sequence of construction work, described below.

As construction of the Project concludes, all construction-related items would be removed. This includes removing the temporary erosion control, construction site, and water pollution control BMPs; ESA fencing; temporary barrier systems; temporary end treatments; and construction area signs.

BUILD ALTERNATIVE 1 SIGNALIZATION

Build Alternative 1 would be constructed in three stages.

Stage 1 would include:

- Utility relocation
- Tree removal
- Fence removal and installation of ESA fencing

- Bridge widening
- Retaining wall reconstruction
- Widening the eastbound SR 116 approach from the north
- Widening on both sides of the Lakeville Highway approach from the south
- Drainage system installation
- 24-inch culvert replacement
- Signalization groundwork and pole installation

Stage 2 would include:

- Highway widening on the south side of the eastern leg (eastbound SR 116/Stage Gulch Road)
- Electrical groundwork
- Ditch reconstruction
- Preexisting fence reinstallation

Stage 3 would include:

- Widening on the north side of the eastern leg (westbound SR 116/Stage Gulch Road)
- Electrical groundwork work
- Drainage system installation near Ernie's Bar
- ESA fence removal
- Final paving, lane striping, and clean up

BUILD ALTERNATIVE 2 ROUNDABOUT

Build Alternative 2 would be constructed in five stages.

Stage 1 would include:

- Utility relocation
- Tree removal
- Fence removal and installation of ESA fencing

- Widening (grading and paving) on the south side of the eastern leg (eastbound SR 116/Stage Gulch Road)
- Widening (grading and paving) on the eastern side of the southern leg (southbound Lakeville Highway)
- Electrical groundwork work
- Reconstruction of the existing ditch and fence

Stage 2 would include:

- Widening (grading and paving) on the western side of the intersection
- Widening (grading and paving) on the west side of the southern leg (southbound Lakeville Highway)
- Electrical groundwork work
- ESA fence removal
- Preexisting fence installation
- Construction of a portion of the roundabout (grading, paving, and curb/island construction)

Stage 3 would include:

- Widening the area between the SR 116 and SR 116/Stage Gulch Road
- Replacing the existing 18-inch drainage pipe
- Electrical groundwork work

Stage 4 would include:

- Completion of the roundabout (grading, paving, and curb/island construction)
- Construction of the approach medians
- Lighting groundwork, service equipment enclosure, and lighting standards installations

Stage 5 would include:

- Completion of the multi-use pathway and landscape buffers
- ESA fence removal
- Final paving, lane striping, and clean up

2.3.3 Traffic Control

Preliminary Traffic Management Plan (TMP) Data Sheet and Stage Construction and Traffic Handling Plans have been developed for both Build Alternative 1 and Build Alternative 2 (Caltrans 2022a; Caltrans 2022b). For both Build Alternatives, staged construction and shoulder closures are expected during construction. One-way controlled traffic is not anticipated as an ongoing feature of the construction traffic control plans, but may be required for specific events (e.g., staging and set up of barrier system).

BUILD ALTERNATIVE 1 SIGNALIZATION

This Build Alternative would involve shoulder closures during highway widening, bridge widening, retaining wall reconstruction, and signal installation. The shoulder closures would be delineated with a temporary barrier system (e.g., K rails) including crash cushions. The barrier would be placed to allow 11 to 12-foot widths for the temporary traveled way; including existing shoulders. Portable message signs, ground mounted signs, temporary traffic stripes, and portable delineators would be used. In addition, a Construction Zone Enhanced Enforcement Program (COZEEP) area would be established. For all construction stages (1 through 3), traffic control would remain as existing, with stop signs controlling the traffic approaching the intersection from SR 116/Stage Gulch Road.

BUILD ALTERNATIVE 2 ROUNDABOUT

This alternative would involve shoulder closures and lane routing during highway widening, culvert replacement, ditch reconstruction, roundabout construction, and drainage system installation. The closures and routing would be delineated with temporary barrier systems (e.g., K rails) including crash cushions at high-risk locations. The barriers would be placed to allow 11 to 12-foot widths for the temporary traveled way; the existing highway shoulders and widened road segments would be used for travel. Portable message signs, ground mounted signs, temporary traffic stripes, and portable delineators would be used. In addition, a COZEEP area would be established. For construction stages 1 through 3, traffic control would include stop signs at all intersection approaches. For construction stages 4 and 5, all

stop signs would be removed and traffic would be controlled with reduced speeds and temporary roundabout lanes.

2.3.4 Staging Areas

Staging areas for the overnight storage of construction equipment and materials would be limited to areas within the Caltrans ROW, such as the shoulders along the eastern approach to the intersection. Additional storage may be necessary. Construction staging areas shall have no impacts on native vegetation, and residents and motorists would be shielded from its impacts to the maximum extent possible.

2.3.5 Construction Equipment

Construction equipment may include, but is not limited to, backhoes, concrete trucks, dozers, haul trucks, excavators, flatbed trucks, graders, soil compactors, scrapers, pavers, and rollers. The contractor may select alternate equipment based on site-specific considerations.

2.4 Project Features

The proposed Project contains a number of standardized Project components which are employed on most, if not all, of Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed Project. These components are referenced as PFs in Chapter 3 as they pertain to different environmental resources and are separate from Avoidance and Minimization Measures (AMMs), which directly relate to impacts potentially resulting from the proposed Project.

2.5 No-Build Alternative

The No-Build Alternative would mean that the Project would not be constructed, and there would be no improvements to the intersection within the Project limits. As such, there would be no safety improvements for motorists. This alternative does not meet the purpose and need for the Project.

2.6 Selection of the Preferred Alternative

The PDT identified Build Alternative 2, the roundabout, as the preferred alternative based on its ability to meet the Project purpose and need; input from the public meetings; comments received during the comment period; and comparison of environmental impacts, feasibility, and cost of the alternatives.

The Caltrans team found that the roundabout would best accomplish the goals of the project to improve intersection safety because there would be fewer conflict points compared to Build Alternative 1, signalization. Specifically, roundabouts offer fewer high-angle conflict points, which results in less severe crashes when compared to signal-controlled intersections. Over half of vehicle-to-vehicle conflict points associated with signal-controlled intersections are eliminated with the use of a roundabout. Additionally, a roundabout separates the conflict points into discrete moments, which improves the ability of the driver, pedestrian, or bicyclist to identify a conflict and helps prevent conflicts from becoming crashes.

Roundabouts are designed to reduce vehicular speeds at intersections. Lower speeds lessen the vehicular crash severity. Likewise, studies indicate that when motorized vehicles are traveling at slower speeds, crash severity with pedestrians and bicyclists is also significantly reduced (Caltrans 2017c; 2022h).

With respect to traffic operations, Build Alternative 2, Roundabout, is projected to improve Level of Service, reduce delays, and shorten queues compared to the No-Build Alternative and Build Alternative 1, Signalization, for the opening and design year, while preserving room for future improvements. Caltrans completed a Traffic Operation Analysis (Caltrans 2022i) at the intersection, and overall, the analysis indicates that Build Alternative 2 would have less delay than Build Alternative 1, with the northbound right-turn bypass lane helping to improve the capacity of the northbound through movement. Tables 2-1 and 2-2 compare the operational performance measures for each alternative during the opening year (2026) and design year (2046), respectively. Level of Service (LOS) is a qualitative measure of the quality of motor vehicle traffic service on a scale from A to F, where A is the best and F is the worst. Delay, measured in seconds of delay per vehicle, influences the intersection quality of service. Volume to capacity ratio (v/c) measures the amount of traffic on a roadway relative to the capacity the highway was designed to accommodate; as v/c ratio approaches 1.0, the demand exceeds the designed capacity.

As shown in the tables, both Build Alternatives improve LOS and reduce delay compared to the No-Build Alternative. During the opening year (2026), Build Alternative 2, Roundabout, results in a PM Peak period LOS B compared to LOS C for Build Alternative 1, Signalization.

Table 2-1. Opening Year 2026 Peak Hour Operation Analysis

Alternative	Approach	Intersection Turning Movement	AM: Delay*(LOS)	AM: V/C	PM: Delay* (LOS)	PM: V/C
No-Build Alternative	Northbound Lakeville Highway	Through/Right	0.0 (A)	0.27	0.0 (A)	0.20
No-Build Alternative	Southbound/ Eastbound SR 116	Left	8.8 (A)	0.10	16.7 (C)	0.33
No-Build Alternative	Southbound SR 116	Through	0.0 (A)	0.44	0.0 (A)	0.86
No-Build Alternative	Westbound SR 116/Stage Gulch Road	Left/Right	18.5 (C)	0.32	590.5 (F)	2.07**
No-Build Alternative	**Intersection**	**N/A**	**18.5 (C)**	**N/A**	**590.5 (F)**	**2.07****
Alternative 1 Signalization	Northbound Lakeville Highway	Through	13.6 (B)	0.61	25.7 (C)	0.89
Alternative 1 Signalization	Northbound Lakeville Highway	Right	7.2 (A)	0.02	12.7 (B)	0.54
Alternative 1 Signalization	Southbound/ Eastbound SR 116	Left	7.0 (A)	0.22	25.0 (C)	0.66
Alternative 1 Signalization	Southbound SR 116	Through	9.6 (A)	0.70	5.0 (A)	0.27
Alternative 1 Signalization	Westbound SR 116/Stage Gulch Road	Left/Right	29.5 (C)	0.78	51.0 (D)	0.85
Alternative 1 Signalization	**Intersection**	**N/A**	**12.4 (B)**	**N/A**	**21.6 (C)**	**N/A**
Alternative 2 Roundabout	Northbound Lakeville Highway	Through	7.7 (A)	0.41	19.7 (C)	0.82
Alternative 2 Roundabout	Northbound Lakeville Highway	Right	2.2 (A)	0.01	4.8 (A)	0.31
Alternative 2 Roundabout	Southbound/ Eastbound SR 116	Through/Left	13.0 (B)	0.69	8.5 (A)	0.49
Alternative 2 Roundabout	Westbound SR 116/Stage Gulch Road	Left/Right	6.6 (A)	0.16	14.6 (B)	0.41
Alternative 2 Roundabout	**Intersection**	**N/A**	**10.7 (B)**	**0.69**	**12.9 (B)**	**0.82**

Notes:
* Delay unit is seconds per vehicle.
** Indicates V/C Ratio exceeding 1.0
LOS = Level of Service; N/A = not applicable

Table 2-2. Design Year 2046 Peak Hour Operation Analysis

Alternative	Approach	Intersection Turning Movement	AM: Delay* (LOS)	AM: V/C	PM: Delay* (LOS)	PM: V/C
No Build Alternative	Northbound Lakeville Highway	Through/Right	0.0 (A)	0.42	0.0 (A)	1.35
No Build Alternative	Southbound/ Eastbound SR 116	Left	10.3 (B)	0.20	135.2 (F)	1.09
No Build Alternative	Southbound SR 116	Through	0.0 (A)	0.69	0.0 (A)	0.32
No Build Alternative	Westbound SR 116/Stage Gulch Road	Left/Right	178.5 (F)	1.17*	1247.6 (F)	3.54**
No Build Alternative	**Intersection**	**N/A**	**178.5 (F)**	**1.17***	**1247.6 (F)**	**3.54****
Alternative 1 Signalization	Northbound Lakeville Highway	Through	18.8 (B)	0.75	132.2 (F)	1.22**
Alternative 1 Signalization	Northbound Lakeville Highway	Right	7.6 (A)	0.02	20.8 (C)	0.75
Alternative 1 Signalization	Southbound/ Eastbound SR 116	Left	13.1 (B)	0.46	225.1 (F)	1.29**
Alternative 1 Signalization	Southbound SR 116	Through	33.5 (C)	0.98	5.8 (A)	0.39
Alternative 1 Signalization	Westbound SR 116/Stage Gulch Road	Left/Right	52.6 (D)	0.85	289.3 (F)	1.44**
Alternative 1 Signalization	**Intersection**	**N/A**	**28.9 (C)**	**N/A**	**106.1 (F)**	**N/A**
Alternative 2 Roundabout	Northbound Lakeville Highway	Through	10.8 (B)	0.60	63.4 (F)	1.15**
Alternative 2 Roundabout	Northbound Lakeville Highway	Right	2.3 (A)	0.01	7.0 (A)	0.47
Alternative 2 Roundabout	Southbound/ Eastbound SR 116	Through/Left	14.5 (B)	0.80	9.3 (A)	0.58
Alternative 2 Roundabout	Westbound SR 116/Stage Gulch Road	Left/Right	11.7 (B)	0.34	57.8 (F)	0.87
Alternative 2 Roundabout	**Intersection**	**N/A**	**13.0 (B)**	**N/A**	**50.4 (F)**	**N/A**

Notes:
* Delay unit is seconds per vehicle.
** Indicates V/C Ratio exceeding 1.0
LOS = Level of Service; N/A = not applicable

As shown in Table 2-2, both Build Alternatives improve LOS and reduce delay for the AM Peak period compared to the No-Build Alternative in the design year (2046). Build Alternative 2, Roundabout, results in a LOS B compared to LOS C for Build Alternative 1, Signalization, in the AM Peak period. For the PM Peak period, both Build Alternatives and the No-Build Alternative would have an LOS of F; however, the Build Alternatives significantly reduce delay compared to the No-Build Alternative. For the design year PM Peak period, the No-Build Alternative has a delay of 1,247.6 seconds (more than 20 minutes), while Build Alternative 1 has a delay of 106.1 seconds and Build Alternative 2 has a delay of 50.4 seconds. Based on the traffic analysis, Build Alternative 2 outperforms both the No-Build Alternative and Build Alternative 1 for intersection LOS and delay.

The roundabout would not require widening of the bridge over Stage Gulch Creek or work in riparian areas, as would be needed for Build Alternative 1. Build Alternative 1, Signalization, would also require more tree removal than Build Alternative 2, Roundabout, due to the retaining wall replacement.

2.7 Alternatives Considered but Eliminated from Further Discussion

Six Build Alternatives were originally considered for this safety improvement Project. Four Build Alternatives were ultimately rejected during the early stages of the Project development phase because they would worsen the existing traffic level of service (LOS), increase the existing travel-time delay, worsen existing environmental conditions, or could not be accommodated under the Safety Improvements / SHOPP funding program.

Traffic Signals with Two Northbound Through Lanes: This alternative would have provided one additional lane for through traffic traveling north from Lakeville Highway. Under this alternative, Stage Gulch Creek Bridge would have been widened by a total of 20 feet. The 20 feet would have accommodated an additional traffic lane and standard shoulder widths and would have provided adequate queue length for the left-turn lane. This alternative would have provided two northbound through lanes beginning at Lakeville Highway and would have accommodated future traffic needs for 20 years.

This alternative would have been capacity increasing, which is not the primary purpose of the Project, and would have involved alternative funding sources and

resulted in a delay of Project construction and therein increased the risk to public safety. Therefore, this alternative was rejected.

Single-Lane Roundabout at existing intersection, no Continuous Right-Turn Bypass Lane: The single-lane roundabout would have had an inscribed circle diameter of 180 feet and a design entry radius of 100 feet at each approach. There would have been single-lane entries for the westbound (SR 116/Stage Gulch Road) and eastbound (SR 116) approaches.

This alternative would not accommodate forecasted traffic increases and was therefore rejected.

Partial Multi-Lane Roundabout with Continuous Right-Turn Bypass Lane Constructed 15 Feet Southeast of the Intersection: Under this alternative, a 200-foot inscribed circle diameter roundabout would have been constructed 15 feet southeast of the existing intersection, away from the creek. The roundabout would have been a partial multi-lane roundabout with single circulating lane in the southbound direction and dual circulating lanes in the northbound direction. Dual northbound through lanes would have been provided on Lakeville Highway, with the outside through lane terminating 500 feet downstream of the intersection. This alternative would have accommodated future (20-year) traffic needs; widening of the bridge on Stage Gulch Creek would have been required.

This roundabout alternative would have been capacity increasing, which is not the primary purpose of the Project and would have involved alternative funding sources and resulted in a delay of Project construction. The purpose of this Project is to improve safety. To widen the highway for additional through lanes to satisfy 20-year traffic needs would have delayed the opening year and would have impaired public safety. Therefore, this alternative was rejected.

Partial Multi-Lane Roundabout with Continuous Right-Turn Bypass Lane Constructed 500 Feet South of the Intersection: Under this alternative, a 200-foot inscribed circle diameter roundabout would been constructed 500 feet south of the existing intersection, away from the Stage Gulch Creek. The roundabout would have been a partial multi-lane roundabout with a single circulating lane in the southbound direction and dual circulating lanes in the northbound direction. Dual northbound through lanes would have been provided on Lakeville Highway, with the outside through lane terminating 500 feet downstream of the intersection. This alternative

would have accommodated future (20-year) traffic needs; widening of the bridge on Stage Gulch Creek would have been required.

This roundabout alternative would have been capacity increasing, which is not the primary purpose of the Project, and would have involved alternative funding sources and resulted in a delay of Project construction. The purpose of this Project is to improve safety. To widen the highway for additional through lanes to satisfy future (20-year) traffic needs would have delayed the opening year and would have impaired public safety. Additionally, it would have required more ROW acquisitions than the alternatives under consideration and would have worsened environmental impacts. Therefore, this alternative was rejected.

2.8 Permits, Licenses, Agreements, Certifications, and Approvals Required

Tables 2-3 and 2-4 list the permits, licenses, agreements, and certifications that are anticipated to be required for Build Alternative 1 and Build Alternative 2, respectively. Because Build Alternative 1 would require widening of the bridge over Stage Gulch Creek, this alternative would require biological review and permitting in addition to that required by Build Alternative 2.

Table 2-3. Build Alternative 1: Permits, Licenses, Agreements, Certifications, and Approvals Required

Agency	Permits, Licenses, Agreements, Certifications, and/or Approval	Status
California Department of Fish and Wildlife	Section 1602 Lake and Streambed Alteration Agreement	Application to be submitted during the design phase
San Francisco Bay Regional Water Quality Control Board	Section 401 Water Quality Certification	Application to be submitted during the design phase
U.S. Army Corps of Engineers	Section 404 Permit	Application to be submitted during the design phase
U.S. Fish and Wildlife Service	Biological Opinion	Targeting to receive during the design phase

Table 2-4. Build Alternative 2: Permits, Licenses, Agreements, Certifications, and Approvals Required

Agency	Permits, Licenses, Agreements, Certifications, and/or Approval	Status
U.S. Fish and Wildlife Service	Biological Opinion	Targeting to receive during the design phase

2.8.1 Other Agreements

Maintenance agreements may be needed, depending on the preferred alternative. The details of the agreements (if needed), including roles and responsibilities, would be further developed in the Project design phase.

2.8.2 Title VI Non-Discrimination Policy Statement

Caltrans is a recipient of Federal Highway Administration federal-aid highway funds. Recipients of federal funds are required to comply with various non-discrimination laws and regulations, including Title VI of the Civil Rights Act of 1964 (Title VI). Title VI forbids discrimination against anyone in the United States on the basis of race, color, or national origin, in the programs and activities of an agency receiving federal financial assistance. Caltrans commitment to upholding the mandates of Title VI is summarized in the Non-Discrimination Policy Statement (Appendix C).

Chapter 3 California Environmental Quality Act Evaluation

The following discussions evaluate potential environmental impacts of the Project related to the CEQA checklist to comply with state CEQA Guidelines (Title 14 California Code of Regulations Division 6, Chapter 3, Section 15091).

3.1 Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the Project, the following environmental factors were considered, but no impacts were identified: mineral resources, population and housing, public services, and recreation. The environmental factors marked with an "X" would be potentially affected by the Project. Further analysis of these environmental factors is discussed in the subsections that follow.

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

3.2 Determination

On the basis of this initial evaluation:

X	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.

Signature:	**Date:**
Maxwell Lammert	5/11/2023
Printed Name: Maxwell Lammert	**For:**

3.3 CEQA Environmental Checklist

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the Project. In many cases, background studies performed in connection with projects will indicate that there are no impacts to a particular resource. A “No Impact” answer in the “CEQA Determination” column of the impact summary tables at the beginning of each resource category section in this chapter reflects this determination. The words "significant" and "significance" used throughout this IS/ND are related to CEQA, not National Environmental Policy Act, impacts. The questions in each impact summary table are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project Features are measures incorporated into Caltrans projects to reduce environmental impacts that can include both design components of the project and standardized measures that are applied to most, if not all Caltrans projects, such as construction site BMPs and measures included in the Caltrans Standard Plans and Standard Specifications or as Standard Special Provisions. They are considered to be an integral part of the Project and have been considered prior to any significance determinations documented in this chapter. AMMs are additional measures to avoid and/or minimize a project’s environmental impacts but are more specifically tailored to a given project’s particular impacts. The PFs and AMMs incorporated into the Project are described in this chapter and are compiled in Appendix A.

Sections 3.3.1 through 3.3.20 present the CEQA determinations under Appendix G of the CEQA Guidelines. The CEQA determinations depend on the level of potential environmental impact that would result from the Build Alternatives. The level of significance determinations is defined as follows:

- No Impact: Indicates no physical environmental change from existing conditions.
- Less Than Significant Impact: Indicates the potential for an environmental impact that is not significant with or without the implementation of PFs/AMMs.
- Less Than Significant Impact with Mitigation Incorporated: Indicates the potential for a significant environmental impact that would be mitigated with the implementation of mitigation measures to a level of less than significant.
- Potentially Significant Impact: Indicates the potential for a significant and unavoidable environmental impact.

CEQA significance determinations are made for both Build Alternatives. Where impact conclusions of the alternatives differ, the analysis provides descriptions of the environmental impact by Build Alternative and differentiates the conclusions in the checklist impact summary tables. Where impacts are similar for both Build Alternatives, the analysis describes the effect of the Project as a whole.

3.3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	Both Build Alternatives: Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Both Build Alternatives: Less Than Significant Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a 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?	Both Build Alternatives: Less Than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Both Build Alternatives: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AESTHETICS

A *Visual Impact Assessment* (Caltrans 2023a) was prepared by the Caltrans Office of Landscape Architecture for the Project, and a summary of the findings is presented in this section.

Although much of SR 116 is an officially designated State Scenic Highway, the highway at the Project is not so listed, and it has not been categorized as eligible for such a designation. Although not eligible to be designated as a State Scenic Highway, the route in general, and at the Project, is nonetheless largely attractive and of good, although not exceptional, scenic quality. The highway is a substantial but not primary visual feature in the landscape. The landscape is expansive in all directions, with views of hillsides in the distance and a variety of agricultural land uses in the foreground.

The primary components of the visual landscape are adjacent agricultural parcels, the various elements of the highway, distant hills, large eucalyptus trees, the riparian vegetation of Stage Gulch Creek, and widely scattered residences and agricultural buildings. While some of the agricultural buildings contribute to a bucolic atmosphere, some are large and of more modern and utilitarian design which do not contribute to the area's visual quality.

The corrugated tin structure of Ernie's Tin Bar, immediately adjacent to and north of the intersection, is likely noticed by most highway users and is visually appealing and unique. Detracting from its potential charm are a chain-link fence and stored

equipment, a row of metal bollards protecting the building from errant vehicles, a large metal shipping container, and various other elements. Due to various changes to the building's original design, it is not considered a resource of visual or cultural significance.

Depending on the time of year, the area surrounding the intersection is primarily green or tan and green, with few structures in the area. Overhead utility lines run along both roadways; there are otherwise few detractors from the quality of the visual landscape. Each road carries a single lane of traffic in each direction, with a left-turn lane from eastbound SR 116 to Stage Gulch Road. The roads carry heavy traffic with a speed limit of 55 miles per hour (mph). The area exemplifies an agricultural landscape typical of Sonoma County.

a) Less Than Significant Impact

While SR 116 at the Project is neither an Officially Designated State Scenic Highway, nor listed as eligible for designation, there are nonetheless scenic resources, including vistas, to be protected. Vistas from the intersection are pleasing; they include distant hillsides and nearby largely undeveloped agricultural properties. The visual quality of the existing corridor would be slightly altered by either of the proposed Build Alternatives. The level of unity and intactness of the long-distance views to the adjacent hills would slightly change under either Build Alternative. However, the dominance of the views beyond the highway would remain and would not be degraded by Project implementation.

Build Alternative 1: Signalization

Build Alternative 1 would have a low degree of visual impact on existing scenic vistas with traffic signals only appearing in the foreground from some vantages. Scenic vistas would not be substantially affected. Therefore, impacts to scenic vistas would be less than significant.

Build Alternative 2: Roundabout

Project elements of the roundabout, Build Alternative 2, would appear in the foreground of scenic vistas from most areas of the highways involved but would not otherwise affect scenic vistas. Build Alternative 2 would have a moderate-low degree of visual impact on scenic vistas and would not be substantial. Standard PFs and AMMs that limit tree work, call for screening and revegetation among other things (PF-AES-01 to PF-AES-04, PF-AES-07, PF-AES-08, and AMM-AES-01) would

further reduce impacts to scenic vistas; impacts to scenic vistas would be less than significant.

b) Less Than Significant Impact

The Project would not adversely affect a designated scenic resource (such as a rock outcropping or historic property) as defined by CEQA statues or guidelines, or by Caltrans policies. The removal of large trees is the Project element most likely to damage the scenic resources of the area. Other scenic resources are largely unaffected.

Multiple trees would be removed under Build Alternative 1 (approximately 24) and Build Alternative 2 (approximately 18), including the entire row of large eucalyptus southeast of the intersection, as well as a large eucalyptus on the southeast corner of the intersection. Due to the limited amount of unpaved roadside within the Caltrans ROW, it is unlikely that this impact can be offset by on-site replanting. Impacts to visual resources would be unmistakable and would rise to a moderate level. Within the context of the surrounding landscape of open fields and expansive views, impacts of both Build Alternatives to scenic resources, even with tree removal, would be moderate-low, and would not substantially degrade the quality of scenic resources. Therefore, impacts to scenic resources would be less than significant.

Implementation of standard PFs, PF-AES-01 to PF-AES-03, and AMM-BIO-06, which require avoiding unnecessary vegetation removal, prevent vegetation and tree damage, and call for evaluation of opportunities for tree replanting, would minimize impacts to scenic resources such as trees.

c) Less Than Significant Impact

Implementation of the standard PFs and AMMs presented at the end of this section would help reduce impacts to visual character.

Build Alternative 1: Signalization

Traffic signals would slightly degrade the existing visual character and quality of the site by adding an element with urban connotations to a rural intersection where there are currently none. Currently, there are two streetlights at the intersection: an overhead streetlight is mounted on a wooden pole adjacent to Ernie's Tin Bar and an overhead streetlight is mounted on the utility pole on the west side of the intersection. These light poles are not owned by Caltrans and lighting specifications are limited to

observable features; lights are LED and do not appear to be shielded. Build Alternative 1 would expand the highway element and add electric lighting, common elsewhere but currently limited at this location. The existing visual character or quality of the Project footprint and its surroundings would be slightly degraded with the addition of lighting and new pavement; the change would be low. Integration of standard PFs and AMMs (PF-AES-01 to PF-AES-08, and AMM-AES-01) would further reduce impacts to visual character. Therefore, impacts to visual character would be less than significant.

Build Alternative 2: Roundabout

The addition of the roundabout and related transportation facility elements would change the visual character and quality of the site. These changes include the elements discussed for Build Alternative 1 but would be expanded due to the many additional proposed elements of the roundabout not typically found along rural highways and are uncommon on SR 116 near the Project. The roundabout would create a large expansion in paved area and the addition of overhead lighting and signage, as well as advance warning beacons. To minimize visual impacts, the aesthetics of the roundabout would be designed to harmonize with the location and setting. The visual character of the intersection would be moderately changed. Application of standard PFs and AMMs (PF-AES-01 to PF-AES-08, and AMM-AES-01), would further reduce impacts to visual character. Therefore, impacts to visual character would be less than significant.

d) Less Than Significant Impact

Both Build Alternatives include new sources of light and glare to an area that is currently only lightly illuminated.

During construction of either Build Alternative, construction lighting would be limited to the Project footprint for construction-related activities. Lights would be shielded and directed toward the area of work and would not constitute a substantial source of light trespass outside the work area.

Implementation of the standard PFs presented at the end of this section would help limit impacts to light and glare.

Build Alternative 1: Signalization

Although lighting standards would be shielded to the extent feasible, lighting standards, traffic signals and advance warning beacons would be visible from some

distance. The degree of added light would be less than substantial, and the degree of visual change would be low. Build Alternative 1 would not result in new substantial light or glare that would adversely affect nighttime views. The implementation of standard Aesthetic PFs (PF-AES-05, PF-AES-06, and PF-AES-08) and Biological PFs (PF-BIO-19) including the use of directional lighting, shielding, and reduction of color temperature, would minimize lighting perception and light trespass to adjacent residences and to the traveling public. Therefore, the impacts of light and glare would be less than significant.

Build Alternative 2: Roundabout

Build Alternative 2 would require a greater number of overhead electroliers than Build Alternative 1. Impacts of Build Alternative 2 on light and glare conditions at the intersection would be moderate. Similar to Build Alternative 1, Build Alternative 2 would not result in new substantial light or glare that would adversely affect nighttime views. The implementation of standard Aesthetic PFs (PF-AES-05, PF-AES-06, and PF-AES-08) and Biological PFs (PF-BIO-19), including the use of directional lighting, shielding, and reduction of color temperature, would minimize lighting perception and light trespass to adjacent residences and to the traveling public. The impacts of light and glare would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs into the Project for Aesthetics:

- **PF-AES-01, Vegetation Impacts:** Minimize impacts to vegetation to the greatest extent possible while allowing the Project to be implemented.
- **PF-AES-02, Vegetation Protection:** Vegetation to remain should be protected from construction activities by means of temporary fencing (or similar) when vegetation is close to construction work.
- **PF-AES-03, Tree Protection:** Where the pruning of trees is required to accommodate construction operations, pruning must be under the supervision of a certified arborist.
- **PF-AES-04, Screening:** Construction materials and equipment should be stored in staging area(s) beyond direct view of the motoring public and residential properties to the extent feasible.

- **PF-AES-05, Limit Nightwork Impacts:** If nightwork is included, limit light trespass to residences and motorists with the use of directional lighting, shielding, and other measures as needed.

- **PF-AES-06, Minimize Light Pollution:** All lighting on new highways and structures would be designed to limit light pollution and have minimum impact on the surrounding environment. All light fixtures would have light-emitting diodes configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the highway. If applicable, shields on the fixtures to prevent light trespass to adjacent properties would be considered during the Project design phase.

- **PF-AES-07, Reseeding Disturbed Areas:** Apply erosion control seeding and similar measures to all areas of disturbance where they are beyond paved areas unless specifically unwarranted for safety considerations.

- **PF-AES-08, Minimize Visual Resources Impacts during Final Design:** The minimization of impacts to visual resources should be emphasized in highway layouts and all other aspects of Project design and implementation. The Office of Landscape Architecture shall be consulted throughout the Project design process.

- **PF-BIO-19, Lighting Design:** Described in Section 3.3.4

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMMs into the Project to avoid and/or minimize potential impacts to Aesthetics:

- **AMM-AES-01, Selection of Materials:** The need for the architectural treatment of proposed Project elements should be investigated by the Caltrans Office of Landscape Architecture during the Project design phase and incorporated as appropriate. Measures may also include aesthetic treatment of inert surfacing in the roundabout islands, coloring or other treatments to new concrete installations, including concrete paving used as vegetation control beneath barriers and other elements, among other mitigating treatments.

- **AMM-BIO-06, Tree Replanting Evaluation:** Described in Section 3.3.4.

3.3.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

Question	CEQA Determination
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?	Both Alternatives: Less Than Significant Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Both Build Alternatives: Less Than Significant Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	Both Build Alternatives: No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	Both Build Alternatives: No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Build Alternative 1: No Impact Build Alternative 2: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AGRICULTURE AND FOREST RESOURCES

The Project is located in rural Sonoma County along SR 116 at the intersection of Stage Gulch Road and Lakeville Highway at PM 39.3. This area is characterized by a mix of undeveloped and agriculture/grazing lands, with rural residential development and infrequent commercial development. The parcels in the footprint of the proposed Project (Build Alternative 1 and Build Alternative 2) have a Sonoma County General Plan land use designation of Diverse Agriculture (DA) (Sonoma County 2016a).

The classification of farmlands Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency (California Department of Conservation 2019) describes the lands northeast of SR 116 at the Stage Gulch Road/Lakeville Highway intersection as grazing or other lands, while the lands on the southwest side of SR 116 at the Stage Gulch Road/Lakeville Highway are classified as farmlands of Local Importance or Other Lands (Figure 3-1). Among these lands of Local Importance is a large parcel, 367.88 acres (APN 068-020-001), under a Williamson Act Contract.

This parcel is connected to SR 116/Lakeville Highway via a rural access road, Lopes Road. Lopes Road intersects SR 116 at a point directly north of the proposed Project footprint (Sonoma County 2020).

a and b) Less Than Significant Impact

Neither Build Alternative 1, nor Build Alternative 2 would permanently affect Sonoma County APNs located on land under a Williamson Act Contract. Neither Build Alternative 1, nor Build Alternative 2 would affect Sonoma County APNs located on land identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency (Figure 3-1). However, Build Alternative 2 would require acquisition of land from parcels identified as Farmland of Local Importance and Grazing Land.

Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

A summary of area needed for fee title acquisitions and TCEs for each Build Alternative is provided in Table 3-1.

Legend

- Project Limits

Williamson Act Type (2017)

- Type II Contract

FMMP Type (2018)

- D - Urban and Built-Up Land
- G - Grazing Land
- L - Farmland of Local Importance
- P - Prime Farmland
- S - Farmland of Statewide Importance
- U - Unique Farmland
- X - Other Land

N

0 1,000 2,000 Feet

Caltrans

Path: Z:\Projects Active\21 002 009 SR116 2Q770\GIS\FMMP\21 002 009 SR116 FMMP\21 002 009 SR116 FMMP.aprx

FIGURE 3-1
Williamson Act and Farmland Mapping and Monitoring Program (FMMP) Parcels
State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

Table 3-1. Right of Way Acquisition by Build Alternative

Assessor's Parcel Number (APN)	Parcel Size (acres)	Zoning	FMMP Farmland Category	Build Alternative 1: Fee Title Acquisition (acres)	Build Alternative 1: TCE (acres)	Build Alternative 2: Fee Title Acquisition (acres)	Build Alternative 2: TCE (acres)
068-020-024	25.94	DA	G	0	0.417	1.334	0.014
068-020-006	110.17	DA	LI	0	0.171	0.345	0
068-030-002	0.27	DA	O	0	0.040	0.27	0
068-030-001	0.54	DA	O	0	0.034	0	0
068-020-019	39.10	DA	LI, O	0	0.112	0	0
068-030-003	1.16	DA	O	0	0.084	0	0
068-030-005	1.36	DA	O	0	0.086	0	0
068-020-001	367.68	LEA	LI, O	0	0.028	0	0
068-020-022	82.20	DA	G, O	0	0.079	0	0.153
Totals	**N/A**	**N/A**	**N/A**	**0**	**1.051**	**1.949**	**0.167**

Notes:
DA = Diverse Agriculture
FMMP = Farmland Mapping and Monitoring Program
G= Grazing Land
LEA= Land Extensive Agriculture
LI= Farmland of Local Importance
N/A = not applicable
O= Other Lands
TCE = temporary construction easement

Build Alternative 1 Signalization

Build Alternative 1 would not require ROW acquisitions from private parcels zoned for agriculture. This alternative would have no permanent impact on agricultural resources. During construction, TCEs would be needed from adjacent property owners, including agricultural parcels and one parcel, 068-020-022, under a Williamson Act contract. The affected area of Williamson Act parcel would be limited to the apron of the established access driveway, where it intersects SR 116; the TCE would not affect agricultural lands associated with this parcel.

The small area (approximately 1 acre) needed for construction access on all parcels and the limited duration of construction activities (approximately 5 months) would not affect farmland production. Therefore, Build Alternative 1 would have a less than significant impact on farmlands and would not conflict with agricultural zoning or Williamson Act contracts.

Build Alternative 2 Roundabout

Build Alternative 2 would require expansion of the ROW. Approximately 1.96 acres of DA-zoned agricultural land would be acquired for conversion to a non-agricultural use (Table 3-2); of this, 0.35 acre have been categorized as Farmland of Local Importance (LI), an additional 1.34 acres have been categorized by the FMMP as grazing (G), and 0.27 acre are categorized as Other (O). None of these parcels are under Williamson Act contracts.

Table 3-2. Build Alternative 2: Proposed Farmland Conversion as a Percent of Total Available Countywide Land

FMMP Lands	Available Acreage in Sonoma County*	Proposed Acres to be Converted	Acres as Percent of Total Available Countywide
LI	79,915	0.35	< 0.0004
G	415,429	1.34	<0.0003
O	355,236	0.27	<0.00007

Notes:

FMMP = Farmland Mapping and Monitoring Program

G= Grazing Land

LI= Farmland of Local Importance

O= Other Lands.

* California Department of Conservation, Division of Land Resource Protection: Appendix A 2014-2016 County Conversion Tables, Sonoma County, Table A-40 (California Department of Conservation 2020)

Within the context of the County of Sonoma landscape, the small percentages of land acquisition (Table 3-2) would not substantially affect agricultural productivity in the region and existing landowners would still retain ownership of the remaining parcel. Build Alternative 2 would reduce the amount of DA-zoned land surrounding the Project by 1.4 percent; in other words, acquisitions for Build Alternative 2 would result in a direct loss of 1.95 acres of agricultural zoned lands, reducing the area from 136.4 acres of DA-zoned land to 134.4 acres of DA-zoned lands. Therefore, although the acquired agricultural lands would be converted to a non-agricultural use, the conversion of farmland and grazing land to ROW would be a less than significant impact on farmland resources and would not conflict with existing zoning.

c and d) No Impact

The Project would not conflict with existing zoning for forest land or timberland as there are no lands zoned as forest lands or timberlands within the Project footprint.

e) No Impact (Build Alternative 1) and Less Than Significant Impact (Build Alternative 2)

As described in response to Questions a and b above, Build Alternative 1 would not convert agricultural lands to a non-agricultural use, so would have no impact. Build Alternative 2 would require an expansion of the ROW and would convert the acquired agricultural lands to a non-agricultural use. This impact is less than significant.

PROJECT FEATURES/AVOIDANCE AND MINIMIZATION MEASURES

There are no applicable standard PFs for Agriculture and Forest Resources. No AMMs are required to avoid and/or minimize potential impacts to Agriculture and Forest Resources.

3.3.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Both Build Alternatives: No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non- attainment under an applicable federal or state ambient air quality standard?	Both Build Alternatives: Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Both Build Alternatives: Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Both Build Alternatives: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AIR QUALITY

The Project is located in Sonoma County within the San Francisco Bay Area Air Basin under the jurisdiction of the Bay Area Air Quality Management District. Sonoma County is designated as non-attainment for ozone and particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers ($PM_{2.5}$) under national ambient air quality standards (U.S. Environmental Protection Agency [USEPA] 2023), and non-attainment for ozone, $PM_{2.5}$, and particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM_{10}) under state air quality standards (CARB 2019). It is in attainment or unclassified for other federal and state air quality standards.

a) No Impact

The Project would have temporary construction emissions and construction-related activities would comply with state and local regulations and policies. Emission reduction measures would be implemented as standard PFs. Applicable PFs (PF-AQ-01 to PF-AQ-03) to reduce construction emissions are provided at the end of this section and are also found in Appendix A. The Project would not affect vehicle operation on SR 116 or nearby roadways when construction is complete. Long-term emission increases and adverse impacts from the Project are not anticipated. Therefore, the Project would not conflict with the region's air quality plans. There would be no impact to the air quality plans.

b, c, and d) Less Than Significant Impact

Build Alternative 1 and Build Alternative 2 would not alter characteristics of SR 116, Lakeville Highway, or local roadways; increase SR 116 transportation capacity; or change the horizontal or vertical alignments of SR 116. No long-term impacts to air quality would occur.

Construction-generated air pollutants are expected to be short-term. Construction-generated air pollutants include emissions resulting from material processing by onsite construction equipment, workers commuting to and from the Project, and traffic delays due to construction. The emissions would be produced at different rates throughout the Project depending on the construction-related activities occurring at that time. Potential impacts to air quality, including emissions of air pollutants, odors affecting nearby sensitive receptors, and exposure of sensitive receptors to pollutants, would be less than significant based on the temporary nature of the Project construction-related activities.

During construction, the Project would comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with applicable air pollution control rules, regulations, ordinances, and statutes. In addition, the Project would implement the construction site BMPs described in standard PFs (PF-AQ-01 to PF-AQ-03) to further reduce impacts to air quality.

The Project would have no long-term impacts on air quality and temporary construction-related impacts would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Air Quality:

- **PF-AQ-01, Dust Control Measures:** Implement dust control measures to minimize airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 116 and other public roadways affected by construction traffic, and covering soils or construction materials or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.

- **PF-AQ-02, Construction Vehicles and Equipment:** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

- **PF-AQ-03, Limit Idling:** Limit idling times either by shutting construction equipment off when not in use or reducing the maximum idling time to 5 minutes.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Air Quality.

3.3.4 Biological Resources

Would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or National Marine Fisheries Service?	Both Build Alternatives: Less Than Significant Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Both Build Alternatives: Less Than Significant Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Both Build Alternatives: Less Than Significant Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Both Build Alternatives: Less Than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Both Build Alternatives: No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Both Build Alternatives: No Impact

CEQA Significance Determinations for Biological Resources

The Caltrans Office of Biological Sciences and Permits prepared a Natural Environment Study (NES) to evaluate the effects of the Project on biological resources, including sensitive plants and wildlife species (Caltrans 2023b). A summary of the findings is presented here.

The Project footprint is defined as the area that would be directly affected by the proposed Project. It demonstrates the maximum extent of ground-disturbing activities as a result of construction activities and includes both temporary and permanent impact areas (Figures 2-1 and 2-3). The Project footprint also encompasses the maximum area needed for traffic staging activities. The Project Biological Study Area (BSA) is 6.98 acres; it encompasses Project Footprint areas for both Build Alternatives plus a 25-foot buffer (Figure 3-2).

Areas outside of the BSA, but adjacent to the Project footprint, were also assessed using visual observation from inside the ROW, literature, aerial images, satellite imagery, and database searches to identify potential wildlife dispersal corridors.

Information about habitat types and special-status species with the potential to occur within the combined BSA of both Build Alternatives was obtained from multiple sources, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Database (IPaC), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2022), the National Marine Fisheries Service (NMFS) database, the USFWS National Wetlands Inventory, and the Natural Resources Conservation Service (NRCS) soils and noxious weed information.

Results from the database searches informed the preliminary studies that were conducted to evaluate special-status species and resources as well as determine the need for additional agency coordination. Agency coordination included a request for technical assistance from the USFWS and NMFS.

Reconnaissance surveys to assess existing habitat conditions and potential for species occurrence within the BSA were conducted on March 29, 2021. An additional survey to delineate aquatic resources was conducted on April 28, 2023.

January 20, 2022, October 11, 2022, and April 28, 2023, field surveys were used to determine:

- Plant community and habitat types
- Potential jurisdictional wetlands and other waters
- Potential presence of special-status species
- Potential impacts to other natural resources
- Need for further sensitive species or critical habitat surveys

The results of the field surveys are summarized below.

a) Less Than Significant Impact

Special-status species that are potentially present within or adjacent to the BSA, as well as the Project's potential impact on those species and their habitat, are discussed in this section.

VICINITY MAP

LEGEND

Biological Study Area (BSA)

Stage Gulch Creek

0 100 200 400

Feet

FIGURE 3-2
Biological Study Area
Install Signals/Construct Roundabout at State Route 116 and Stage Gulch Road in Sonoma County EA 2Q770, SON-116 Post Mile 39.27
Sonoma County, California

Plants

The vegetation community in the Project BSA is primarily comprised of ruderal roadside grass and forb species. The eastbound SR 116 north of Stage Gulch Creek and northbound Lakeville Highway are lined with mature eucalyptus trees, and the understory beneath them consists of ripgut brome (*Bromus diandrus*) and slender oat (*Avena barbata*). The other roadsides, as well as the pasture southeast of the intersection where most of Build Alternative 2 would be constructed, contain the aforementioned grasses, but are more dominated by forbs such as shortpod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centaurea solstitialis*), and wild carrot (*Daucus carota*). Small patches of narrowleaf milkweed (*Asclepias fascicularis*), bristly oxtongue (*Helminthotheca echioides*), and milk thistle (*Silybum marianum*) are also present. The overstory of Stage Gulch Creek downstream of the SR 116 bridge is dominated by California buckeye (*Aesculus californica*). Other riparian tree species include ornamental plantings. Upstream of the SR 116 bridge, the channel is mostly exposed under the high canopy of mature eucalyptus trees and supports only grasses such as bluegrass (*Poa* spp.) and slender oats, and some Himalayan blackberry (*Rubus armeniacus*) near Ernie's Tin Bar. Among these, yellow star-thistle is classified as a California noxious weed by the NRCS (2023).

Eight special-status plant species were determined to have the potential to occur in the BSA; of these, one species was determined to have a 'moderate' potential to occur and seven species were determined to have a 'low' potential to occur, where the range of 'potential to occur' was based on the vegetation types present, the degree of disturbance, and whether suitable habitat for each special-status plant species was observed within the BSA.

No targeted special-status plants were observed within the BSA during the 2022 reconnaissance surveys, however, surveys occurred outside of the known blooming period for most targeted species, occurred during drought conditions, and did not encompass the entirety of the Project footprint due to private land access limitations. No protocol level surveys for listed species were performed; therefore, implementation of AMM-BIO-05, *Targeted Pre-construction Plant Surveys,* and AMM-BIO-11, *Special-Status Plant Protection*, would be implemented.

Both Build Alternatives could adversely affect special-status plants directly (physical removal or damage to plants from dust, erosion, contaminated stormwater, or the introduction of invasive species among other things) and/or indirectly (significant

changes to solar exposure, or soil composition). Site hydrology is also an important factor in special-status species habitat; no significant changes in site hydrology are anticipated (see Section 3.3.9).

Implementation of standard PFs and AMMs (PF-BIO-04, PF-BIO-05, PF-BIO-09 to PF-BIO-13, AMM-BIO-05, and AMM-BIO-11, would avoid and/or minimize impacts to special-status plant species and their habitat. In addition, standard PFs from Air Quality (Section 3.3.2), PF-AQ-01, and Hazardous Materials (Section 3.3.9) PF-HAZ-01 would further reduce impacts to special status plants. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

For both Build Alternatives, the Project would have a less than significant impact on special-status plants.

Wildlife

Federally listed wildlife species that have the potential or are known to occur in the BSA are:

- California red-legged frog (CRLF; *Rana draytonii*) (Threatened)
- State listed wildlife species that have the potential or are known to occur in the BSA are:
- Western pond turtle (WPT; *Actinemys marmorata*) (Species of Special Concern [SSC])
- Pallid bat (*Antrozous pallidus*) (SSC)
- California red-legged frog (SSC)

California Red-Legged Frog

The CRLF is a federally threatened species and a California SSC. The BSA is within the current known range of CRLF and there are four CNDDB occurrences within 2 miles of the BSA in creeks and ponded areas within creeks. The BSA does not include any designated critical habitat or any designated recovery units. Suitable breeding habitat was not identified within the BSA due to a lack of water depth and duration; however, the BSA has the potential to provide suitable aquatic non-breeding habitat and upland dispersal habitat.

The landscape between the known CRLF occurrences and the BSA features creeks and irrigation ditches that could constitute dispersal habitat, including a stock pond to the northeast of the Project. There is a potential that CRLF individuals could disperse into the BSA, particularly if these nearby aquatic resources support breeding populations of CRLF.

Build Alternative 1 Signalization

Build Alternative 1 would temporarily disturb 0.40 acre of aquatic non-breeding habitat during bridge widening and permanently affect 0.18 acre of upland dispersal habitat. The non-breeding habitat would be protected against permanent impacts during bridge abutment and deck widening with the implementation of standard PFs and AMMs that require revegetation and restoration of disturbed areas.

For Build Alternative 1, potential Project impacts also include direct loss of individuals during construction activities, including, but not limited to the following: vegetation removal, highway and bridge widening, and stream dewatering.

The Project has been designed to minimize long-term changes on CRLF habitat through design modifications, including use of stormwater BMPs and lighting modifications. The Project would implement Water Quality PF-WQ-01 that calls for compliance with the CGP, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP), and other applicable agency permits. Design for stormwater treatment would be determined during the Project design phase and in coordination with permitting agencies.

The addition of five streetlights with Build Alternative 1 (Figure 2-1) would change the existing nighttime lighting condition at the intersection. Nocturnal animals, including CRLF, are sensitive to lighting changes. The timing, spread, intensity, and color-temperature of the chosen LEDs influence the effect in species. For example, bright-white and blue-white color-temperature LEDs have been shown to have greater effects than yellow-white or amber-white LEDs. To minimize effects on sensitive species, lighting would include retrofitting lights with shields to minimize light spill outside the traveled way (PF-AES-06) and the use of lights with lower correlated color temperature (PF-BIO-19).

Implementation of standard PFs and AMMs (PF-BIO-01 to PF-BIO-06, PF-BIO-09, PF-BIO-10, PF-BIO-14 to PF-BIO-21, AMM-BIO-01 to AMM-BIO-04) would include measures to avoid direct loss of individuals and would minimize impacts from vegetation removal, highway and bridge widening, new artificial light sources,

and stream dewatering. In addition, standard PFs from Aesthetics (Section 3.3.1) PF-AES-01 to PF-AES-03, and PF-AES-05 to PF-AES-07, Air Quality (Section 3.3.2), PF-AQ-01, Hazardous Materials (Section 3.3.9) PF-HAZ-01 to PF HAZ-04, and Water Quality (Section 3.3.10) PF-WQ-01 would further reduce impacts to CRLF. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

Build Alternative 2 Roundabout

Implementation of Build Alternative 2 would permanently affect 1.53 acres of upland dispersal habitat. Build Alternative 2 would trigger the need for compensation for the permanent impacts to upland dispersal habitat. As outlined in AMM-BIO-12, this may include the purchase of CRLF credits at a USFWS-approved conservation bank, conducting habitat restoration in the region, contribution to a larger advanced mitigation property acquisition, habitat management, or other beneficial measure that would aid local recovery of the species. These preliminary acreage estimates may change during the Project design phase. Caltrans would make a final determination on impacts and develop a compensation plan after coordination with USFWS.

For Build Alternative 2, potential Project impacts include direct loss of individuals during construction activities, including but not limited to the following: vegetation removal, realignment, and new roadway construction.

Build Alternative 2 has been designed to minimize long-term effects on CRLF through design modifications, including use of stormwater BMPs and lighting modifications. The Project would implement Water Quality PF-WQ-01 that calls for compliance with the CGP, including the preparation of a SWPPP or WPCP, and other applicable agency permits. To treat runoff from stormwater collection systems, permanent stormwater treatment may include, but is not limited to, biostrips or bioswales to treat stormwater before entering Stage Gulch Creek. For example, the area between the roundabout and Ernie's Tin Bar may be used for stormwater treatment, such as a biostrip or bioswale. Design for stormwater treatment would be determined during the Project design phase and in coordination with permitting agencies.

The addition of fifteen streetlights with Build Alternative 2 (Figure 2-3) would change the existing nighttime lighting condition at the intersection. To minimize effects on sensitive species, lighting would include retrofitting lights with shields to minimize light spill outside the traveled way (PF-AES-06) and the use of lights with lower correlated color temperature (PF-BIO-19).

Implementation of standard PFs and AMMs (PF-BIO-01 to PF-BIO-06, PF-BIO-09, PF-BIO-10, PF-BIO-14 to PF-BIO-19, and AMM-BIO-01 to AMM-BIO-04, and AMM-BIO-12) would include measures to avoid direct loss of individuals and would minimize impacts from vegetation removal, realignment, addition of new artificial light sources, and new roadway construction to CRLF. In addition, standard PFs from Aesthetics (Section 3.3.1) PF-AES-01 to PF-AES-03, and PF-AES-05 to PF AES-07, Air Quality (Section 3.3.2) PF-AQ-01, Hazardous Materials (Section 3.3.9) PF-HAZ-01 and PF HAZ-02, and Water Quality (Section 3.3.10) PF-WQ-01 and PF-WQ-02 would further reduce impacts to CRLF. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

For both Build Alternatives, the Project would have a less than significant impact on CRLF with standard PFs and AMMs incorporated.

Western Pond Turtle

The WPT is listed as a California SSC. This species occurs in a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Nests are typically created in grassy, open fields with soils that are high in clay or silt fraction near aquatic habitat. There are five WPT observations within a 5-mile radius of the BSA, all in either ponds or creeks much like Stage Gulch Creek and the stock pond northeast of the BSA. Therefore, while no WPT or evidence of WPT nesting was observed during site visits, there is a potential for this species to be found in upland areas, Stage Gulch Creek, ditches, and drainages near and in the BSA.

Build Alternative 1 Signalization

Build Alternative 1 would temporarily and permanently affect WPT upland habitat and temporarily affect WPT aquatic habitat. Potential Project impacts also include direct loss of individuals during construction activities, including, but not limited to the following: vegetation removal, highway and bridge widening, new sources of artificial lighting, and stream dewatering.

Implementation of standard PFs (PF-BIO-01 to PF-BIO-06, PF-BIO-09, PF-BIO-10, PF-BIO-14 to PF-BIO-21, and AMM-BIO-10) would avoid direct loss of individuals and minimize impacts to WPT from vegetation removal, realignment, new sources of artificial lighting, and new highway construction. In addition, standard PFs from Aesthetics (Section 3.3.1) PF-AES-01 to PF-AES-03, PF-AES-05 to PF-AES-07, Air Quality (Section 3.3.2) PF-AQ-01, Hazardous Materials (Section 3.3.9) PF-HAZ-01 to PF HAZ-04, and Water Quality (Section 3.3.10) PF-WQ-01 would further reduce

impacts to WPT. Applicable PFs are provided at the end of this section and are also found in Appendix A.

Build Alternative 2 Roundabout

Build Alternative 2 would permanently and temporarily affect WPT upland habitat; potential Project impacts include direct loss of individuals during construction, including vegetation removal, realignment, new sources of artificial lighting, and new highway construction.

Implementation of standard PFs (PF-BIO-01 to PF-BIO-06, PF-BIO-09, PF-BIO-10, PF-BIO-14 to PF-BIO-18, PF-BIO-20, and AMM-BIO-10) would avoid direct loss of individuals and minimize impacts to WPT from vegetation removal, realignment, new sources of artificial lighting, and new highway construction. In addition, standard PFs from Aesthetics (Section 3.3.1) PF-AES-01 to PF-AES-03, and PF-AES-05 to PF AES-07, Air Quality (Section 3.3.2) PF-AQ-01, Hazardous Materials (Section 3.3.9) PF-HAZ-1 and PF HAZ-2, and Water Quality (Section 3.3.10) PF-WQ-01 and PF-WQ-02, would further reduce impacts to WPT. Applicable PFs are provided at the end of this section and are also found in Appendix A.

For both Build Alternatives, the Project would have a less than significant impact on WPT with standard PFs and AMMs incorporated.

Pallid Bat

The pallid bat is listed as California SSC. There are CNDDB occurrences of pallid bat within 1.75 miles of the BSA. Pallid bats roost in crevices in rocky outcrops, cliffs, caves, mines, trees, and human structures such as bridges, barns, and porches. There are potentially suitable structures for pallid bat roosting within the BSA; however, no evidence of bat occupation was found during Project field surveys.

Potential Project impacts include direct impacts such as disturbance of bats roosting under the deck of Stage Gulch Creek Bridge, or in surrounding trees, and indirect impacts such as noise during night construction, potentially leading to a temporary loss in foraging habitat and night roosts.

For both Build Alternatives, implementation of standard PFs (PF-BIO-01 to PF-BIO-05, PF-BIO-09, PF-BIO-10, PF-BIO-15 to PF-BIO-18, and AMM-BIO-07 to AMM-BIO-09) would minimize impacts to bats. In addition, standard PFs and AMMs from Aesthetics (Section 3.3.1) PF-AES-05 and PF-AES-06, and Noise (Section 3.3.13) PF-NOISE-01, AMM-NOISE-01, AMM-NOISE-02, would further reduce impacts to

bats. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

b and c) Less Than Significant Impact

The NWI (Figure 3-3) shows 850 linear feet of presumably jurisdictional waters of the U.S. (also presumed to be waters of state) within the BSA. Stage Gulch Creek is classified as a riverine intermittent streambed, seasonally flooded. Flowing surface water is present for extended periods, especially early in the growing season, but is absent by the end of the growing season in most years. Surface water may remain through the dry season in isolated pools. There is also a stock pond about 700 feet northeast of the BSA that drains into Stage Gulch Creek through a culvert under the highway just beyond the northern edge of the Project footprint.

A delineation of aquatic resources conducted in April 2023 confirmed this characterization of aquatic resources. No jurisdictional wetlands were found within the BSA. Limited riparian vegetation was documented as associated with Stage Gulch Creek. No additional sensitive communities were discussed.

Build Alternative 1 Signalization

Build Alternative 1 would temporarily affect 0.40 acre of presumably jurisdictional waters of the U.S./waters of the state, and associated riparian vegetation, through bridge widening. Caltrans would obtain a Clean Water Act (CWA) Section 404 authorization under Nationwide Permit 14 with U.S. Army Corps of Engineers (USACE), CWA Section 401 certification with the SFBRWQCB, and a Section 1602 Lake and Streambed Alteration Agreement (LSAA) from the CDFW.

Riparian vegetation within and around Stage Gulch Bridge is likely to require trimming during the bridge widening work. Replanting and restoration to the extent possible, would minimize impacts to riparian vegetation.

No potentially jurisdictional wetlands, as defined by Section 401/404 of the CWA, were identified within the BSA during field surveys.

For Build Alternative 1, the implementation of standard PFs and AMMs (PF-BIO-01 to PF-BIO-05, PF-BIO-09 to PF-BIO-13, PF-BIO-20, AMM-BIO-05, and AMM-BIO-06) would avoid or minimize impacts to riparian vegetation and other sensitive natural communities. In addition, standard PFs from Hazardous Materials (Section 3.3.9) PF-HAZ-01 to PF-HAZ-04, and Water Quality (Section 3.3.10) PF-WQ-01

would further reduce impacts to riparian vegetation and other sensitive natural communities. As a result, Build Alternative 1 would have a less than significant impact on sensitive natural communities. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

Build Alternative 2 Roundabout

Build Alternative 2 is not anticipated to affect jurisdictional waters of the U.S. and/or waters of the state or associated riparian vegetation. No potentially jurisdictional wetlands, as defined by Section 401/404 of the CWA, were identified within the BSA during field surveys. Build Alternative 2 would not require work in Stage Gulch Creek and its riparian habitat.

Implementation of standard Biological PFs and AMMs (PF-BIO-01 to PF-BIO-05, PF-BIO-9 to PF-BIO-13, AMM-BIO-05, and AMM BIO 06.) would avoid or minimize impacts to sensitive natural communities. In addition, standard PFs from Hazardous Materials (Section 3.3.9) PF-HAZ-01, PF-HAZ-02 and Water Quality (Section 3.3.10) PF-WQ-01, PF-WQ-02, would further reduce impacts to sensitive natural communities. As a result, Alternative 2 would have a less than significant impact on sensitive natural communities. Applicable PFs and AMMs are provided at the end of this section and are also found in Appendix A.

Legend

- Project Limits

NWI Wetland Type (2021)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

N

0 500 1,000
Feet

Path : D:\WIE\21-002-009 SR 116 2Q770\aprx\21-002-009 SR116\21-002-009 SR116 Land Use.aprx

FIGURE 3-3
U.S. Fish and Wildlife Service
National Wetlands Inventory Map

State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

d) Less Than Significant Impact

Neither Build Alternative would interfere substantially with the movement of native resident or migratory fish or wildlife species. Stage Gulch Creek, within the BSA, is an ephemeral drainage with limited or nonexistent summer flows. The technical assistance results from NMFS indicated that there were no historical records of anadromous fish or critical habitat for anadromous fish in Stage Gulch Creek. The Project would not impact movement corridors of anadromous fish.

For both Build Alternatives, numerous protected migratory bird species (USFWS 2022) may occur within the BSA and be affected by Project implementation. Trees, shrubs, ruderal vegetation patches, and other substrates found within the vicinity of the BSA provide potential nesting sites. Implementation of standard PFs (PF-BIO-01, PF-BIO-02, PF-BIO-04, PF-BIO-05, PF-BIO-07, PF-BIO-08, PF-BIO-12, and PF-BIO-15 to PF-BIO-18) would minimize impacts to migratory bird species that may be nesting within the BSA and would avoid and/or minimize impacts to nesting birds. Therefore, impacts to nesting birds would be less than significant.

e) No Impact

The Project would not conflict with any local policies or ordinances protecting biological resources; therefore, there would be no impact.

f) No Impact

As of March 2023, there is no approved Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) covering the BSA. Therefore, the Project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs into the Project to reduce potential impacts to Biological Resources. The PFs applicable to both Build Alternatives are listed first, followed by PFs specific to each Build Alternative.

Both Build Alternatives

- **PF-BIO-01, Documentation at Project Site:** A Permit Compliance Binder will be maintained at the construction site at all times and presented to resource agency personnel upon request. The Permit Compliance Binder will include a

copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

- **PF-BIO-02, Work According to Documents:** Except as they are contradicted by measures within the permits and agreements, all work will be conducted in conformance with the Project description in the permits and agreements and the PFs and AMMs provided in this document.

- **PF-BIO-03, Work Period in Dry Weather Only:** Work in the bed, bank, channel, and any associated riparian habitat will only be conducted during periods of dry weather. Work during precipitation events will adhere to the applicable permit conditions.

- **PF-BIO-04, Mark Environmentally Sensitive Areas:** Before construction begins, ESAs will be clearly delineated using high visibility orange fencing, flagging, or similar marking to delineate sensitive habitats. The ESA marking will remain in place throughout construction. It may be removed during the wet season (and subsequently re-installed) if needed to prevent materials from being washed away. The final Project plans will depict all locations where ESA markings will be installed and how they will be installed. The bid solicitation package special provisions will clearly describe acceptable marking material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. ESA markings will be maintained in good repair throughout the Project as needed.

- **PF-BIO-05, Worker Environmental Awareness Training:** Prior to the start of construction, the Project biologist will provide a training session for all work personnel to identify any sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later will receive the same training before beginning work. Upon completion of the education program, employees will sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project and ESAs within the Project footprint and notes key avoidance measures as well as employee guidance will be given to each person who completes the training program. These forms will be made available to the resource agencies upon request.

- **PF-BIO-06, Wildlife Exclusion Fencing:** Before starting construction, wildlife exclusion fencing (WEF) will be installed where wildlife could enter the Project footprint. Locations of the WEF will be determined in coordination with the onsite Project biologist. WEF installation locations will be identified during the Project design phase of the Project; the final plans will depict the locations where WEF will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable WEF material and proper WEF installation and maintenance. The WEF will remain in place throughout the Project duration while construction activities are ongoing and will be regularly inspected for stranded animals and fully maintained. The WEF will be removed following completion of construction activities or when construction is completed at that location at the discretion of the Project biologist.

- **PF-BIO-07, Nesting Bird Surveys:** If Project activities occur from February 1 to September 30, then a pre-construction survey(s) will be conducted for nesting birds no more than 3 days before any vegetation removal, or initiation of staging, and/or construction. If active nests are found, then an appropriate buffer will be established, and the nest will be monitored for compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503.

- **PF-BIO-08, Active Nest Buffers:** If an active bird nest is found during construction activities, then the following ESA buffers will be established: If an active raptor nest is observed, a 300-foot ESA buffer will be implemented to avoid impacting the young until they have fledged; if an active nest of non-raptor birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California Fish and Game Code Section 3503.

- **PF-BIO-09, Construction Site Management Practices:** The following restrictions will be implemented to avoid or minimize potential impacts on sensitive biological resources:

    - Enforcing a speed limit of 15 miles per hour for Project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

    - Locating construction access, staging, storage, and parking areas within the ROW to the extent practicable and outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the

minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction.

- Certifying, to the maximum extent practicable, borrow material is nontoxic and weed free.
- Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.
- Prohibiting pets from entering the Project footprint during construction.
- Prohibiting firearms within the Project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

- **PF-BIO-10, Implementation of Best Management Practices:** A SWPPP is anticipated. Project BMPs will be included in the plans and special provisions to comply with the requirements of the SFBRWQCB GCP. Protective measures will include, at a minimum:
  - Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses.
  - Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or an established vehicle maintenance facility.
  - All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any downstream riparian habitat, aquatic habitat, culvert, or drainage feature, or will be removed from the site at the end of the day.
  - Dedicated fueling and refueling practices will be designated as part of the approved SWPPP.
  - Dedicated fueling areas will be protected from stormwater run-on and will be located at least 50 feet from downslope drainage facilities and water courses. If this is not possible then fueling will be conducted as stated in the SFBRWQCB GCP and in the Caltrans BMP Guidance Handbook (Caltrans 2017a).

- Fueling must be performed on level-grade areas. On-site fueling will only be used when and where it is impractical to send vehicles and equipment off-site for fueling. When fueling must occur on-site, the contractor will designate an area to be used subject to the approval of the Resident Engineer representing Caltrans. Drip pans or absorbent pads will be used during on-site vehicle and equipment fueling.

- Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment.

- Dust and erosion control measures will be implemented consistent with the SFBRWQCB GCP and the Caltrans BMP Guidance Handbook.

- Installing coir rolls, straw wattles, or other erosion control items per guidance in the Caltrans BMP Guidance Handbook during construction to capture sediment.

- **PF- BIO-11, Invasive Weed Control**: To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. If noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project footprint will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project. If work occurs in sensitive habitat, vehicles and equipment will be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

- **PF-BIO-12, Vegetation Removal:** Whenever possible, vegetation removal will be scheduled between September 30 and February 1 to avoid impacts to nesting birds during the nesting season. If work occurs during this time, pre-construction surveys for nesting birds are required. Vegetation would be cleared only where necessary and would be cut above soil level, except in areas that would be

permanently affected or excavated. This would allow plants that reproduce vegetatively to resprout after construction.

- **PF-BIO-13, Landscaping and Revegetation Plan:** Vegetation and trees removed by construction operations within the Project limits will be replaced according to Caltrans policy to the extent feasible. Temporarily disturbed areas will be restored to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with locally appropriate, commercially available, native vegetation or other methods to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, appropriate native species will be used to the maximum extent possible, and trees, shrubs, and groundcover will be selected for drought tolerance and disease resistance and based on local composition. Mulch will be applied to planted areas to reduce weed growth, conserve moisture, and minimize maintenance operations. A plant establishment period may be included in the final revegetation plan, based on state and federal permits.

- **PF-BIO-14, Prevent Inadvertent Entrapment:** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project footprint overnight will be inspected before they are subsequently moved, capped, or buried.

- **PF-BIO-15, Agency-approved Biologist:** A Project biologist approved by USFWS and CDFW will conduct pre-construction surveys for federally and state-listed species. The Project biologist will be present during construction activities including vegetation clearing and grubbing, as required by the resource agencies. If at any point any listed species is discovered within the Project footprint, the Project biologist, through the Resident Engineer or his/her designee, will halt all work within 50 feet of the animal and contact the corresponding agency (USFWS or CDFW) to determine how to proceed.

- **PF-BIO-16 Stop-Work Authority:** Through the Resident Engineer or their designee, the Project biologist(s) shall have the authority to stop Project activities

to minimize take of listed species or if he/she determines that any permit requirements are not fully implemented. Caltrans will provide appropriate notifications based on language in the permits and agreements to agency(s) with jurisdiction.

- **PF-BIO-17, Discovery of Injured or Dead Special-status Species:** Immediately following the discovery of any dead, injured, or entrapped special-status species regulated by USFWS or CDFW, Caltrans will provide appropriate notifications based on language in the permits and agreements to agency(s) with jurisdiction.
- **PF-BIO-18, Wildlife Species Relocation:** When listed wildlife species (that do not have state fully protected status) are present and it is determined that they could be injured or killed by construction activities, the Project biologist, in coordination with the appropriate state and federal wildlife agencies, and as outlined within the applicable permits, will identify appropriate methods for capture, handling, exclusion, and relocation of individuals that could be affected.
- **PF-BIO-19, Lighting Design:** During the Project design phase, lighting fixtures will be selected to reduce standard light temperature (Kelvin), using yellow-white or amber-white LEDs of 2700 Kelvin or less. Light fixtures will be shielded to minimize light trespass or 'spread' to the extent practical while meeting highway safety standards. Lighting design will be coordinated with the Office of Biological Sciences and Permits and the Office of Landscape Architecture during the Project design phase.
- **PF-AES-01, Vegetation Impacts:** Described in Section 3.3.1.
- **PF-AES-02, Vegetation Protection:** Described in Section 3.3.1.
- **PF-AES-03, Tree Protection:** Described in Section 3.3.1.
- **PF-AES-05, Limit Nightwork Impacts:** Described in Section 3.3.1.
- **PF-AES-06, Minimize Light Pollution:** Described in Section 3.3.1.
- **PF-AES-07, Reseeding Disturbed Areas:** Described in Section 3.3.1.
- **PF-AQ-01, Dust Control Measures:** Described in Section 3.3.3.
- **PF-HAZ-01, Caltrans Standard Specifications and Hazardous Waste Regulations:** Described in Section 3.3.9.

- **PF-WQ-01, Compliance with Water Quality Permits and Pollution Prevention Programs:** Described in Section 3.3.10.

- **PF-NOISE-01, Construction Noise Levels:** Described in Section 3.3.13.

Build Alternative 1 Signalization

- **PF-BIO-20, Temporary Creek Diversion System:** For the bridge work associated with the intersection signalization, a temporary creek diversion system (TCDS) will be used to create a dry construction area and prevent construction materials from entering the creek. A TCDS will consist of a diversion pipe with coffer dams at both the upstream and downstream ends of the creek within the Project footprint. This diversion may be used during the duration of construction but will be removed following the completion of construction activities. Construction in the creek will be limited to the dry season, when the creek is at its lowest water level, to reduce impacts on biological resources and soil hydrology. A temporary Stream Diversion Plan will be developed and approved by Caltrans and agencies (may include CDFW, USACE, RWQCB, USFWS) prior to the start of construction.

- **PF-BIO-21, Aquatic Wildlife Relocation:** For the bridge work associated with the intersection signalization: If water is present in Stage Gulch Creek at the beginning of the dry season work window, fish and other aquatic vertebrates within the area to be dewatered shall be removed and relocated to appropriate areas out of the construction area. An approved fish removal and relocation plan shall be developed and approved by the appropriate agencies prior to fish recovery operations.

Build Alternative 2 Roundabout

- **PF-WQ-02, Implementation of Post Construction Water Pollution BMPs:** Described in Section 3.3.10.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMMs into the Project to avoid or minimize potential impacts to Biological Resources. The AMMs applicable to both Build Alternatives are listed first, followed by AMMs specific to each Build Alternative.

Both Build Alternatives

- **AMM-BIO-01, Timing of Construction:** Construction will occur during the dry season, when CRLF are most likely to be estivating in moist refuges and not dispersing through the Project footprint. If construction activities must take place during the wet season, Caltrans will coordinate with USFWS about the need for CRLF surveys. Work in Stage Gulch Creek for Build Alternative 1 bridge widening will be restricted to the dry season and outside of the CRLF breeding season. No construction activities will occur during rain events or within 24-hours following a rain event. Prior to construction activities resuming, the Project biologist will inspect the action area and all equipment/materials for the presence of CRLF. The animals will be allowed to move away from the Project of their own volition or moved by the Project biologist, as stipulated in the Project Biological Opinion for CRLF from USFWS.

- **AMM-BIO-02, California Red-legged Frog Pre-construction Surveys:** Pre-construction surveys for the CRLF will be conducted by the Project biologist within 14 calendar days of the initiation of Project activities in suitable upland and aquatic habitat prior to ground-disturbing activities, vegetation removal, and WEF installation. Surveys will be conducted as outlined in the 2005 USFWS species survey guidelines for CRLF. Access to habitat during surveys may be limited by appropriate safety measures and protocols, available at https://www.fws.gov/ventura/docs/species/protocols/crlf/caredleggedfrog_survey-guidelines.pdf. Access to habitat during surveys may be limited by appropriate safety measures.

  Pre-construction surveys will include:

  - Foot surveys will be conducted of potential frog habitat within the Project limits and accessible adjacent areas (within at least 50 feet of Project limits).

  - Potential cover sites (burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil will be investigated for signs of CRLF.

  Native vertebrates found in cover sites within the Project limits will be documented and, if handling is allowed, relocated to an adequate cover site in the vicinity. Species that cannot be relocated due to special protection status will be addressed in coordination with the appropriate agency(s) with jurisdiction.

- **AMM-BIO-03, California Red-legged Frog Monitoring:** During construction in and near potential CRLF habitat, the following protocols will be observed by the Project biologist during construction monitoring:

    - Within 24 hours prior to initial ground-disturbing activities, portions of the Project footprint where potential CRLF habitat has been identified will be surveyed by a Project biologist(s) to clear the site of frogs moving above ground or taking refuge in burrow openings or under materials that could provide cover.

    - A Project biologist(s) will be present during all initial ground-disturbing activities and vegetation removal in suitable refugia habitats for the CRLF to monitor the removal of the top 12 inches of topsoil.

    - If potential aestivation burrows are discovered, the burrows will be flagged for avoidance.

    - After a rain event, and prior to construction activities resuming, a Project biologist will inspect the work area and all equipment/materials for the presence of CRLF.

    - Upon discovery of a CRLF individual(s) in an active construction area, all work will cease within a 50-foot radius of the frog. The frog will be allowed to leave the site on its own; or if the frog(s) does not leave on its own, it will be relocated as close to the Project footprint as feasible and with permission from the property owner; and placed in a natural burrow by a Project biologist with the appropriate USFWS 10(a)1(A) handling permit.

    - The USFWS will be notified by phone and email within one working day of any CRLF discovery in the Project footprint.

- **AMM-BIO-04, Proper Use of Erosion Control Devices:** To prevent CRLF from becoming entangled or trapped in erosion control materials, the following: plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes will include coconut coir matting or tackified hydroseeding compounds.

- **AMM-BIO-05, Targeted Pre-construction Plant Survey:** Prior to initiation of construction, an experienced botanist will conduct a floristic survey in the BSA. Surveys would occur during the appropriate blooming period for all special-status

plant species with potential to occur within the Project footprint. Surveys would follow CNPS, CDFW, and USFWS protocols.

- **AMM-BIO-06, Tree Replanting Evaluation.** Caltrans will evaluate opportunities for onsite tree replanting during final design, consistent with safety standards for line of sight.

- **AMM-BIO-07, Pre-construction Surveys for Bats:** Prior to the start of work at each location, a Project biologist will conduct a visual survey of the area for bat species. Any bats observed in the BSA will be allowed to leave on their own.

- **AMM-BIO-08, Bat Surveys Prior to Vegetation Removal**: A survey by a Project biologist will be conducted prior to vegetation removal to determine if two-phase tree removal methods are appropriate for any trees scheduled for removal, or if a biological monitor will be required to be present during tree removal. The Project biologist will inspect all trees marked for removal for bat roost habitat (e.g., crevice and foliage habitat types).

- **AMM-BIO-09, Bat Monitoring Protocols:** If a bat or bat colony is observed nesting or roosting in active construction areas at the Project footprint, construction activities that would imminently harm bats will stop within 150 feet of the roosting location until a Project biologist develops a site-specific bat avoidance plan to implement at the roosting site. Once the plan is implemented, Project activities may recommence with Project biologist oversight at that location.

- **AMM-BIO-10, Pre-construction Surveys for Western Pond Turtle**: A Project biologist will conduct pre-construction surveys for WPT immediately before ground-disturbing activities in areas identified as suitable WPT habitat within the Project footprint. If WPT is found within the Project footprint and at risk of harm, then it will be relocated by a Project biologist outside of the Project footprint.

- **AMM-BIO-11, Special-status Plant Protection:** If special-status plant species are found during botanical surveys, the following measures would be implemented:

    - The botanist would map the exact boundaries of the population in the Project BSA and record the density of plants within the population.

- Special-status plant populations would be included as an ESA "Do not enter without approval from the Project Biologist" in Project plans and specifications. These areas would be marked or fenced for avoidance with a 10-foot buffer.

- Ground-disturbing work near special-status plants would proceed under supervision of a Project biologist.

- If special-status plant species are found in the Project BSA and avoidance is not possible due to the location of the population, Caltrans would consult with the appropriate resource agencies (CDFW, CNPS, and/or USFWS) to develop minimization and/or compensation measures needed to avoid adverse effects to the population.

- Where it is not feasible to avoid special-status plant locations within construction areas, a plan would be developed through consultation with state and Federal agencies. The plan may identify requirements for seed collection and transplanting for annual plant species, native plant nursery propagation and planting for perennial species, redistribution within areas that provide appropriate habitat for the species in the Project BSA, if feasible.

- **AMM-NOISE-01, Construction Noise Levels:** Described in Section 3.3.13**.**

- **AMM-NOISE-02, Vibration Control Measures:** Described in Section 3.3.13.

Build Alternative 2: Roundabout

- **AMM-BIO-12, California Red-legged Frog Habitat Compensation:** If Build Alternative 2 is selected, Caltrans would pursue opportunities for offsite compensation for the upland dispersal habitat permanently lost through construction of the Roundabout through the purchase of species credits at a USFWS approved, appropriate conservation bank. This may include the purchase of CRLF credits at a USFWS-approved conservation bank conducting habitat restoration in the region, contribution to a larger advanced mitigation property acquisition, habitat management, or other beneficial measure that would aid local recovery of the species. These preliminary estimates may change during the design phase. Caltrans would make a final determination on impacts and develop a plan after coordination with USFWS.

3.3.5 Cultural Resources

Would the Project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	Both Build Alternatives: No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Both Build Alternatives: Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Both Build Alternatives: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

Caltrans prepared a memorandum documenting cultural resources regulatory compliance for the Project titled *Office of Cultural Resource Studies (OCRS) Section 106 Closeout Memo for the Signal Installation/Construct Roundabout Project at post mile (PM) 39.27 on State Route 116 in Sonoma County* (Caltrans 2023c). The investigation was performed and documented by a Caltrans archaeologist and architectural historian who are Professionally Qualified Staff (PQS) for prehistoric archaeology and architectural history. A summary of the findings is presented here.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer*, *and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Programmatic Agreement) (FHWA 2014) and the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance With Public Resources Code Section 5024 and Governor's Executive Order W-26-92, as addended 2019* (California State Historic Preservation Officer 2015). A Historic Property Survey Report (HPSR) and an Extended Phase I Report (XPI) were prepared for the Project. The HPSR and XPI contain confidential information that cannot be publicly shared. The documents will be archived in the Caltrans OCRS files and the Northwest Information Center of the California Historical Resources Information System.

The Caltrans OCRS review consisted of a detailed search of records, maps, plans, and digital files; a field investigation conducted in February 2023; and consultation with local tribes.

In accordance with Stipulation VI.B.8 and VIII.A and Attachment 3 of the Programmatic Agreement, the area of potential effects (APE) for the Project, which includes all areas of direct impact and the maximum extent of construction-related activities, was established by Caltrans' PQS architectural historian and archaeologist and the Project Manager on May 12, 2022. Both the Archaeological and Architectural APE's are comprised of the entire Project footprint, including all areas of potential direct and indirect effects. The vertical APE consists of all activities below the current ground surface, including excavation. The maximum depth of ground disturbance extends from ground surface to 14 feet for the widening of Stage Gulch Creek Bridge proposed for Build Alternative 1.

Caltrans contacted the Native American Heritage Commission (NAHC) on October 28, 2021, requesting a review of their Sacred Lands File (SLF) to determine if there were known cultural resource sites within or near the APE of the proposed Project. The NAHC responded on December 2, 2021, with negative SLF search results. A list of Native American contacts with potential interest or information regarding the Project was provided, and Section 106 of the National Historic Preservation Act and Assembly Bill (AB) 52 consultation letters regarding the proposed Project were sent to all listed contacts on December 13, 2022, as further described in Section 3.3.18, Tribal Cultural Resources.

Background research did not identify any cultural resources within the APE; however, due to the high cultural sensitivity of the area, XPI testing was proposed. On February 1, 2023, Caltrans archaeologists conducted an intensive pedestrian survey and XPI subsurface testing of the APE within the anticipated area of direct impacts to test for the presence or absence of archaeological resources. No cultural resources were identified in the APE.

In accordance with Stipulation IX.A of the Programmatic Agreement, the OCRS determined a finding of "No Historic Properties Affected" under Section 106 and "No Historical Resources Present" under CEQA were appropriate for the undertaking (Caltrans 2023c).

a) No Impact

There were no historical resources identified in the APE. Therefore, there would be no impact.

b and c) Less Than Significant Impact

The Project would not adversely affect known cultural resources. No AMMs are needed. However, during construction, ground-disturbing activities with either Build Alternative could inadvertently disturb previously unknown buried archaeological resources, including human remains.

California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. The procedures for the treatment of discovered human remains are contained in the California Health and Safety Code Sections 7050.5 and 7052, and the California Public Resources Code Section 5097.

Implementation of standard PFs (PF-CUL-01 and PF-CUL-02) would reduce potential impacts to undiscovered cultural resources associated with ground-disturbing activities during construction. Therefore, impacts to archaeological resources and human remains would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Cultural Resources:

- **PF-CULT-01, Cease Work Upon Discovery of Cultural Resources:** Cease work in the vicinity (60-foot radius) if cultural resources are encountered during Project-related ground-disturbing activities, Caltrans OCRS will be contacted, a qualified archaeologist will assess the significance of the resource, and appropriate avoidance or treatment measures will be implemented, in consultation with local consulting tribes.

- **PF-CULT-02, Procedures for Discovery of Human Remains:** In accordance with the California Health and Safety Code, if human remains are uncovered during construction-related activities, all such activities within a 60-foot radius of the find will be halted immediately and the Project's designated representative will be notified. The contractor or lead person on the Project will immediately notify the OCRS Office Chief and/or the District Native American Coordinator (DNAC). Once the remains are determined human, the lead person, OCRS Office

Chief, or DNAC will contact the County Coroner. If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making the determination (California Health and Safety Code Section 7050.5[c]). The Project's designated representative will be responsible for acting upon notification of discovery of Native American human remains, as identified in detail in California Public Resources Code Section 5097.9. The Project's designated representative and the professional archaeologist will contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the property owner and Caltrans, will determine the ultimate disposition of the remains. The lead person ensures that the recommendations are followed. After the appropriate actions are taken, Project work may resume.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Cultural Resources.

3.3.6 Energy

Would the Project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Both Build Alternatives: Less Than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Both Build Alternatives: No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

Construction activities would be planned and scheduled to maximize the efficient use of construction personnel and equipment to reduce the use of fuel and power consumption.

An Energy Analysis Report was prepared by the Caltrans Office of Environmental Engineering (Caltrans 2022c). A summary of the findings is presented here.

a) Less Than Significant Impact

Activities that consume energy also generate by-products. Greenhouse gases (GHGs) are the most extensively studied by-products of energy consumption because they are linked to climate change. To assess gasoline and diesel consumed by construction equipment and vehicles, the Road Construction Emissions Model (RCEM), version 9.0.0, provided by the Sacramento Metropolitan Air Quality Management District, was used to quantify carbon dioxide (CO_2) emissions and Vehicle Miles Traveled (VMT) of workers' vehicles. The USEPA's GHG equivalencies formulas were used to convert GHG and VMT to fuel volumes. It was assumed diesel would be used for all construction vehicles and equipment, and gasoline would be used during worker's commute. The Project is anticipated to consume approximately 22,299 diesel gallons and 1,315 gasoline gallons for Build Alternative 1 and approximately 18,296 diesel gallons and 1,089 gasoline gallons for Build Alternative 2 (Caltrans 2023d).

Implementation of standard PFs (PF-ENERGY-01 and PF-ENERGY-02) during construction would improve energy efficiency of construction equipment. In addition, Air Quality (Section 3.3.3) standard PFs (PF-AQ-02 and PF-AQ-03) would further improve energy efficiency and reduce energy consumption by Project construction. Applicable PFs are provided at the end of this section and are also found in Appendix A.

Construction-related activities would be short-term and would not increase SR 116 transportation capacity or otherwise alter long-term vehicle traffic, and thus do not have the potential to substantially affect energy use. During Project operation, energy consumption would be limited to routine maintenance-related activities that are anticipated to be similar to existing conditions. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction and operation. The Project would have a less than significant impact.

b) No Impact

The Project would not result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in energy consumption. The Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the Project would not conflict with the regional/statewide goals on renewable energy or energy efficiency. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Energy:

- **PF-ENERGY-01, Recycle Waste and Materials:** Recycle nonhazardous waste and excess construction materials to reduce disposal, if feasible.
- **PF-ENERGY-02, Solar Energy:** Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.
- **PF-AQ-02, Construction Vehicles and Equipment:** Described in Section 3.3.3.
- **PF-AQ-03, Limit Idling:** Described in Section 3.3.3.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Energy.

3.3.7 Geology and Soils

Would the Project:

Question	CEQA Determination
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.	Both Build Alternatives: No Impact
(ii) Strong seismic ground shaking?	Both Build Alternatives: No Impact
(iii) Seismic-related ground failure, including liquefaction?	Both Build Alternatives: No Impact
(iv) Landslides?	Both Build Alternatives: No Impact
b) Result in substantial soil erosion or the loss of topsoil?	Both Build Alternatives: Less Than Significant Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Both Build Alternatives: No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Both Build Alternatives: No Impact
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?	Both Build Alternatives: No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Both Build Alternatives: Less Than Significant Impact

CEQA Significance Determinations for Geology and Soils

The Project is located within the central portion of the Coast Ranges Geomorphic Province of California with the Northern Coastline Sub Province to the west and south of the Project. The dominant geologic feature of the Coast Ranges Geomorphic Province on the coast is the San Andreas Fault, an approximately 800-mile-long fault zone that generally forms the dividing line between major tectonic plates, with the Pacific Plate situated west of the San Andreas Fault and the North American Plate situated east of the San Andreas Fault (W.A. Bryant, et al., 2002).

In the seismically active Bay Area of California, there exist many additional fault zones, like the San Andreas in that they are considered hazardous and development in and around these faults are subject to special investigation pursuant to the Alquist-

Priolo Fault Zoning Act of 1972. The Project is 2.5 miles west of the Rodgers Creek Fault; the Rodgers Creek Fault zone is an earthquake zone of required investigation. The Rodgers Creek Fault Zone runs north, northwest to south, southeast and is approximately 35 miles long; the Rodgers Creek Fault Zone crosses the following U.S. Geological Survey (USGS) 7.5-minute quadrangles: Healdsburg, Santa Rosa, Cotati, Glen Ellen, Petaluma River, and Sears Point (M.C. Blake, et al., 2000).

There are two Quaternary Faults in the immediate vicinity of the Project that follow a similar path to the Rodgers Creek Fault Zone, running north, northwest to south, southeast; these are the Lakeview Fault and the Tolay Fault. At its closest point, the Lakeview Fault is mapped as occurring approximately 300 feet southwest of the Project. At its closest point, the Tolay Fault is mapped as occurring 1,970 feet to the northeast of the Project. The USGS describes Quaternary Faults as having been active within the last 1.6 million years. These faults do not represent hazard areas of required investigation (California Geological Survey [CGS] 2022a).

In general, the Coast ranges consist of complexly folded Mesozoic and Cenozoic sedimentary, metamorphic, and volcanic rock (Blake, et al, 2000). Geologic units in the Project footprint consist of surficial deposits of river-based Alluvium underlain by Franciscan Schist (CGS 2015). Franciscan Schist here is generally Blueschist, a metamorphic rock with primary components of deformed quartz-mica and minor components of metamorphosed graywacke.

The CGS maps the Project as outside of a tsunami zone (CGS 2022b).

Liquefaction hazards have not been mapped in the Project footprint by the CGS. Data sets from the USGS describe most of Sonoma County; the Project footprint is mapped as moderately susceptible to liquefaction (USGS 2000).

The nearest mapped landslide feature, as identified by the CGS, Landslide Inventory (CGS 2015) is approximately 2,000 feet to the northeast of the Project. The feature is identified as a point feature or deposit. No landslide features occur in the immediate vicinity of the Project. Deep-seated landslide susceptibility does not include very high landslide susceptibility, as defined in the report *Susceptibility to Deep-Seated Landslides in California* (C. J. Wills et al., 2011).

The NRCS Web Soil Survey identifies the Project footprint as dominated by map unit ‘CcA’, Clear Lake Clay loam. The Clear Lake soil series is composed of fine textured alluvium and is found in flood basins, plains and swales; these soils are characterized

by low slopes, a high water table, poor drainage and high plasticity (NRCS 2018). As a soil type high in clay content with high plasticity, CcA soils are considered expansive soils.

a(i), (ii), (iii), (iv) No Impact

Soils may be subject to strong shaking and potential liquefaction during a strong seismic event. However, Project construction would not further add to a liquefaction or shaking hazard; nor would the ongoing operations of the Project result in increased risk of loss, injury, or death. The Project is not capacity increasing so would not attract more people to seismically active areas (K.L. Knudsen et al., 2000).

The Project is not mapped on an unstable geologic unit. The Project does not include locations of construction-related activities within an Alquist-Priolo Earthquake Zone of Required Investigation. The Project does not include proposed activities within a mapped Tsunami Hazard Area or areas with historic landslide activities. Therefore, both Build Alternatives would have no impact.

b) Less Than Significant Impact

Build Alternative 1 Signalization

Ground disturbance would include grubbing, grading, and excavation. Depths of disturbance for grubbing and grading would not exceed four inches. Signalization pole installation would require excavation to a depth of up to 14 feet, bridge widening would require excavation to a depth of about 14 feet, lighting standards and flashing beacon foundations would require depths ranging from 6 to 8.5 feet, the removal and reconstruction of the retaining wall would require excavation to a depth of approximately 5 feet, and drainage improvements and utility relocations would require excavation to a depth of 3 to 6 feet. The total disturbed surface area (DSA) for Build Alternative 1 is approximately 1.45 acres.

Cut and fill associated with highway and bridge widening, retaining wall replacement, drainage, and electrical improvements would be balanced onsite to the extent possible, thereby conserving topsoil onsite.

Construction activities related to proposed ground disturbances for Build Alternative 1 could result in temporary erosion due to wind, track out, or rain events. Implementation of Caltrans construction site, water pollution control, and erosion control BMPs contained in Biological Resources (Section 3.3.4) PF-BIO-10, and

Hydrology and Water Quality (Section 3.3.10) PF-WQ-01, would minimize soil erosion and loss of topsoil due to erosion. Build Alternative 1 would not result in substantial erosion or loss of topsoil; the impact would be less than significant.

Build Alternative 2 Roundabout

Ground disturbance for Build Alternative 2 would include grubbing, grading, and excavation. Depths of disturbance for grubbing would not exceed 4 inches. Depth of disturbance for roundabout construction would be about 3 feet, and drainage improvements, lighting, and utility relocations would require excavation to a maximum depth of 8.5 feet. The DSA for Build Alternative 2 is approximately 1.79 acres.

Cut and fill associated with highway widening and roundabout creation, drainage, and electrical improvement would be balanced onsite to the extent possible, thereby conserving topsoil onsite.

Construction activities related to proposed ground disturbances for Build Alternative 2 could result in temporary erosion due to wind, track out, or rain events. The implementation of Caltrans construction site, water pollution control, and erosion control BMPs contained in Biological Resources (Section 3.3.4) PF-BIO-10, and Hydrology and Water Quality (Section 3.3.10 PF-WQ-01, would minimize soil erosion and loss of topsoil. Build Alternative 2 would not result in substantial erosion or loss of topsoil; the impact would be less than significant.

c and d) <u>No Impact</u>

The Project footprint is not underlain by soluble rock (salt beds and domes, gypsum, limestone and other carbonate rock) or a mapped groundwater basin and is therefore not likely to experience sinkholes or other subsidence events.

Based on mapping and soil unit descriptions from the NCRS, clay (expansive) soils may be found within the Project footprint that impact native soils; fill soils are expected within the existing highway prisms. Where expansive soils are not considered, impacts to a highway system may include surface deformation and cracking. The underlying material of the existing hillslope with retaining wall that would be reconstructed by Build Alternative 1 has a high clay content (shale and greywake) that is strongly associated with landslides, but there are no historic landslides in the immediate vicinity of the Project.

Per the Caltrans Highway Design Manual (2020), soil type would be evaluated and would determine engineering specifications for bridge and retaining wall work (Build Alternative 1) as well as new highway installation (Build Alternatives 1 and 2). By design, the Project would limit direct risk to life or property due to the potential presence of expansive soils and potential landslides. The Project would not increase risks to life and property from unstable soils. Both Build Alternatives would have no impact.

e) No Impact

No septic tanks or alternative wastewater delivery systems would be constructed or affected by the Project; therefore, no impact would occur.

f) Less Than Significant Impact

There are known paleontological features in Sonoma County, in western Sonoma County near the community of Bloomfield (Powell, et. al., 2019), and the petrified forests near Calistoga in northeastern Sonoma County. There are no documented paleontological resources in the Project vicinity, and field surveys have not identified surficial paleontological resources within the APE (see Section 3.3.5).

The alluvial deposits identified in the Project footprint are a relatively young formation, described as Pleistocene to Holocene in age. This category of younger alluvium is described as thin, generally less than 30 feet thick, and in the North Bay region, including Sonoma County, has been assigned a low paleontological sensitivity both because young alluviums in the area have not produced fossils in the past and because Pleistocene to Holocene alluviums generally consist of sediments too young to produce fossils (Kunkel and Upson 1960). The other rock type in the Project footprint is metamorphic. Metamorphic rock, due to the heat and pressure associated with the metamorphic process, only very rarely preserves fossils or other biological information (Galvez, M.E., et. al., 2012).

The lack of findings and characteristics of underlying deposits demonstrates an apparent low paleontological sensitivity, or probability of a paleontological discovery. The Project is unlikely to expose fossils or significantly affect sensitive palaeontologic resources. Therefore, the Project would have less than significant impact. However, as a conservative measure, implementation of an AMM (AMM-PALEO-01) would address potential undiscovered paleontological resources associated with ground-disturbing activities during construction.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs:

- **PF-BIO-10, Implementation of Best Management Practices:** Described in Section 3.3.4.
- **PF-WQ-01, Compliance with Water Quality Permits and Programs:** Described in Section 3.3.10.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMM to avoid and/or minimize potential impacts to Paleontological Resources:

- **AMM-PALEO-01, Paleontological Evaluation Report:** During the Project design phase, Caltrans will determine whether the Project footprint has a low or high sensitivity for paleontological resources. If Caltrans determines the Project area footprint is sensitive for paleontological resources, a person who meets Caltrans requirements of a Principal Paleontologist would prepare a Paleontological Evaluation Report. The Paleontological Evaluation Report would identify measures to avoid or/and minimize impacts to paleontological resources.

3.3.8 Greenhouse Gas Emissions

Would the Project:

Question	CEQA Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Both Build Alternatives: Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Both Build Alternatives: No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR GREENHOUSE GAS EMISSIONS

A Construction GHG Emissions Analysis was prepared by the Caltrans Office of Environmental Engineering (Caltrans 2023d). A summary of the findings is presented here.

a) Less Than Significant Impact

Construction-generated GHGs include emissions resulting from material processing by on-site construction equipment, workers commuting to and from the Project, and traffic delays due to construction of the Project. The emissions would be produced at different rates throughout the Project, depending on the construction-related activities occurring in the phases of construction. The analysis focused on vehicle-emitted GHG. Carbon dioxide (CO_2) is a more important GHG pollutant due to its abundance when compared with other vehicle-emitted GHGs, including methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbon, and black carbon.

Construction-related GHG emissions were calculated using the RCEM, version 9.0.0. During construction, the Project is anticipated to emit approximately 231.34 tons of CO_2, 0.06 ton of CH_4, and 0.01 ton of N_2O for Build Alternative 1 and 189.90 tons of CO_2, 0.05 ton of CH_4, and 0.01 ton of N_2O for Build Alternative 2 (Table 3-3). Total construction emissions of GHG of the Project for Build Alternative 1 is 212.93 metric tons of CO_2e and for Build Alternative 2 is 174.92 metric tons of CO_2e (Caltrans 2022c). The Project would not increase SR 116 transportation capacity and therefore would not generate long-term GHG emissions.

Table 3-3. Summary of Construction-related GHG Emissions by Build Alternative

Parameter	CO_2 (tons)	CH_4 (tons)	N_2O (tons)	CO_{2e} (metric tons)*
Build Alternative 1 Total emissions:	231.34	0.06	0.01	212.93
Build Alternative 2 Total emissions:	189.90	0.05	0.01	174.92

Notes: CH_4 = methane, CO_2 = carbon dioxide, CO_{2e} = carbon dioxide equivalent, GWP = global-warming potential, N_2O = nitrous oxide

* Gases are converted to CO_{2e} by multiplying by their GWP. Specifically, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period of time relative to the emission of 1 ton of CO_2.

The Project would implement Caltrans Standard Specifications such as complying with applicable air pollution control rules, regulations, ordinances, and statutes and the use of construction site BMPs to minimize short-term GHG emissions from construction activities. Implementation of Air Quality (Section 3.3.3) PF-AQ-02, PF-AQ-03, and Energy (Section 3.3.6) PF-ENERGY-01, and PF-ENERGY-02) would reduce air emissions, energy consumption, and GHG emissions.

The Project would not generate GHG emissions that may have a significant impact (i.e., long-term adverse effects) on the environment. Therefore, impacts would be less than significant.

b) No Impact

Plans and policies adopted for the purposes of reducing GHG emissions in California include multiple Senate Bills, Assembly Bills, and Executive Orders. These policies establish GHG emissions reduction goals, set low-carbon fuel standards, support rapid commercialization of zero-emission vehicles, fund clean vehicle programs, and require climate adaptation planning. The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) developed the Plan Bay Area, a Regional Transportation Plan and Sustainable Communities Strategy for the Bay Area, which includes strategies and policies for reducing GHG emissions (ABAG and MTC 2021).

The Project would comply with applicable state and regional GHG reduction policies and implement emission control measures to minimize or reduce GHG emissions. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The Project would not contribute

to a long-term increase in GHG emissions. Therefore, the Project would not conflict with applicable plans, policies, or regulations adopted for the purposes of reducing the emissions of GHGs. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs:

- **PF-AQ-02, Construction Vehicles and Equipment:** Described in Section 3.3.3.
- **PF-AQ-03, Limit Idling:** Described in Section 3.3.3.
- **PF-ENERGY-01, Recycle Waste and Materials:** Described in Section 3.3.6.
- **PF-ENERGY-02, Solar Energy:** Described in Section 3.3.6.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to GHG emissions.

3.3.9 Hazards and Hazardous Materials

Would the Project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Both Build Alternatives: Less Than Significant Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Both Build Alternatives: Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Both Build Alternatives: No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Both Build Alternatives: Less Than Significant Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	Both Build Alternatives: No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Both Build Alternatives: Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Both Build Alternatives: Less Than Significant Impact

CEQA Significance Determinations for Hazards and Hazardous Materials

SR 116/ Stage Gulch Road/ Lakeville Highway are public highways, with motorists frequently traveling along the route. The Lakeville Volunteer Fire Department (LVFP) is located approximately 100 feet southwest down Lopes Road from the Project footprint, with an address of 5090 Lakeville Highway. No residential structures are located within the footprint of the Project; rural residential properties are located nearby on Lopes Road, Roche Road, and Old Lakeville Road.

Based on records from the State Water Resources Control Board (SWRCB), it is probable that the groundwater under at least a portion of the intersection is contaminated with gasoline originally released from the former service station that operated at the property immediately north of the intersection, at the current location of Ernie's Tin Bar. The leaking underground gasoline storage tanks at the former service station were removed in 1994, with remediation and groundwater monitoring work continuing until 2017. The former Leaking Underground Storage Tank Cleanup

Site case located immediately north of the intersection of Stage Gulch Road and Lakeville Highway, at the current location of Ernie's Tin Bar, has been closed as of February 2019 (Sonoma County LOP Case #00001533; SFBRWQCB Case # 49-0241) (SWRCB 2022). An underground storage tank site qualifies as "closed" once the owner or operator meets all appropriate corrective action requirements, and the RWQCB has determined that the leaking underground storage tank case is generally considered to present a low threat to human health, safety and the environment (SFBRWQCB 2023).

Screening of environmental regulatory databases, including the SWRCB's GeoTracker and California Department of Toxic Substances Control's EnviroStor, revealed no additional known hazardous materials or hazardous waste sites in the immediate vicinity of the Project.

a and b) Less Than Significant Impact

The Project would not involve the routine transport or use of hazardous materials once the Project becomes operational.

During construction, standard PFs (PF-HAZ-01) would be implemented to prevent spills or leaks from construction equipment and from storage of fuels, lubricants, and solvents. All aspects of Project construction associated with removal, storage, transportation, and disposal of hazardous materials would be done in accordance with the appropriate California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specifications section 14-11, Hazardous Waste and Contamination, which outlines handling, storage, and disposal of hazardous waste.

During the final design phase, the Caltrans Office of Environmental Engineering would assess the extent of ground disturbance involved in the scope of the selected Build Alternative and would complete a site investigation led by the Hazardous Waste Branch to characterize soil and groundwater for contaminants (PF-HAZ-02 and PF-HAZ-03). The results of the site investigation would dictate the special provisions required for proper soil management, disposal, and liability.

Build Alternative 1 Signalization

Excavations for the signal foundations in Build Alternative 1 would likely be deep enough (up to 14 feet) to encounter groundwater. Given the likely presence of a residual contaminant plume from the former leaking underground fuel tank, the

Hazardous Waste Branch would conduct site investigation work to screen the soils and groundwater where the traffic signal foundations would be excavated. The investigation would be planned and completed during the Project design phase when well-developed plans and cross-sections are available for reference. The Hazardous Waste Branch would use the results of the investigation to determine if any identified gasoline contamination levels could affect the Project's construction practices, plans, or cost, and would recommend special provisions to be included in the Project specifications.

Build Alternative 1 would include the widening and upgrading of the SR 116 Stage Gulch Creek Bridge. The National Emission Standards for Hazardous Air Pollutants issued by the USEPA require that any bridge undergoing refurbishment (or demolition) be surveyed for hazardous materials (PF-HAZ-04), such as asbestos-containing construction materials and lead-based coatings, that might be disturbed by the bridge refurbishment work. Any hazardous materials identified by the bridge survey and any related requirements would be disclosed to the contractor in the construction contract special provisions prepared by the Hazardous Waste Branch.

Build Alternative 1 would also include some highway widening (e.g., the widening of SR 116 shoulder for a bike lane). The preliminary plans indicate that most, if not all, of the widening would be constructed on fill material.

Build Alternative 2 Roundabout

Shallow soil excavations (approximately 3 feet deep) would be required in Build Alternative 2 to construct the roundabout; deeper excavation (up to 8.5 feet) is needed to install warning beacons and lighting. Although any groundwater contaminant plume under the Intersection is not likely to be a factor in Build Alternative 2 construction, the Hazardous Waste Branch would conduct site investigation work to screen the soils and groundwater where the lighting and warning beacon foundations would be excavated (PF-HAZ-03). Also, the Stage Gulch Creek Bridge is not a part of the roundabout alternative's construction scope, so the Hazardous Waste Branch would not need to conduct a bridge survey for hazardous materials.

The site investigation scope for Build Alternative 2 would be largely focused on quantifying the aerially deposited lead levels in the proposed shallow excavation areas for the roundabout. Based on past site investigation work in this general area of the SR 116 corridor, the excavated shallow soils are expected to have a very limited accumulation of aerially deposited lead due to the rural area's low traffic volumes during the era of leaded fuel use. The results would be used to classify the waste

characteristics of the soils and estimate their disposal cost for the Project construction.

The lack of operational impacts from hazardous materials, along with implementation of standard PFs (PF-HAZ-01, PF-HAZ-02, and PF-HAZ-03) and compliance with Caltrans Standard Specifications section 14-11, would reduce the potential construction impacts caused by the transportation, use, and disposal of hazardous materials or an accidental release of hazardous materials. Therefore, impacts would be less than significant.

c) No Impact

No existing or proposed school is within 0.25 mile of the Project. The nearest existing schools are River Montessori Charter and Cypress Secondary School, which are located approximately 2.25 miles northwest of the Project footprint. In addition to the lack of schools located within 0.25 mile of the Project, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during operation. Therefore, no impact to schools would result from the Project.

d) Less Than Significant

As described above, the Project may encounter contaminated groundwater from a closed case of leaking underground fuel tank at the site of the former gas station north of the intersection. Caltrans special provisions for investigation, characterization, and disposal (PF-HAZ-02 and PF-HAZ-03) would reduce the risk of worker and public exposure to a less-than-significant level. See response to Questions a and b.

e) No Impact

The Project footprint is not within an airport land use plan or within 2 miles of a public airport or public use airport. The nearest airport is the Petaluma Municipal Airport, located approximately 3.75 miles northwest of the Project footprint.

No Project components, including construction equipment, would reach heights or have the potential to pose a safety hazard to airport operations. Further, the Project would not generate excessive noise that would impact people residing or working adjacent to the Project footprint, as discussed in Section 3.3.13. Therefore, no impact to airports would result from the Project.

f) Less Than Significant Impact

Through implementation of Transportation (Section 3.3.17) standard PFs (PF-TRANS-1), a TMP would be developed for both Build Alternative 1 and Build Alternative 2. For both Build Alternatives, staged construction and shoulder closures are expected during construction. One-way controlled traffic is not anticipated as an ongoing feature of the construction traffic control plans, but may be required for specific events (e.g., staging and set up of barrier system). Potential localized delays to traffic along SR 116/ Stage Gulch Road/ Lakeville Highway would result from the reduced speeds associated with construction zones. Emergency service response times are not anticipated to change substantially during construction because the TMP would provide priority to emergency and medical vehicles. The TMP would not disrupt access of the LVFD to SR 116. The TMP would provide notifications and instructions for rapid response or evacuation in the event of an emergency based on the evacuation zones in the Project limits. In addition, the Project would not conflict with the Sonoma County Emergency Operations Plan (Sonoma County 2022), the City of Petaluma Emergency Operations Plan (City of Petaluma 2022), or other emergency response or evacuation plans. The impact on adopted emergency response plans or emergency evacuation plans caused by the Project would be less than significant.

g) Less Than Significant Impact

Areas north and east of the intersection of Stage Gulch Road and Lakeville Highway are located within a California Department of Forestry and Fire Protection (CalFire)-designated High Fire Hazard Severity Zone (State Responsibility Areas [SRA]) (CalFire 2022). South and west of the intersection of Stage Gulch Road and Lakeville Highway are located within local responsibility areas, namely the LVFD. Several fire agencies serve the Project vicinity and are responsible for emergency services and the management of fire operations during emergency response efforts.

The LVFD provides emergency services to the Lakeville community, along with surrounding areas, and is located approximately 100 feet southwest down Lopes Road from SR 116 adjacent to the Project. They respond to a wide variety of incidents including hazardous materials, public assists, vehicle accident extrications, land and water rescue, and commercial and residential fire alarms. The TMP would not disrupt access of the LVFD to SR 116.

During construction, equipment may be used that has the potential to increase the risk of wildfire. However, construction crews would be equipped with standard incipient stage fire suppression equipment such as fire extinguishers and shovels. Professional fire services are stationed nearby and would be contacted immediately in the event of a fire. The Project does not have permanent components that would expose people or structures to risk of loss, injury, or death involving wildland fires. Impacts from the Project that would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Hazards and Hazardous Materials:

Both Build Alternatives

- **PF-HAZ-01, Caltrans Standard Specifications and Hazardous Waste Regulations:** The current Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, paints, cleaners, solvents, and lubricants. Handling and management of hazardous materials will comply with the current Caltrans Standard Specification Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.

- **PF-HAZ-02, Soil Investigation:** A soil investigation for metals, primarily lead, and other contaminants of concern (i.e., petroleum hydrocarbons and volatile organic compounds) will be completed during the Project's design phase to characterize and profile the soil to be encountered by the construction of the Project. Depending upon the findings of the site investigation, appropriate hazardous waste management special provisions will be prepared and included in the Project specifications.

- **PF-HAZ-03, Groundwater Testing:** As part of the site investigation work, groundwater samples will be collected and tested for gasoline constituents . The aim of this work will be to determine the extent of the contaminant plume in the groundwater and to determine if any portion of it is located below planned Project construction work that might encounter groundwater, such as excavating foundations for new traffic signals. The findings from the groundwater sampling will also define the contaminant concentration contours and help establish what

water treatment will be required, if any, and what discharge options will be available for any groundwater pumped out and stored during subsurface construction work.

- **PF-TRANS-01, Transportation Management Plan:** Described in Section 3.3.17.

Build Alternative 1

- **PF-HAZ-04, Materials Testing:** Stage Gulch Creek Bridge will be inspected by a certified professional during the Project design phase for possible asbestos-containing materials, e.g., bridge railing base plate shims and structure bearing pads. Any suspect materials will have samples taken from them to be screened for asbestos content via polarized light microscopy. The bridge survey for hazardous materials will also include collecting samples of any paints, primers, coatings, or traffic stripes on the bridge for lead screening. The findings of the bridge survey will be used to address bridge alteration work that might disturb identified hazardous materials and any necessary remediation work preceding the bridge work.

- **PF-TRANS-01, Transportation Management Plan:** Described in Section 3.3.17.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts due to Hazards and Hazardous Materials.

3.3.10 Hydrology and Water Quality

Would the Project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Both Build Alternatives: Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	Both Build Alternatives: Less Than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Both Build Alternatives: Less Than Significant Impact
(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	Both Build Alternatives: Less Than Significant Impact
(iv) impede or redirect flood flows?	Both Build Alternatives: No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	Both Build Alternatives: No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Both Build Alternatives: No Impact

CEQA Significance Determinations for Hydrology and Water Quality

A Stormwater Data Report (Caltrans 2022d) and a Drainage Recommendation, by the Office of Hydraulics Engineering (Caltrans 2022e), were prepared for the Project. Findings are presented here.

The Project intersection is located directly adjacent to Stage Gulch Creek, an intermittent stream that crosses beneath SR 116 north of the intersection. From the bridge at SR 116, Stage Gulch Creek flows approximately 1.1 miles to the Petaluma River which drains into the San Pablo Bay.

The Project is within the Petaluma River Hydrologic Area (Hydrologic Unit is the San Pablo Bay, 180500020605) and is located within the jurisdiction of the SFBRWQCB, which is responsible for the implementation and enforcement of state laws and regulations concerning water quality. To that end, the SFBRWQCB has developed a Water Quality Control Plan for the San Francisco Bay Basin (SWRCB, 2017). The Basin plan describes beneficial uses for Petaluma River as cold and warm

freshwater habitat, fish migration, fish spawning, wildlife habitat, preservation of rare and endangered species, navigation, and contact and non-contract recreation.

Impacts from agriculture runoff, construction, hillside development, and urban runoff have resulted in the 303(d) listing of the Petaluma River (SWRCB Resolution 2020-0018). The Petaluma River has a Total Maximum Daily Load (TMDL) for Diazinon, Nutrients, Pathogens, and Sediment. The TMDL was approved by USEPA in 2021.

Floodplains within the Project limits were identified using Flood Insurance Rate Map panel 06097C1008F, dated 10/2015, developed by the Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program (Figure 3-4). The proposed Project is within Flood Zone X, an area of minimal flood hazard and is not within a FEMA base floodplain or floodway (FEMA 2015).

The existing drainage pattern of the intersections allows sheet flow off roads with ditches and pipes that convey road runoff to Stage Gulch Creek.

a) Less Than Significant Impact

Construction projects can disturb soil and add new impervious surfaces (NIS), which are actions that can increase the potential for sediment and pollutant mobilization. Caltrans' Stormwater Quality Handbook (Caltrans 2017a) identifies thresholds that help determine when action is required to prevent and monitor water quality and runoff impacts due to the NIS and soil disturbance.

NIS over 1 acre would require post-construction stormwater treatment measures. For soil disturbance, Caltrans defers to the SWRCB Construction General Permit (CGP), which requires that projects that involve 1 acre or more of contiguous (less than 0.3 mile apart) soil disturbance or are otherwise identified (by the RWQCB) as having water quality risk, would require a SWPPP. If a project disturbs less than 1 acre of soil, Caltrans policy, as described in the Stormwater Quality Handbook (2017b), mandates the implementation of a WPCP (Caltrans 2021a).

The purpose of both the SWPPP and the WPCP is to identify construction/contractor activities that could discharge pollutants in stormwater and provide descriptions of measures or practices to control these pollutants.

The Project has the potential to contribute stormwater runoff and pollutants to Stage Gulch Creek and the Petaluma River during construction-related activities. The Project would increase existing paved/build areas and would therefore add NIS.

Build Alternative 1 Signalization

The DSA for Build Alternative 1 is estimated to be 1.45 acres. The DSA would exceed 1 acre, and therefore, Build Alternative 1 would be subject to the SWRCB CGP. To comply with the conditions of the SWRCB CGP and to reduce impacts associated with water quality and hydrology, a SWPPP would be prepared and implemented prior to the beginning of construction. Potential water quality impacts would be reduced to the maximum extent practicable through proper implementation of the SWPPP and inclusion of the Standard Special Provisions for water pollution control BMPs.

The Stormwater Data Report (Caltrans 2022d) estimates the NIS for Build Alternative 1 to be 0.48 acre. Because the new impervious surface would be less than 1 acre, post-construction treatment BMP's are not required under the Caltrans Municipal Separate Storm Sewer System (MS4) Permit Order No. 2012-011-DWQ (NPDES No. CAS 000003). However, stormwater treatment for Build Alternative 1 would be further reviewed with minimization measures determined during agency coordination and permitting. The Project would not violate any water quality standards or waste discharge requirements; the Project would adhere to standards and provisions of the CGP, SWPPP and Project permits (PF-WQ-01). Build Alternative 1 would have a less than significant impact.

Build Alternative 2 Roundabout

The DSA for Build Alternative 2 is estimated to be 1.79 acres. The DSA would exceed 1 acre, and therefore, Build Alternative 2 would be subject to the SWRCB CGP. To comply with the conditions of the SWRCB CGP and to reduce impacts associated with water quality and hydrology, a SWPPP would be prepared and implemented prior to the beginning of construction. Potential water quality impacts would be reduced to the maximum extent practicable through proper implementation of the SWPPP and inclusion of the Standard Special Provisions for water pollution control BMPs.

LEGEND

Project Area

FEMA Flood Zone and Subtype/Study Type

AE, 1.0 PCT ANNUAL CHANCE FLOOD HAZARD, SFHAs (Special Flood Hazard Areas) WITH HIGH FLOOD RISK

X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

X, AREA OF MINIMAL FLOOD HAZARD

N

0 1,000 2,000 Feet

Path: Z:\Projects Active\21 002 009 SR116 2Q770\GIS\FEMA\21 02 009 FEMA\21 02 009 FEMA.aprx

FIGURE 3-4
Federal Emergency Management Agency (FEMA) Flood Zones
State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

For Build Alternative 2, the NIS is estimated to be 1.79 acres. Because the new impervious surface would be more than 1 acre, in addition to the requirements of the SWPPP, post-construction treatment BMP's are required under the Caltrans Municipal Separate Storm Sewer System (MS4) Permit Order No. 2012-011-DWQ (NPDES No. CAS 000003). The Project would not violate any water quality standards or waste discharge requirements; the Project would adhere to standards and provisions of the CGP, SWPPP, and NPDES (PF-WQ-01, PF-WQ-02). Build Alternative 2 would have a less than significant impact to water quality.

b) No Impact

Water for construction-related activities (e.g., dust control and concrete washout) would be brought in by the contractor and on-site groundwater would not be used. The Project would not affect groundwater supplies or groundwater recharge areas. There would be no impact.

c(i), (ii), (iii)) Less Than Significant Impact

The Project would not result in substantial erosion or siltation. Implementation of a SWPPP and standard PFs (PF-WQ-01) would minimize erosion, siltation, and the discharge of polluted runoff on- or offsite. In addition, Biological Resources (Section 3.3.4) standard PFs (PF-BIO-09 and PF-BIO-10) and associated water pollution control BMPs, would further minimize erosion, siltation, and the discharge of polluted runoff on- or offsite.

The Project would not substantially increase the rate or volume of surface water in a manner that would result in flooding. The Drainage Study (Caltrans 2022e) describes new stormwater conveyance systems for each alternative that have been designed to accommodate changes in NIS and resulting timing and volume of runoff.

Build Alternative 1 Signalization

Build Alternative 1 preserves existing flow patterns. Build Alternative 1 includes new drainage elements that are similar to the existing system, where water is conveyed to Stage Gulch Creek. Highway widening would maintain the existing system of sheet flow into nearby ditches, culverts, and pipes. The existing systems would not be adversely affected by stormwater runoff increases associated with 0.48 acre of NIS. Refer to Section 2.1.3 for more information about proposed drainage improvements. Build Alternative 1 would not result in an increase in runoff substantial enough to increase flooding on- or offsite. The impact would be less than significant.

Build Alternative 2 Roundabout

Build Alternative 2, modifies the flow pattern slightly in the vicinity of the roundabout. The roundabout would require new drainage inlets and pipes; refer to Section 2.2.3 for further information about drainage improvements. Stormwater that would have flowed off the highway into the grass and ditch, would, under Build Alternative 2, be collected in drainage inlets and directed to treatment areas before discharging to Stage Gulch Creek. Because the affected area is limited to the roundabout area only, the diversion from the existing patterns would not result in significant hydraulic impacts. Under Build Alternative 2, the roundabout would require new drainage inlets and pipes. Refer to Section 2.2.3 for further information about drainage improvements. Build Alternative 2 would result in 1.79 acre of NIS. The Project would not result in an increase in runoff substantial enough to increase flooding on- or offsite. The impact would be less than significant.

c(iv) and d) No Impact

As discussed under Questions a and c, the Project would not contribute new substantial sources of runoff or result in increased flooding. The Project is not located within a tsunami hazard area (CGS 2022b). Therefore, the Project would have no impact on floodplains or areas prone to tsunami or flooding.

Sea level rise (SLR) has the potential to increase the frequency of flooding, the damage from flooding, and the size of the area affected by floodplain risk. According to the National Oceanic and Atmospheric Administration (NOAA) sea level rise maps (NOAA 2022), the Project location is not susceptible to sea level rise.

e) No Impact

With development and implementation of standard SWPPPs standard PFs (PF-WQ-01), and BMPs in Biological Resources and Hazards and Hazardous Materials standard PFs (PF-BIO-01 to PF-BIO-3, PF-BIO-09, PF-BIO-10, PF-BIO-19, and PF-HAZ-01 to PF-HAZ-04), the Project would not conflict with, or obstruct, implementation of a water quality control plan or suitable groundwater management plan. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Water Quality:

Both Build Alternatives

- **PF-WQ-01, Compliance with Water Quality Permits and Programs:** The Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Caltrans Order No. 2020-0033-DWQ, NPDES No. CAS00003, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009 – 0009-DWQ), and any subsequent permits in effect at the time of construction. Since the Project has an approved Project Initiation Report prior to January 1, 2023, it will be 'grandfathered' and can continue to apply one-acre minimum threshold of the 2012 Caltrans Permit. As a component of the CGP, the Project will prepare and implement a SWPPP to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP will identify the sources of pollutants that may affect the quality of stormwater and include BMPs to control the pollutants, such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs.

- **PF-HAZ-01, Caltrans Standard Specifications and Hazardous Waste Regulations:** Described in Section 3.3.9.

- **PF-HAZ-02, Soil Investigation:** Described in Section 3.3.9.

- **PF-HAZ-03, Groundwater Testing:** Described in Section 3.3.9.

- **PF-BIO-01, Documentation at Project Site:** Described in Section 3.3.4.

- **PF-BIO-02, Work According to Documents:** Described in Section 3.3.4.

- **PF-BIO-03, Work Period in Dry Weather Only:** Described in Section 3.3.4.

- **PF-BIO-09, Construction Site Management Practices:** Described in Section 3.3.4.

- **PF-BIO-10, Implementation of Best Management Practices:** Described in Section 3.3.4.

Build Alternative 1 Signalization

- **PF-BIO-20, Temporary Creek Diversion System:** Described in Section 3.3.4.

- **PF-HAZ-04, Materials Testing:** Described in Section 3.3.9.

Build Alternative 2 Roundabout

- **PF-WQ-02, Implementation of Post Construction Water Pollution BMPs:** The Project would incorporate post-construction water pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Water Quality.

3.3.11 Land Use and Planning

Would the Project:

Question	CEQA Determination
a) Physically divide an established community?	Both Build Alternatives: No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Build Alternative 1: No Impact Build Alternative 2: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR LAND USE AND PLANNING

The Project is located in rural Sonoma County along SR 116 at the Stage Gulch Road/Lakeville Highway intersection at PM 39.3. Within Sonoma County, SR 116 provides the only link to several rural inland communities. This area is characterized by a mix of undeveloped and agriculture/grazing lands, with rural residential development and infrequent commercial development.

The parcels in the footprint of the proposed Project have a Sonoma County General Plan land use designation of DA (Sonoma County 2016b) and are zoned DA District (Figure 3-5). Stage Gulch Creek is zoned as a Riparian Corridor Zone. The purpose of the DA zoning designation is to "*enhance and protect land where soil, climate, and water conditions support farming but where small acreage intensive farming and part-time farming activities are predominant, and where farming may not be the principal occupation of the farmer*". Allowable land uses in areas zoned DA include, but are not limited to, agricultural crop production and cultivation, small-scale agricultural processing, livestock and animal husbandry, rural sports and recreation, agricultural employee housing, and single-family rural residential homes and accessory dwelling units. Land uses at the Project intersection include a restaurant/bar (Ernie's Tin Bar), scattered rural residences, LVFD equipment storage, farming-associated structures, field crops, and pasture.

The Project is not within the Sonoma Coastal Zone boundary.

a) No Impact

Due to the scope of work, safety improvements to an existing highway, the proposed Project would not divide any existing established communities. There would be no impact.

b) No Impact (Build Alternative 1) and Less Than Significant Impact (Build Alternative 2)

The Project would not change existing land uses in the Project vicinity. Build Alternative 2 would require acquisition of portions of adjacent agricultural lands, as described in Section 3.3.2 Agriculture and Forest Resources. Table 3-1 lists the land acquisitions and TCEs expected for each alternative. The proposed acquisitions would not substantially change existing land uses or conflict with zoning regulation and land use policies.

SR 116 would remain open during construction. The Project, during both construction and operation, would have no effect on public access to nearby communities, businesses, recreation resources, and visitor-serving facilities.

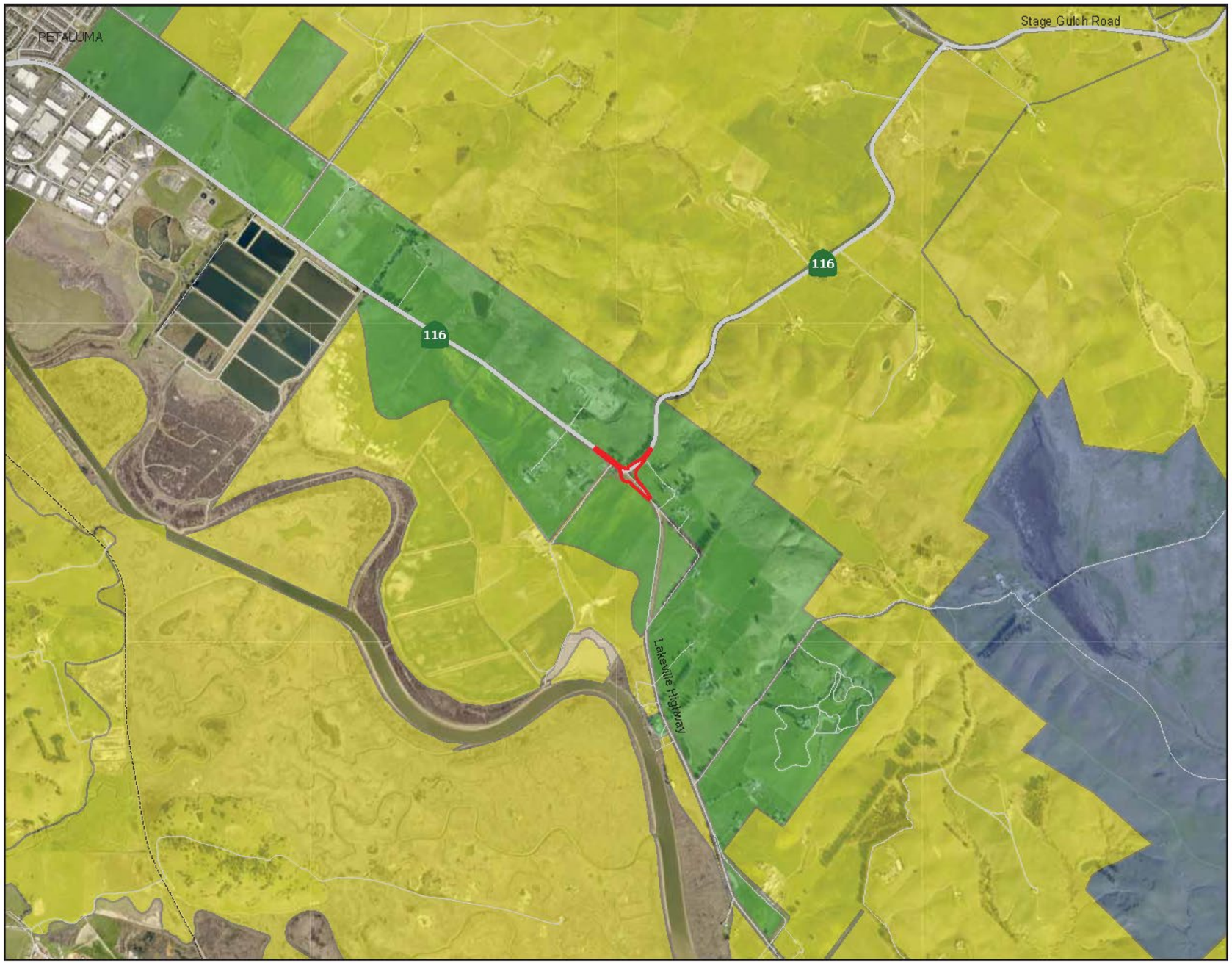
CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS

The Project would not conflict with any land use plan, policy, or regulation adopted to mitigate an environmental effect. The Project would not alter existing land uses along the highway corridor. No impact to land use or planning would occur.

The Build Alternatives would be consistent with most Sonoma County General Plan policies (Sonoma County 2016b) and all Sonoma County Comprehensive Transportation Plan policies (SCTA 2021).

State Scenic Highway Program

SR 116 at the Project location in Sonoma County is not designated as a State Scenic Highway. Policy OSRC-3i of the Sonoma County Open Space and Resource Conservation Element of the Sonoma County General Plan (Sonoma County 2016b) states that the County should "Recognize Highway 116 from Highway 1 to the southern edge of Sebastopol." Project effects on scenic vistas are discussed in Section 3.3.1 Aesthetics.



Legend

- Project Limits

Land Use Designation

- DA - Diverse Agriculture
- LEA - Land Extensive Agriculture
- PQP - Public/Quasi-Public

N

0 1,500 3,000
Feet

Caltrans

FIGURE 3-5
Sonoma County General Plan Land Use Designations

State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

Path: D:\WIE\21-002-009 SR 116 2Q770\aprx\21-002-009 SR116\21-002-009 SR116 Land Use.aprx

Sonoma County General Plan 2020

The Project complies with the stated goals of the Sonoma County General Plan (Sonoma County 2016b), including goals for recreation, transportation and safety. The proposed Project supports the following policies and goals by providing a safe, reliable road for motorized vehicles and multi-modal users:

- Goal OSRC-3: Identify and preserve roadside landscapes that have a high visual quality as they contribute to the living environment of local residents and to the County's tourism economy.

- Objective OSRC-3.1: Designate the scenic corridors on Figures OSRC-5a through OSRC-5i along roadways that cross highly scenic areas, provide visual links to major recreation areas, give access to historic areas, or serve as scenic entranceways to cities.

- Policy OSRC-3h states: Design public works projects to minimize tree damage and removal along scenic corridors; where trees must be removed, design replanting programs so as to accommodate ultimate planned highway improvements; require re-vegetation following grading and roadway cuts.

- Objective CT-3.8: Increase the safety, convenience, and comfort of all pedestrians and bicyclists by eliminating the potential obstacles to this mode choice that is associated with the lack of continuous and well-connected pedestrian walkways and bicycle facilities, and the lack of safe crossing facilities, especially focusing on short trips that could result in a decrease in automobile travel.

Build Alternative 2, would not be consistent with the following agricultural land goal of the Sonoma County General Plan, 2020:

- GOAL LU-9: Protect lands currently in agricultural production and lands with soils and other characteristics that make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.

Build Alternative 2 would require permanent conversion of 1.761 acres of agricultural land. However, this property acquisition would be at the edges of continuous agricultural parcels, with large parcels remaining intact. Refer to Section 3.3.2 for further information about impacts to agricultural resources.

Sonoma County Comprehensive Transportation Plan

The stated goals of the Sonoma County Comprehensive Transportation Plan, Moving Forward 2050 (SCTA 2021) include:

- Goal 1 — Connected and Reliable
- Goal 2 — Safe and Well-Maintained
- Goal 3 — Community Oriented and Place-Based
- Goal 4 — Zero-Emissions

Goals 3 and 4 do not apply to the Project, because the Project is not capacity increasing or growth inducing. Both Build Alternatives would increase bicycle and pedestrian accessibility and overall intersection safety. As such, the Project meets Goals 1 and 2 of the Sonoma County Comprehensive Transportation Plan.

Caltrans Complete Streets Policy

Director's Policy 37, Complete Streets (Caltrans 2021b), was developed to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of complete streets. The Project provides an opportunity to modify the existing intersection to provide increased user safety. The Project scope addresses Complete Streets requirements by proposing bike lanes and pedestrian facilities in both Build Alternatives and within the Project footprint.

The Project would not substantially affect existing land use or conflict with land use policies. The Project would be generally consistent with the State Scenic Highway Program, Sonoma County General Plan 2020, Sonoma County Comprehensive Transportation Plan, and the Caltrans Complete Streets Policy. Build Alternative 1 would have no adverse impact on land use.

Build Alternative 2 would not be consistent with Sonoma County General Plan policies for preservation of agricultural lands. The implementation of Build Alternative 2 would have a less than significant impact to agricultural lands (see Section 3.3.2), and a comparable less than significant impact on land use.

PROJECT FEATURES/ AVOIDANCE AND MINIMIZATION MEASURES

There are no applicable standard PFs for Land Use and Planning. No AMMs are required to avoid and/or minimize potential impacts to Land Use and Planning.

3.3.12 Mineral Resources

Question	CEQA Determination
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?	Both Build Alternatives: No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Both Build Alternatives: No Impact

CEQA Significance Determinations for Mineral Resources

An active quarry (fill dirt; Mine ID 91-41-0021) is located directly north of the Project on Sonoma County APNs 068-020-022 and 068-020-023. The quarry is outside of the Project footprint for both Build Alternatives. Another registered mine, an open pit mine (rock; Mine ID 91-49-0045) is located off of SR 116 approximately 4.2 miles east of the Project. The CGS identifies these mines as representative of an aggregate production area (Clinkenbeard et al., 2018). The entrance/exit for the quarry is located northwest of the Project Area; the haul route for the quarry is SR 116 and may also include Lakeville Highway.

a and b) No Impact

The Project would have no direct impacts on mineral resources. SR 116 would remain open during construction and there would be no significant impacts to quarry haul routes.

Construction-related activities are limited in scale and would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site. The Project would have no impact on mineral resources.

Project Features/ Avoidance and Minimization Measures

There are no applicable standard PFs for Mineral Resources. No AMMs are required to avoid and/or minimize potential impacts to Mineral Resources.

3.3.13 Noise

Would the Project result in:

Question	CEQA Determination
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?	Both Build Alternatives: Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Both Build Alternatives: Less Than Significant Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	Both Build Alternatives: No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR NOISE

The proposed Project is not considered Type 1 work per 23 CFR 772 and the Caltrans noise analysis protocol. The proposed Project would not increase highway capacity. As such, a Noise Abatement Decision Report need not be considered. However, there are sensitive receptors located in proximity to where noisy construction activities may be taking place.

A Construction-related Noise Analysis Memorandum (Caltrans 2022f) and a Construction-related Vibration Analysis Memorandum (Caltrans 2022g) were completed by Caltrans Office of Environmental Engineering. A summary of the report findings is presented here.

a) Less Than Significant Impact

The Project would not permanently increase ambient noise levels in the vicinity of the intersection. The Project corridor is along SR 116, a highway that creates background noise levels for nearby businesses and residences. The Project would not change highway capacity or substantially alter long-term ambient noise levels. Therefore, impacts to ambient noise levels would be less than significant.

There are three sensitive receptors within approximately 350 feet of the Project footprint (Figure 3-6): Ernie's Tin Bar (R1) and two residential properties near the corner of SR 116 and Lopes Road at 5070 Lakeville Highway (R2), and at 5090 Lakeville Highway on Lopes Road (R3). The Project would potentially expose noise-sensitive receptors to a short-term increase in noise levels during construction, but the increase would be temporary. Noise associated with construction is controlled by

Caltrans Standard Specification Section 14-8.02, Noise Control, which limits maximum hourly noise levels (L_{max}) to 86 A-weighted decibels (dBA) at 50 feet from a project from 9:00 p.m. to 6:00 a.m. in residential areas.

Build Alternative 1: Signalization

Based on noise modeling of construction activities, construction noise would exceed 86 dBA at a distance of 50 feet from the activity for all phases of construction. Construction noise would not exceed 86 dBA at a distance of 100 feet, 200 feet, or 500 feet. Therefore, most sensitive receptors would not experience construction noise in excess of the 86-dBA criteria. The commercial building R1 would experience the loudest construction noise due to its proximity to the Project footprint. The noisiest operations at R1 would be bridge widening and culvert replacement, which would occur within approximately 10 feet of the commercial building (restaurant/bar), would produce an estimated sound level of 103.6 dBA (L_{max}). R2 would experience the loudest construction noise for a residential property; the bridge widening, which would occur approximately 25 feet from this residence, would result in a sound level of 95.6 dBA (L_{max}).

Implementation of standard PFs and AMMs (PF-NOISE-01 and AMM-NOISE-01) would reduce this impact to a less-than-significant level.

Build Alternative 2: Roundabout

Based on noise modeling of construction activities, construction noise would exceed 86 dBA at a distance of 50 feet from construction activity when removing existing pavement, constructing sidewalks and curb ramps, and during culvert replacement. Construction noise would not exceed 86 dBA at a distance of 100 feet, 200 feet, or 500 feet. The commercial building R1 would experience the loudest construction noise for all phases overall due to its proximity to the Project footprint. The noisiest operations for R1 would be removing existing pavement and paving, which would occur as close as 4 feet from the commercial building, with a modeled sound level of 111.5 dBA (L_{max}). R2 would experience the loudest construction noise for a residential property; overlay activities, which would occur approximately 35 feet from this residence, would result in an estimated sound level of 88.1 dBA (L_{max}).

Construction activities are short-term and would not result in long-term adverse effects on ambient noise levels. Implementation of standard PFs and AMMs (PF-NOISE-01 and AMM-NOISE-01) would further reduce impacts to ambient noise levels due to temporary construction noise. Therefore, construction-related noise impacts would be less than significant.

b) Less Than Significant Impact

Vibratory motion is identified by the Peak Particle Velocity (PPV) in inches per second. Vibratory rolling during paving would be the highest vibration source. Ernie's Tin Bar (R1) is a historic-era building located approximately 10 feet from the Project footprint and would be the most sensitive to construction-related vibratory impacts. The predicted PPV during vibratory rolling (0.575 inch per second) would exceed the Vibration Damage Potential Threshold for "historic and some old buildings" (0.25 inch per second). This assessment triggers the need for construction vibration Nonstandard Special Provisions (NSSPs) to be included in Project design and specifications. NSSPs recommended during construction are included in standard AMMs (AMM-NOISE-02); Implementation of standard AMMs (AMM-NOISE-02) would minimize construction-related vibration impacts. Applicable AMMs are provided at the end of this section and are also found in Appendix A.

c) No Impact

The Project footprint is not within the vicinity of an airstrip, an airport land use plan, or within two miles of a public airport or public use airport. The Petaluma Municipal Airport is the nearest airport and is located approximately 3.75 miles northwest of the Project footprint. Therefore, the Project would not generate excessive noise that would permanently impact or expose people residing or working within two miles of an airport.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs for Noise:

- **PF-NOISE-01, Implement Noise Control During Construction:** Temporary noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, Noise Control. Caltrans Standard Specifications 14-8.02 requires L_{max} not to exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. in residential areas and near hotels.

Path: W:\Projects - Active\21-002-009 SR116 2Q770\GIS\FEMA\21-02-009 FEMA\21-02-009 FEMA.aprx

FIGURE 3-6
Sensitive Receptors

State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMMs into the Project to avoid and/or minimize potential temporary construction-related impacts to Noise:

- **AMM-NOISE-1, Construction Noise Levels:** The following measures will be incorporated to reduce noise levels during construction:
    - The Contract Specifications would include a Special Provision requiring Noise Monitoring and Control.
    - Any operation exceeding 86 dBA will not be allowed at nighttime from 9:00 p.m. to 6 a.m.
    - Public outreach will be required throughout the Project construction to update residents, businesses, and others regarding upcoming construction-related activities and timeframe of Project.
    - Schedule noisy operations within the same time frame where feasible. The total noise level will not be significantly greater than the level produced if operations were performed separately.
    - Avoid unnecessary idling of internal combustion engines within 100 feet of sensitive receptors.
    - Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons for equipment when sensitive receptors adjoin or are near a Project construction area.
    - Equip all internal combustion engine driven equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Utilize “quiet” air compressors and other “quiet” equipment where such technology exists.
    - No construction equipment will be delivered and dropped off before 6:00 a.m.
    - Maintain all internal combustion engines properly to minimize noise generation.

- **AMM-NOISE-2, Vibration Control Measures:** The following measures and non-standard specifications will be incorporated to reduce vibratory impacts during construction:

    - Use a non-vibratory road roller when construction activities are less than 25 feet from structures.

    - Prevent idling of other equipment within 100 feet of structures.

    - Develop and implement a construction vibration monitoring plan in accordance with Caltrans requirements, to document conditions prior to, during, and after construction. A photo-video survey, elevation survey, and crack monitoring survey shall be completed prior to construction, in regular intervals during construction, and after completion of construction to document the condition of foundations, walls and other structural elements in the interior and exterior of nearby structures.

3.3.14 Population and Housing

Would the Project:

Question	CEQA Determination
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)?	Both Build Alternatives: No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Both Build Alternatives: No Impact

CEQA Significance Determinations for Population and Housing

a and b) No Impact

The Project would not induce population growth because it does not increase the capacity of SR 116, remove barriers to future growth, or increase population or housing growth (or demand for new housing, utilities, or public services). The Project would not induce substantial population growth, displace housing, or displace people; therefore, there would be no impact to population and housing.

Implementation of standard PF (PF-TRANS-01) during construction would require that access to all properties be maintained for property owners and users and would further reduce impacts to population and housing.

Project Features

Caltrans would incorporate the following standard PFs:

- **PF-TRANS-01, Transportation Management Plan:** Described in Section 3.3.17.

Avoidance and Minimization Measures

No AMMs are required to avoid and/or minimize potential impacts to Population and Housing.

3.3.15 Public Services

Question	CEQA Determination
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	Both Build Alternatives: No Impact
Police protection?	Both Build Alternatives: No Impact
Schools?	Both Build Alternatives: No Impact
Parks?	Both Build Alternatives: No Impact
Other public facilities?	Both Build Alternatives: No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

Fire protection is provided by the Lakeville Volunteer Fire Department (LVFD). The LVFD responds to a wide variety of incidents including hazardous materials, public assists, vehicle accident extrication's, land and water rescue, commercial and residential fire alarms. The LVFD is located at 5090 Lakeville Highway, off Lopes Road adjacent to the Project.

CalFire is responsible for responding to incidents occurring in State Responsibility Areas (SRAs). The nearest CalFire station to the Project is outside of the community of Glen Ellen; an approximate 14-mile drive via SR 116 and SR 12.

The Sonoma County Sheriff's Department provides law enforcement services to unincorporated areas of the county. The California Highway Patrol provides law enforcement along all state routes within California, including SR 116 within the Project vicinity, and assists local governments during emergencies when requested.

There are no schools in the Project vicinity; the nearest school to the Project is River Montessori Charter school outside of Petaluma (2.25 miles northwest of the Project).

There are no parks in or immediately adjacent to the Project. There are local and public parks within 3 miles of the Project, as discussed in Section 3.3.16.

a) No Impact

The Project is a safety project and is not capacity increasing. It would not result in the substantial alteration of government facilities, such as fire and police protection, schools, parks, or other public facilities, nor trigger the need for new government facilities or alter the demand for public services.

With Implementation of Transportation (Section 3.3.17) standard PFs (PF-TRANS-01), police, fire, and medical services and response times would not be substantially affected during construction. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs:

- **PF-TRANS-01, Transportation Management Plan:** Described in Section 3.3.17.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Public Services.

3.3.16 Recreation

Question	CEQA Determination
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Both Build Alternatives: No Impact
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Both Build Alternatives: No Impact

CEQA Significance Determinations for Recreation

The roads affected by the Project, SR 116 and Lakeville Highway, provide access to local and regional parks. Tolay Lake Regional Park is a 3,400-acre Sonoma County regional park with 11 miles of trails for hiking, mountain biking, and horseback riding. Tolay Lake Regional Park is accessed via Lakeview Highway and Cannon Lane, approximately 3 miles south of the Project. Additionally, within the city limits of Petaluma, SR 116 provides access to Rocky Memorial Dog Park, Del Oro Park, and Shollenberger Park. These local parks are approximately 3 miles northwest of the Project.

a and b) No Impact

The Project is a safety project, not a capacity increasing project. The Project would not directly or indirectly increase use of existing recreational facilities such that substantial deterioration of the facilities would occur. The Project would not require the construction of additional recreational facilities or directly affect existing parks. There would be no impacts.

Project Features/ Avoidance and Minimization Measures

There are no applicable standard PFs for Recreation. No AMMs are required to avoid and/or minimize impacts to Recreation.

3.3.17 Transportation

Would the Project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

SR 116 is a two-lane, rural conventional highway that provides the only link to several rural inland communities. It is also a tourist and recreational travel route, providing access to wine country destinations, parks, and scenic areas. Average daily traffic on mainline SR 116 within the Project limits was 27,100 in 2017, with an estimated 7.2 percent truck traffic.

The existing two-lane conventional highway at the Project intersection has 11-foot-wide travel lanes, and shoulder width varying from 0 to 5 feet wide. There is an existing left turn lane for continuous eastbound travel on SR 116. For vehicles on SR 116/Stage Gulch Road, a stop sign at the intersection constitutes existing road control. At this T-intersection, there were 15 accidents in the 5-year period from January 1, 2011 to December 21, 2015. From July 1, 2018 through June 30, 2021, there were an additional 15 accidents reported at the Project intersection, of which 5 resulted in injury. With this tally of accidents and the traffic volume counts, the Project proposes two Build Alternatives to improve safety: installation of traffic signals or a roundabout.

The construction of a roundabout is also being considered at this location because a roundabout would maintain traffic flow, handle a high volume of truck traffic, and need fewer lanes at the approaches to the intersection. According to *Rounding Out a Traffic Strategy* (Caltrans 2017c), roundabouts reduce delays, improve traffic flow, and cut air pollution due to vehicles not idling at streetlights. Reduced speeds at roundabouts help accommodate pedestrians and bicyclists. Reduced conflict points between vehicles reduces the frequency and severity of vehicle collisions, thus

improving safety. Roundabouts are proven safety countermeasures for traffic calming for complete street designs according to the Highway Design Manual (Caltrans 2022h).

a) No Impact

The Project would not conflict with programs, plan, ordinances, or policies regarding the circulation system, public transit, and bicycle or pedestrian facilities. As stated in Section 1.2, the purpose of the Project is to improve traffic safety on SR 116 where it intersects Lakeville Highway.

The Project would not conflict with the SCTA Comprehensive Transportation Plan (2021). Both Build Alternatives would increase bicycle and pedestrian accessibility and overall intersection safety, thereby furthering the goals of the Sonoma County Comprehensive Transportation Plan.

The Project is also consistent with the intent of Caltrans Director's Policy 37, Complete Streets (Caltrans 2021b) to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of complete streets. The proposed Project is located in a rural farmland area. There are no pedestrian facilities within the Project footprint to connect to and/or transit stops along the Project corridor. The Project proposes bike lanes and pedestrian facilities with Build Alternatives 1 and 2, which would improve the roadway network for pedestrians and cyclists.

The Project would not conflict with these plans and policies; there would be no impact.

b) Less Than Significant Impact

The Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). The Project would not increase the number of through travel lanes on SR 116, nor would it permanently alter the circulation system, and would have no temporary or permanent impact on VMT. The Project would have less than significant impacts on VMT and transportation during construction because of temporary traffic control. The Project would have no permanent impact on VMT and would cause no permanent impacts on transportation. The impact would be less than significant.

c) No Impact

The Project would not increase hazards because of a geometric design feature. Caltrans completed an Intersection Control Evaluation Report (ICE Report; Caltrans 2023e) for the Build Alternatives. The ICE Report evaluated both alternatives for geometric hazards, including an evaluation of sight distance, view angles, vehicle speed, truck accommodation, and other factors to confirm that the project design meets roadway geometric standards. The ICE Report also includes a Highway Safety Analysis as appendix E (Caltrans 2022b). Based on these analyses, the Project does not include design features or Project components that would substantially increase hazards. There would be no impact.

d) Less Than Significant Impact

The Project would not result in inadequate emergency access. To protect construction workers and the traveling public, traffic control would be in place while construction-related activities are underway. A standard PF that coordinates and provides safety measures for those accessing the Project corridor during construction (PF-TRANS-01) would further reduce impacts to transportation. Medical and emergency vehicles would be able to continue to use SR 116 for fire, medical, emergency, and law enforcement purposes during construction. The Project has the potential to cause short-term, localized traffic congestion and delays during construction. Shoulder closures with modified traffic lanes are described in the preliminary TMP as the ongoing traffic management methodology for Build Alternatives 1 and 2 through all construction stages. The TMP would provide priority to emergency vehicles during traffic control. Detours are not anticipated to be required during construction. With implementation of standard PFs (PF-TRANS-01), impacts would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following PFs for Transportation:

- **PF-TRANS-01, Transportation Management Plan:** A Final TMP would be prepared by Caltrans prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. The TMP would identify traffic delays and alternative routes for emergency and medical vehicles associated with essential services, thereby avoiding or minimizing short-

term, localized traffic congestions and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Transportation.

3.3.18 Tribal Cultural Resources

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Both Build Alternatives: Less Than Significant Impact
b) 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.	Both Build Alternatives: Less Than Significant Impact

CEQA Significance Determinations for Tribal Cultural Resources

Caltrans initiated formal notification under Assembly Bill 52 and Section 106 of the National Historic Preservation Act with letters for each individual and/or organization provided by the NAHC on December 13, 2021. Individuals contacted include:

- Patricia Hermosillo, Chairperson, Cloverdale Rancheria of Pomo Indians
- Dino Franklin, Chairperson, Kashia Band of Pomo Indians of the Stewarts Point Rancheria
- Chris Wright, Chairperson, Dry Creek Rancheria Band of Pomo Indians
- Marjorie Mejia, Chairperson, Lytton Rancheria
- Gene Buvelot, Tribal Cultural Consultant, Federated Indians of Graton Rancheria
- Greg Sarris, Chairperson, Federated Indians of Graton Rancheria
- Jose Simon III, Chairperson, Middletown Rancheria
- James Rivera, Tribal Historic Preservation Officer, Middletown Rancheria
- Donald Duncan, Chairperson, Guidiville Indian Rancheria
- Scott Gabaldon, Chairperson, Mishewal-Wappo Tribe of the Alexander Valley

- Monica Arellano, Vice Chairwoman, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Leona Williams, Chairperson, Pinoleville Pomo Nation
- Beniakem Cromwell, Chairperson, Robinson Rancheria Band of Pomo Indians

Responses were received from two Tribes: from the Tribal Historic Preservation Officer (THPO) for the Federated Indians of Graton Rancheria (Graton Rancheria) on January 4, 2022, requesting consultation for the undertaking, and the THPO for the Kashia Band of Pomo Indians of the Stewarts Point Rancheria on March 7, 2022, indicating that the Project was outside of the Tribe's aboriginal territory and that the Tribe had no comments.

Follow-up emails were sent to remaining contacts on February 25, 2022; however, no further responses have been received to-date.

From January 2 to February 2, 2023, correspondences in the form of online meetings and emails transpired between Caltrans OCRS and Graton Rancheria to keep the Tribe apprised of Project details, schedule, and archaeological studies. A Tribal Monitor from Graton Rancheria was present for the archaeological survey and XPI subsurface testing conducted on February 1, 2023. The negative results of the fieldwork were sent via email to the Tribe on February 2, 2023, and to inform the Tribe that the cultural documents for the Project would be sent to the Tribe once they were completed. Consultation with Graton Rancheria is ongoing.

a and b) Less Than Significant Impact

No tribal cultural resources were reported in record searches, through pedestrian survey, XPI testing, or in consultation with Native American groups and individuals. Therefore, the Project would have no impact on tribal cultural resources.

Implementation of Cultural Resources (Section 3.3.5) standard PFs (PF-CUL-01 and PF-CUL-02) would further minimize impacts to tribal cultural resources if an inadvertent discovery of potential tribal cultural resources occurs during construction. Applicable PFs are provided below and are also found in Appendix A.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs:

- **PF-CUL-1, Cease Work Upon Discovery of Cultural Resources:** Described in Section 3.3.5.
- **PF-CUL-2, Procedures for Discovery of Human Remains:** Described in Section 3.3.5.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Tribal Cultural Resources.

3.3.19 Utilities and Service Systems

Would the Project:

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

CEQA Significance Determinations for Utilities and Service Systems

Utility verification (i.e., potholing) would occur during the Project design phase to confirm the need for utility relocations. It is anticipated that overhead electrical lines and lighting would be relocated. Utility owners with facilities located within the Project footprint that may potentially be impacted by the Project include PG&E and AT&T. There is no public water or sewer service in the Project footprint, though underground septic and well systems may be present. There are several state-managed stormwater/drainage systems in the Project footprint; there is one culvert and a retaining wall drainage system along westbound SR 116 northwest of the intersection. Additional stormwater systems include an 18-inch pipe that conveys water from the area south of Ernie's Tin Bar to Stage Gulch Creek and a ditch that borders northbound Lakeville Highway and eastbound SR 116/Stage Gulch Road.

a) Less Than Significant Impact

The Project would not require or result in the construction of new or expanded water, wastewater treatment, electrical power, or natural gas facilities. The Project is not anticipated to require utility relocations for gas, water, and sewer systems. However, the Project would require the relocation of telephone and electric power poles that are within some of the shoulder widening locations. Utility verification is anticipated to

be required for the Project and would occur during the Project design phase to confirm the need for utility relocations. Utility relocations would occur prior to the beginning of construction and in consultation with utility providers, all as part of standard PFs (PF-UTIL-01). The relocation of existing overhead utilities could result in the slight expansion of the utility facilities (extra pole or lines); however, the relocation of utilities would not result in a major expansion of the existing facilities. Therefore, the impact would be less than significant.

The existing stormwater drainage system (see Section 1.3.2) has been evaluated by the Caltrans Office of Hydraulic Engineering. Recommendations for both Build Alternatives include replacing two existing drainage pipes, reconstructing an existing ditch, and adding at least one new storm drainage feature. Refer to Sections 2.1.3 and 2.2.3 for a description of drainage improvements for each Build Alternative. These new drainage systems would not directly affect lands outside of the footprints of the Build Alternatives. Therefore, the new drainage systems would not result in a major expansion of the existing facilities and would not have a significant environmental impact.

The impact to utilities would be less than significant.

b, c, d, and e) No Impact

The Project would not require water supplies to serve the Project from existing entitlements or where the Project would require new or expanded entitlements.

The Project would not require the services of a wastewater treatment provider where the Project would impact the provider's capacity. The Project would not exceed wastewater treatment requirements. During construction, pursuant to California Code of Regulations (sec. 1526), portable toilets would be provided for construction workers.

The Project would not require the services of a landfill where the Project would affect its capacity. All construction-related waste would be properly disposed of, or recycled, at an approved facility in compliance with both Caltrans Standard Specification 14-11, and Hazards and Hazardous Materials (Section 3.3.9) standard PFs (PF-HAZ-01), and the requirements of the facility to which the construction-related waste is hauled. Construction-related activities would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following PFs for Utilities and Service Systems:

- **PF-UTIL-01, Utility Notifications:** During Project design phase, Caltrans will coordinate with all affected utility companies regarding the construction schedule for the Project so that relocations can be conducted by each utility company as necessary prior to the start of construction. Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance of the date and timing of potential service disruptions.

- **PF-HAZ-01, Caltrans Standard Specifications and Hazardous Waste Regulations: (**Described in Section 3.3.9).

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Utilities and Service Systems.

3.3.20 Wildfire

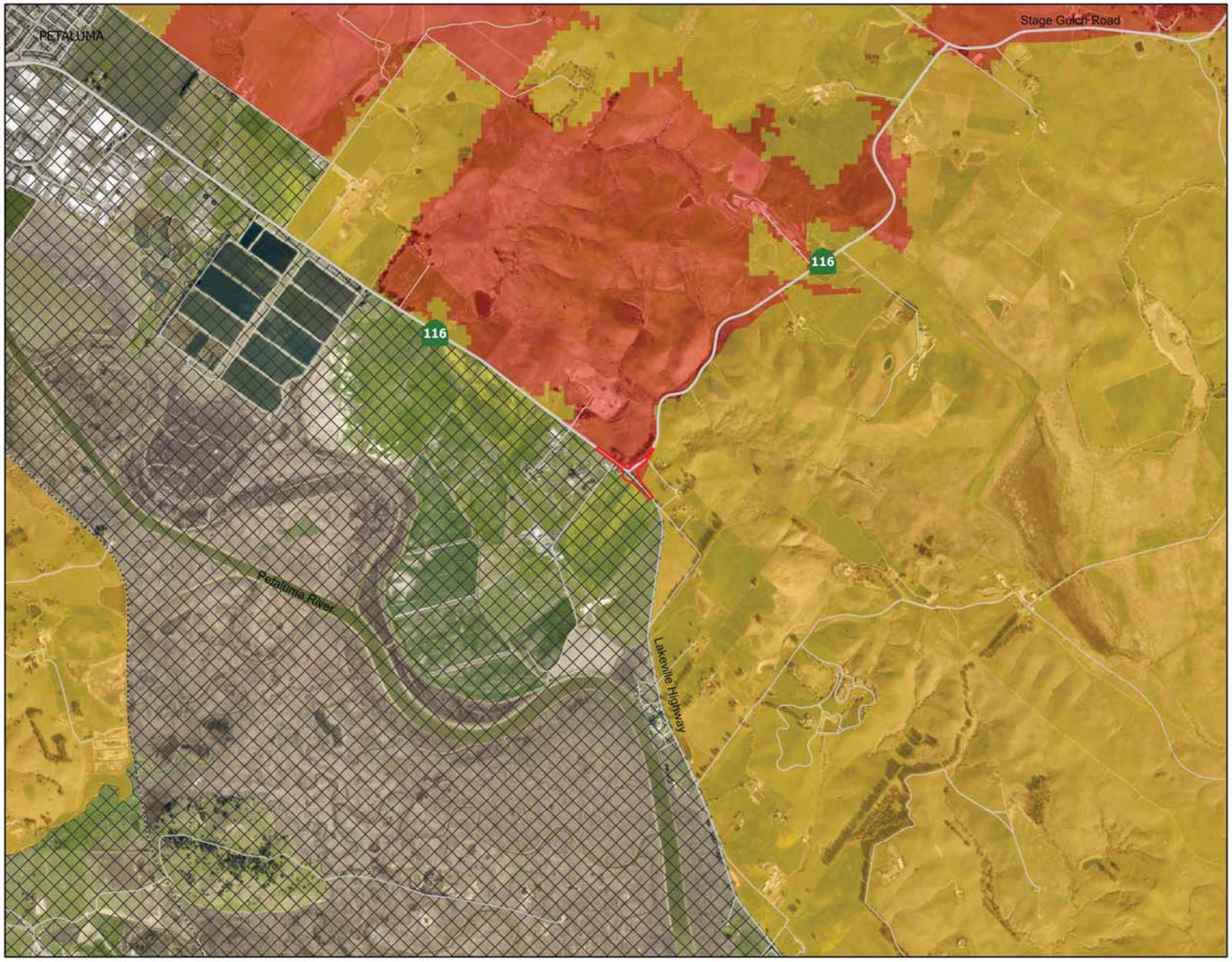
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Both Build Alternatives: Less Than Significant Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Both Build Alternatives: No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Both Build Alternatives: No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Both Build Alternatives: No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR WILDFIRE

The Project is located within Sonoma County and is partly within a State Responsibility Area (SRA) and partly within a Local Responsibility Area (LRA) (Figure 3-7). The Sonoma County Fire District and volunteer fire companies operating through the County of Sonoma Emergency Readiness Response and Recovery, as well as CalFire, provide fire suppression, rescue, and emergency services within the Project corridor (Sonoma County 2022). The LVFD is located adjacent to the Project on SR 116 and Lopes Road (5090 Lakeville Highway).

The SRA occurs to the northeast of Lakeville Highway and encompasses the eastern turn of the 116 and Stage Gulch Road. Within SRAs, CalFire has developed a hazard mapping system where the hazard score (moderate, high, and very high) is based on the factors that influence fire likelihood and fire behavior, such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. The fire hazard severity score in the SRA within the Project footprint is mapped as ‘High’ (CalFire 2022)



Legend

- Project Limits
- Local Responsibility Area

Fire Hazard Severity Zone Hazard Class (State Responsibility Area)

- High
- Moderate

N

0 1,500 3,000
Feet

Caltrans

FIGURE 3-7
CAL FIRE Fire Hazard Severity Zones
State Route 116
Intersection Improvements Project
EA 04-2Q770
Sonoma County, California

Path: Z:\Projects - Active\21-002-009 SR116 2Q770\GIS\Fire Hazard\21-002-009 Fire Hazard\21-002-009 Fire Hazard.aprx

The County of Sonoma Emergency Readiness, Response and Recovery, along with incorporated cities, have established standardized evacuation zones that would remain consistent for multiple incidents (Sonoma County 2022). The "Evacuation" annex to the Sonoma County Operational Area Emergency Operations Plan (Sonoma County 2021) clarifies that while the zones are consistent, evacuation routes would be selected by law enforcement officials and approved at the time of the evacuation decision. Evacuation routes may include interstate, state and surface roads (like SR 116) and would be chosen based on the relative safety of highway infrastructure and current traffic conditions (Sonoma County 2021).

a) Less Than Significant Impact

As discussed above, Sonoma County has designated evacuation zones, with incident-based determinations of evacuation routes. SR 116 is an important east-west route in Sonoma County and is anticipated as a likely evacuation route. For both Build Alternatives, a final TMP would be prepared.

The final TMP would be developed in consultation with emergency responders and transportation agencies, such as CalFire, LVFD, the SCTA, SCTA Paratransit Services, Sonoma County School Districts, the Sonoma County Office of Education, public transportation providers from neighboring jurisdictions including cities and counties, and/or private sector transportation providers. Emergency response times are not anticipated to change during construction because the TMP would provide measures to ensure priority for emergency vehicles during traffic control.

The TMP would also include public information and press releases to notify and inform motorists, local businesses, community groups, local entities, emergency services, and local officials of upcoming closures and detours (if needed).

For both Build Alternatives, the development and implementation of the final TMP as a Transportation (Section 3.3.17) standard PF (PF-TRANS-01), would mean that the proposed Project would not conflict with emergency response or evacuation plans. The impact would be less than significant.

b, c and d) No Impact

The Project proposes to install traffic signals or a roundabout to control the intersection. Signalization and warning lights would be installed with buried electrical components and existing intersection lighting and utility poles would be relocated as

part of Utilities and Service Systems (Section 3.3.19) standard PF (PF-UTIL-01) in coordination with utility providers. Buried electrical connections do not constitute a wildfire risk and all utility work would be completed with coordination of utility providers. No new structures or ember sources would be added as a result of Project implementation. The Project would not exacerbate wildfire risk, nor would it require the installation of new associated infrastructure that would exacerbate fire risk. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs:

- **PF-TRANS-01, Transportation Management Plan:** Described in Section 3.3.17
- **PF-UTIL-01, Utility Notifications:** Described in Section 3.3.19.

AVOIDANCE AND MINIMIZATION MEASURES

No AMMs are required to avoid and/or minimize potential impacts to Wildfire.

3.3.21 Mandatory Findings of Significance

Question	CEQA Determination
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Both Build Alternatives: Less Than Significant Impact.
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)?	Both Build Alternatives: No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Both Build Alternatives: Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR MANDATORY FINDINGS OF SIGNIFICANCE

a) Less Than Significant Impact

As determined in Section 3.3.4, Biological Resources, the Project would not have a significant impact on individual species or sensitive habitats. The Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number of or restrict the range of a rare or endangered plant or animal.

The Project would generate temporary and permanent impacts to CRLF upland habitat. AMMs would be implemented to minimize these anticipated impacts. Coordination with the appropriate regulatory agencies would also be conducted in the later stages of the Project to ensure that, should special-status animals, plants, or habitats be discovered during pre-construction surveys or construction monitoring, potential impacts to animals and habitats would remain less than significant.

During construction, ground-disturbing activities are anticipated; standard PFs and AMMs as described in Appendix A would avoid and/or minimize impacts to special-status species and habitats.

The Project would also result in other temporary, minor, and construction-related impacts. PFs, and AMMs (Appendix A), would avoid and/or minimize impacts to less than significant levels.

b) No Impact

A review of projects in the vicinity of the Project determined that no past, present, or future projects would pose a cumulative effect together with implementation of the Project. For biological resources, no cumulative impacts are anticipated due to the implementation of the standard PFs, and AMMs as summarized in Appendix A. Because future projects would also comply with state and federal agencies, proposed Build Alternatives would not contribute to a cumulative impact to CRLF, special-status plants, wetlands or waters.

With respect to population and housing, the Project would not be growth inducing; the Project is not capacity increasing and would not modify existing circulation patterns or volumes. The Project would not have cumulative impacts; therefore, there would be no impact.

c) Less Than Significant Impact

The Project would have no impact on forest resources, mineral resources, population and housing, public services, and recreation. The Project would have less-than-significant impacts on aesthetics, agricultural resources, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire. Implementation of PFs and AMMs would further reduce these impacts. Construction-related activities would temporarily increase criteria air pollutant emissions, ambient noise and vibration levels, and soil disturbance and transport. The Project would incorporate PFs and AMMs to avoid or minimize potentially adverse effects to humans during construction. Therefore, the Project would not have a substantial direct or indirect impact on the human environment. Impacts would be less than significant.

Chapter 4 Community Outreach and Consultation and Coordination with Public Agencies

To date, public and agency coordination consists of the following:

4.1 Community Outreach

During the comment review period, this IS/ND, maps, and Project information were made available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs). In addition, a hardcopy of this IS/ND was made available at the following locations in the vicinity of the Project:

- Sonoma County Regional Library
  755 West Napa Street
  Sonoma, CA 95476

- Petaluma Regional Library
  100 Fairgrounds Drive
  Petaluma, CA 94952

An online community meeting was held on April 20, 2023.

During the public circulation period, Caltrans received 15 comment submittals from the public and 2 comment submittals from agencies: Lakeville Volunteer Fire Department and CDFW. The comments and responses to the comments are included in Appendix D. The comments in the letters have been addressed by members of the Project development team whose specialty covers the subject matter of each comment.

4.2 Consultation and Coordination with Public Agencies

Caltrans has consulted with agencies during the preparation of this environmental document. A list of coordination activities and contacts is provided in Table 4-1.

Table 4-1. Agency Coodination Meetings and Contacts

Organization(s)	Date	Topic
Native American Heritage Commission (NAHC)	October 28, 2021	Caltrans contacted the NAHC requesting a review of the Sacred Lands File (SLF). The results of the SLF were negative and a list of Native American contacts with potential interest or information regarding the APE was provided.
Local Native American Contacts provided by the NAHC	December 13, 2021	Caltrans sent consultation initiation letters, under AB 52 and Section 106 of the National Historic Preservation Act, regarding the Project, to all NAHC contacts that were provided.
Federated Indians of Graton Rancheria	January 4, 2022	Tribal Historic Preservation Officer (THPO) requested consultation on the Project.
Local Native American Contacts provided by the NAHC.	February 25, 2022	Caltrans sent follow-up emails to all NAHC contacts that were provided and had not responded.
Kashia Band of Pomo Indians of the Stewarts Point Rancheria	March 7, 2022	THPO responded that Project is outside of the Tribe's aboriginal territory.
Federated Indians of Graton Rancheria	August 23, 2022 to January 31, 2023	Multiple contacts between Caltrans OCRS and the Graton Rancheria's THPO and Cultural Resources Specialist to arrange a Tribal monitor for the Extended Phase I Report conducted by Caltrans on February 1, 2023,
USFWS	October 10, 2022	Caltrans biologist emailed the Caltrans District 4 Liaison/USFWS to request technical assistance for the Project.
NMFS	October 12, 2022	Caltrans biologist emailed NMFS to inquire about records of anadromous fish in Stage Gulch Creek.
NMFS	October 18, 2022	NMFS responded by email that there were no historical records of anadromous fish or critical habitat for anadromous fish in Stage Gulch Creek.

Chapter 5 List of Preparers and Reviewers

The primary people responsible for preparing and reviewing this IS/ND are summarized in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Maxwell Lammert	Office Chief (Acting), Office of Environmental Analysis
Caltrans	Arnica MacCarthy	Senior Environmental Planner, Office of Environmental Analysis
Caltrans	Nicholas Piucci	Environmental Planner, Office of Environmental Analysis
Caltrans	Samira Norouzpour	Project Management, Division of Engineering Services
Caltrans	Alexander Lim	Project Management Assistance, Division of Engineering Services
Caltrans	Atif Abrar	Senior Transportation Engineer, Office of Design South, Special Projects
Caltrans	Yenha Nguyen	Engineer, Design Special Projects
Caltrans	Robert Blizard	Branch Chief, Office of Biological Sciences and Permits
Caltrans	Lindsay Vivian	Office Chief (Acting), Office of Biological Sciences and Permits
Caltrans	Jonathan Hogg	Environmental Scientist, Office of Biological Sciences and Permits
Caltrans	Richard Melko	Supervising Engineer, Office of Bridge Design West, Structure Design, Division of Engineering Services
Caltrans	Qudama Jasim	Engineer, Office of Bridge Design West, Structure Design, Division of Engineering Services
Caltrans	Althea Asaro	Branch Chief (Acting), Office of Cultural Resource Studies
Caltrans	Brian Gassner	Senior, Archaeology Branch, Office of Cultural Resource Studies
Caltrans	Charles Palmer	Senior, Architectural History, Office of Cultural Resource Studies
Caltrans	Britt Schlosshardt	Lead Archaeological Surveyor, Office of Cultural Resource Studies
Caltrans	Douglas Bright	Architectural Historian, Office of Cultural Resource Studies
Caltrans	Shilpa Mareddy	Branch Chief, Office of Environmental Engineering
Caltrans	Va Lee	Specialist, Office of Environmental Engineering

Organization	Name	Role
Caltrans	Ben Mitrsongkroh	Senior Transportation Engineer, Office of Highway Operations/TMP
Caltrans	Charuni Kurumbalapitiya	Transportation Engineer, Office of Highway Operations/TMP
Caltrans	Chris Wilson	District Branch Chief, Office of Environmental Engineering
Caltrans	Chris Risden	Branch Chief, Office of Geotechnical Design – West
Caltrans	Kathleen Reilly	District Branch Chief, Office of Hydraulic Engineering
Caltrans	Nghia Nguyen	Hydraulic Engineer, Office of Hydraulic Engineering
Caltrans	Joaquin Pedrin	Branch Chief, Office of Landscape Architecture – North
Caltrans	Chris Else	Project Landscape Associate, Office of Landscape Architecture
Caltrans	Alex McDonald	Senior Landscape Architect, Office of Landscape Architecture
Caltrans	Wesley Bexton	Landscape Architect, Office of Landscape Architecture
Caltrans	Brian Rowley	Branch Chief, Office of Water Quality
Caltrans	Vahid Zand	Water Quality Engineer, Office of Water Quality
Caltrans	Bryan Chew	Utility Engineer, Office of Right of Way – Utilities
Caltrans	Jim Murphy	Acting Branch Chief, Office of Right of Way Acquisitions & Project Management Services
Caltrans	Syd Valeh	Senior Construction Manager, Office of North Bay Construction
Jacobs	Audrey Van	Senior Environmental Planner
Jacobs	David Carlson	Environmental Program Manager
Area West Environmental, Inc.	Aimee Dour-Smith	Senior Environmental Planner
Area West Environmental, Inc.	Breeanna Kalson	Environmental Planner, Biologist
Area West Environmental, Inc.	Kimberly Mays	Environmental Planner
Area West Environmental, Inc.	Rachel Freund	GIS Analyst

Chapter 6 Circulation List

The Final IS/ND will be circulated to the agencies and elected officials listed in the following sections.

6.1 Agencies

- Association of Bay Area Governments
- Bay Area Air Quality Management District
- California Department of Fish and Wildlife
- California Highway Patrol
- California Transportation Commission
- National Marine Fisheries Service
- San Francisco Bay Regional Water Quality Control Board
- Sonoma County Planning Division
- Sonoma County Sheriff's Office
- Sonoma County Transportation Authority
- State Water Resources Control Board
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers

6.2 Elected Officials

- The Honorable Dianne Feinstein
- The Honorable Alex Padilla
- The Honorable Mike Thompson (California District 4)
- The Honorable Bill Dodd (California State Senate District 3)
- The Honorable Mike McGuire (California State Senate District 2)
- The Honorable Damon Connolly (California State Assembly District 12)
- The Honorable Supervisor David Rabbitt (Sonoma County Supervisorial District 2)

Appendix A Summary of Project Features, and Avoidance and Minimization Measures

Project Features

- **PF-AES-01, Vegetation Impacts:** Minimize impacts to vegetation to the greatest extent possible while allowing the Project to be implemented.
- **PF-AES-02, Vegetation Protection:** Vegetation to remain should be protected from construction activities by means of temporary fencing (or similar) when vegetation is close to construction work.
- **PF-AES-03, Tree Protection:** Where the pruning of trees is required to accommodate construction operations, pruning must be under the supervision of a certified arborist.
- **PF-AES-04, Screening:** Construction materials and equipment should be stored in staging area(s) beyond direct view of the motoring public and residential properties to the extent feasible.
- **PF-AES-05, Limit Nightwork Impacts:** If nightwork is included, limit light trespass to residences and motorists with the use of directional lighting, shielding, and other measures as needed.
- **PF-AES-06, Minimize Light Pollution:** All lighting on new highways and structures would be designed to limit light pollution and have minimum impact on the surrounding environment. All light fixtures would have light-emitting diodes configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the highway. If applicable, shields on the fixtures to prevent light trespass to adjacent properties would be considered during the Project design phase.
- **PF-AES-07, Reseeding Disturbed Areas:** Apply erosion control seeding and similar measures to all areas of disturbance where they are beyond paved areas unless specifically unwarranted as for safety considerations.
- **PF-AES-08, Minimize Visual Resources Impacts during Final Design:** The minimization of impacts to visual resources should be emphasized in highway

layouts and all other aspects of Project design and implementation. The Office of Landscape Architecture shall be consulted throughout the Project design process.

- **PF-AQ-01, Dust Control Measures:** Implement dust control measures to minimize airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 116 and other public roadways affected by construction traffic, and covering soils or construction materials or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.

- **PF-AQ-02, Construction Vehicles and Equipment:** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

- **PF-AQ-03, Limit Idling:** Limit idling times either by shutting construction equipment off when not in use or reducing the maximum idling time to 5 minutes.

- **PF-BIO-01, Documentation at Project Site:** A Permit Compliance Binder will be maintained at the construction site at all times and presented to resource agency personnel upon request. The Permit Compliance Binder will include a copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

- **PF-BIO-02, Work According to Documents:** Except as they are contradicted by measures within the permits and agreements, all work will be conducted in conformance with the Project description in the permits and agreements and the PFs and AMMs provided in this document.

- **PF-BIO-03, Work Period in Dry Weather Only:** Work in the bed, bank, channel, and any associated riparian habitat will only be conducted during periods of dry weather. Work during precipitation events will adhere to the applicable permit conditions.

- **PF-BIO-04, Mark Environmentally Sensitive Areas:** Before construction begins, ESAs will be clearly delineated using high visibility orange fencing, flagging, or similar marking to delineate sensitive habitats. The ESA marking will remain in place throughout construction. It may be removed during the wet season (and subsequently re-installed) if needed to prevent materials from being washed

away. The final Project plans will depict all locations where ESA markings will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable marking material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. ESA markings will be maintained in good repair throughout the Project as needed.

- **PF-BIO-05, Worker Environmental Awareness Training:** Prior to the start of construction, the Project biologist will provide a training session for all work personnel to identify any sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later will receive the same training before beginning work. Upon completion of the education program, employees will sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project and ESAs within the Project footprint and notes key avoidance measures as well as employee guidance will be given to each person who completes the training program. These forms will be made available to the resource agencies upon request.

- **PF-BIO-06, Wildlife Exclusion Fencing:** Before starting construction, wildlife exclusion fencing (WEF) will be installed where wildlife could enter the Project footprint. Locations of the WEF will be determined in coordination with the onsite Project biologist. WEF installation locations will be identified during the Project design phase of the Project; the final plans will depict the locations where WEF will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable WEF material and proper WEF installation and maintenance. The WEF would will in place throughout the Project duration while construction activities are ongoing and will be regularly inspected for stranded animals and fully maintained. The WEF will be removed following completion of construction activities or when construction is completed at that location at the discretion of the Project biologist.

- **PF-BIO-07, Nesting Bird Surveys:** If Project activities occur from February 1 to September 30, then a pre-construction survey(s) will be conducted for nesting birds no more than 3 days before any vegetation removal, or initiation of staging, and/or construction. If active nests are found, then an appropriate buffer will be

established, and the nest will be monitored for compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503.

- **PF-BIO-08, Active Nest Buffers:** If an active bird nest is found during construction activities, then the following ESA buffers will be established: If an active raptor nest is observed, a 300-foot ESA buffer will be implemented to avoid impacting the young until they have fledged; if an active nest of non-raptor birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California Fish and Game Code Section 3503.

- **PF-BIO-09, Construction Site Management Practices:** The following site restrictions will be implemented to avoid or minimize potential impacts on sensitive biological resources:

    - Enforcing a speed limit of 15 miles per hour for Project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

    - Locating construction access, staging, storage, and parking areas within the ROW to the extent practicable and outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction.

    - Certifying, to the maximum extent practicable, borrow material is nontoxic and weed free.

    - Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.

    - Prohibiting pets from entering the Project footprint during construction.

    - Prohibiting firearms within the Project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

- **PF-BIO-10, Implementation of Best Management Practices:** A Storm Water Pollution Prevention Program (SWPPP) is anticipated. Project BMPs will be included in the plans and special provisions to comply with the requirements of

the SFBRWQCB general construction permit (GCP). Protective measures will include, at a minimum:

- Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses.
- Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or an established vehicle maintenance facility.
- All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any downstream riparian habitat, aquatic habitat, culvert, or drainage feature, or will be removed from the site at the end of the day.
- Dedicated fueling and refueling practices will be designated as part of the approved SWPPP.
- Dedicated fueling areas will be protected from stormwater run-on and will be located at least 50 feet from downslope drainage facilities and water courses. If this is not possible then fueling will be conducted as stated in the SFBRWQCB GCP and in the Caltrans BMP Guidance Handbook.
- Fueling must be performed on level-grade areas. On-site fueling will only be used when and where it is impractical to send vehicles and equipment off-site for fueling. When fueling must occur on-site, the contractor will designate an area to be used subject to the approval of the Resident Engineer representing Caltrans. Drip pans or absorbent pads will be used during on-site vehicle and equipment fueling.
- Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment.
- Dust and erosion control measures will be implemented consistent with the SFBRWQCB GCP and the Caltrans BMP Guidance Handbook.
- Installing coir rolls, straw wattles, or other erosion control items per guidance in the Caltrans BMP Guidance Handbook during construction to capture sediment.

- **PF- BIO-11, Invasive Weed Control:** To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. If noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project footprint will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project. If work occurs in sensitive habitat, vehicles and equipment will be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

- **PF-BIO-12, Vegetation Removal:** Whenever possible, vegetation removal will be scheduled between September 30 and February 1 to avoid impacts to nesting birds during the nesting season. If work occurs during this time, pre-construction surveys for nesting birds are required. Vegetation would be cleared only where necessary and would be cut above soil level, except in areas that would be permanently affected or excavated. This would allow plants that reproduce vegetatively to resprout after construction.

- **PF-BIO-13, Landscaping and Revegetation Plan:** Vegetation and trees removed by construction operations within the Project limits will be replaced according to Caltrans policy to the extent feasible. Temporarily disturbed areas will be restored to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with locally appropriate, commercially available, native vegetation or other methods to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, appropriate native species will be used to the maximum extent possible, and trees, shrubs, and groundcover will be selected for drought tolerance and disease resistance and based on local composition. Mulch will be applied to planted areas to reduce weed growth, conserve moisture, and minimize maintenance operations. A plant establishment period may be included in the final revegetation plan, based on state and federal permits.

- **PF-BIO-14: Prevent Inadvertent Entrapment:** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project footprint overnight will be inspected before they are subsequently moved, capped, or buried.

- **PF-BIO-15, Agency-approved Biologist:** A Project biologist approved by USFWS and CDFW will conduct pre-construction surveys for federally and state-listed species. The Project biologist will be present during construction activities including vegetation clearing and grubbing, as required by the resource agencies. If at any point any listed species is discovered within the Project footprint, the Project biologist, through the Resident Engineer or his/her designee, will halt all work within 50 feet of the animal and contact the corresponding agency (USFWS or CDFW) to determine how to proceed.

- **PF-BIO-16, Stop-Work Authority:** Through the Resident Engineer or their designee, the Project biologist(s) shall have the authority to stop Project activities to minimize take of listed species or if he/she determines that any permit requirements are not fully implemented. Caltrans will provide appropriate notifications based on language in the permits and agreements to agency(s) with jurisdiction.

- **PF-BIO-17, Discovery of Injured or Dead Special-status Species:** Immediately following the discovery of any dead, injured, or entrapped special-status species regulated by USFWS or CDFW, Caltrans will provide appropriate notifications based on language in the permits and agreements to agency(s) with jurisdiction.

- **PF-BIO-18, Wildlife Species Relocation:** When listed wildlife species (that do not have state fully protected status) are present and it is determined that they could be injured or killed by construction activities, the Project biologist, in coordination with the appropriate state and federal wildlife agencies, and as outlined within the applicable permits, will identify appropriate methods for capture, handling, exclusion, and relocation of individuals that could be affected.

- **PF-BIO-19, Lighting Design:** During the Project design phase, lighting fixtures will be selected to reduce standard light temperature (Kelvin), using yellow-white or amber-white LEDs of 2700 Kelvin or less. Light fixtures will be shielded to minimize light trespass or 'spread' to the extent practical while meeting highway safety standards. Lighting design will be coordinated with the Office of Biological Sciences and Permits and the Office of Landscape Architecture during the Project design phase.

- **PF-BIO-20, Temporary Creek Diversion System:** For the bridge work associated with the intersection signalization, a temporary creek diversion system (TCDS) will be used to create a dry construction area and prevent construction materials from entering the creek. A TCDS will consist of a diversion pipe with coffer dams at both the upstream and downstream ends of the creek within the Project footprint. This diversion may be used during the duration of construction but will be removed following the completion of construction activities. Construction in the creek will be limited to the dry season, when the creek is at its lowest water level, to reduce impacts on biological resources and soil hydrology. A temporary Stream Diversion Plan will be developed and approved by Caltrans and agencies (may include CDFW, USACE, RWQCB, USFWS) prior to the start of construction.

- **PF-BIO-21, Aquatic Wildlife Relocation:** For the bridge work associated with the intersection signalization: If water is present in Stage Gulch Creek at the beginning of the dry season work window, fish and other aquatic vertebrates within the area to be dewatered shall be removed and relocated to appropriate areas out of the construction area. An approved fish removal and relocation plan shall be developed and approved by the appropriate agencies prior to fish recovery operations.

- **PF-CUL-01, Cease Work Upon Discovery of Cultural Resources:** Cease work in the vicinity (60-foot radius) if cultural resources are encountered during Project-related ground-disturbing activities, Caltrans Office of Cultural Resource Studies (OCRS) will be contacted, a qualified archaeologist will assess the significance of the resource, and appropriate avoidance or treatment measures will be implemented, in consultation with local consulting tribes.

- **PF-CULT-02, Procedures for Discovery of Human Remains:** In accordance with the California Health and Safety Code, if human remains are uncovered

during construction-related activities, all such activities within a 60-foot radius of the find will be halted immediately and the Project's designated representative will be notified. The contractor or lead person on the Project will immediately notify the OCRS Office Chief and/or the District Native American Coordinator (DNAC). Once the remains are determined human, the lead person, OCRS Office Chief, or DNAC will contact the County Coroner. If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making the determination (California Health and Safety Code Section 7050.5[c]). The Project's designated representative will be responsible for acting upon notification of discovery of Native American human remains, as identified in detail in California Public Resources Code Section 5097.9. The Project's designated representative and the professional archaeologist will contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the property owner and Caltrans, will determine the ultimate disposition of the remains. The lead person ensures that the recommendations are followed. After the appropriate actions are taken, Project work may resume.

- **PF-ENERGY-01, Recycle Waste and Materials:** Recycle nonhazardous waste and excess construction materials to reduce disposal, if feasible.

- **PF-ENERGY-02, Solar Energy:** Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.

- **PF-HAZ-01, Caltrans Standard Specifications and Hazardous Waste Regulations:** The current Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, paints, cleaners, solvents, and lubricants. Handling and management of hazardous materials will comply with the current Caltrans Standard Specification Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.

- **PF-HAZ-02, Soil Investigation:** A soil investigation for metals, primarily lead, and other contaminants of concern (i.e., petroleum hydrocarbons and volatile organic compounds) will be completed during the Project's design phase to characterize and profile the soil to be encountered by the construction of the Project. Depending upon the findings of the site investigation, appropriate

hazardous waste management special provisions will be prepared and included in the Project specifications.

- **PF-HAZ-03, Groundwater Testing:** As part of the site investigation work, groundwater samples will be collected and tested for gasoline constituents. The aim of this work will be to determine the extent of the contaminant plume in the groundwater and to determine if any portion of it is located below planned Project construction work that might encounter groundwater, such as excavating foundations for new traffic signals. The findings from the groundwater sampling will also define the contaminant concentration contours and help establish what water treatment will be required, if any, and what discharge options will be available for any groundwater pumped out and stored during subsurface construction work.

- **PF-HAZ-04, Materials Testing:** Stage Gulch Creek Bridge will be inspected by a certified professional during the Project design phase for possible asbestos-containing materials, e.g., bridge railing base plate shims and structure bearing pads. Any suspect materials will have samples taken from them to be screened for asbestos content via polarized light microscopy. The bridge survey for hazardous materials will also include collecting samples of any paints, primers, coatings, or traffic stripes on the bridge for lead screening. The findings of the bridge survey will be used to address bridge alteration work that might disturb identified hazardous materials and any necessary remediation work preceding the bridge work.

- **PF-WQ-01, Compliance with Water Quality Permits and Programs:** The Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Caltrans Order No. 2020-0033-DWQ, NPDES No. CAS00003, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009 - 0009-DWQ), and any subsequent permits in effect at the time of construction. Since the Project has an approved Project Initiation Report prior to January 1, 2023, it will be ‘grandfathered’ and can continue to apply one-acre minimum threshold of the 2012 Caltrans Permit. As a component of the CGP, the Project will prepare and implement a SWPPP to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP will identify the sources of pollutants that may affect the quality of stormwater and include BMPs to control the pollutants, such

as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs.

- **PF-WQ-02, Implementation of Post Construction Water Pollution BMPs**: The Project would incorporate post-construction water pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

- **PF-NOISE-01, Construction Noise Control During Construction:** Temporary noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, Noise Control. Caltrans Standard Specifications 14-8.02 requires L_{max} not to exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. in residential areas and near hotels.

- **PF-TRANS-01, Traffic Management Plan:** A Final Traffic Management Plan (TMP) would be prepared by Caltrans prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. The TMP would identify traffic delays and alternative routes for emergency and medical vehicles associated with essential services, thereby avoiding or minimizing short-term, localized traffic congestions and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

- **PF-UTIL-01, Utility Notifications:** During Project design phase, Caltrans will coordinate with all affected utility companies regarding the construction schedule for the Project so that relocations can be conducted by each utility company as necessary prior to the start of construction.

  Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance of the date and timing of potential service disruptions.

Avoidance and Minimization Measures

- **AMM-AES-01, Selection of Materials:** The need for the architectural treatment of proposed Project elements should be investigated by the Caltrans Office of Landscape Architecture during the Project design phase and incorporated as appropriate. Measures may also include aesthetic treatment of inert surfacing in the roundabout islands, coloring or other treatments to new concrete installations, including concrete paving used as vegetation control beneath barriers and other elements, among other mitigating treatments.

- **AMM-BIO-01, Timing of Construction:** Construction will occur during the dry season, when CRLF are most likely to be estivating in moist refuges and not dispersing through the Project footprint. If construction activities must take place during the wet season, Caltrans will coordinate with USFWS about the need for CRLF surveys. Work in Stage Gulch Creek for Build Alternative 1 bridge widening will be restricted to the dry season and outside of the CRLF breeding season. No construction activities will occur during rain events or within 24-hours following a rain event. Prior to construction activities resuming, the Project biologist will inspect the action area and all equipment/materials for the presence of CRLF. The animals will be allowed to move away from the Project of their own volition or moved by the Project biologist, as stipulated in the Project Biological Opinion for CRLF from USFWS.

- **AMM-BIO-02, California Red-legged Frog Pre-construction Surveys:** Pre-construction surveys for the CRLF will be conducted by the Project biologist within 14 calendar days of the initiation of Project activities in suitable upland and aquatic habitat prior to ground-disturbing activities, vegetation removal, and WEF installation. Surveys will be conducted as outlined in the 2005 USFWS species survey guidelines for CRLF. Access to habitat during surveys may be limited by appropriate safety measures and protocols; available at https://www.fws.gov/ventura/docs/species/protocols/crlf/caredleggedfrog_survey-guidelines.pdf. Access to habitat during surveys may be limited by appropriate safety measures.

  Pre-construction surveys will include:

  - Foot surveys will be conducted of potential frog habitat within the Project limits and accessible adjacent areas (within at least 50 feet of Project limits).

- Potential cover sites (burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil will be investigated for signs of CRLF.

- Native vertebrates found in cover sites within the Project limits will be documented and, if handling is allowed, relocated to an adequate cover site in the vicinity. Species that cannot be relocated due to special protection status will be addressed in coordination with the appropriate agency(s) with jurisdiction.

- **AMM-BIO-03, California Red-legged Frog Monitoring:** During construction in and near potential CRLF, the following protocols will be observed by the Project biologist during construction monitoring:

  - Within 24 hours prior to initial ground-disturbing activities, portions of the Project footprint where potential CRLF habitat has been identified will be surveyed by a Project biologist(s) to clear the site of frogs moving above ground or taking refuge in burrow openings or under materials that could provide cover.

  - A Project biologist(s) will be present during all initial ground-disturbing activities and vegetation removal in suitable refugia habitats for the CRLF to monitor the removal of the top 12 inches of topsoil.

  - If potential aestivation burrows are discovered, the burrows will be flagged for avoidance.

  - After a rain event, and prior to construction activities resuming, a Project biologist will inspect the work area and all equipment/materials for the presence of CRLF.

  - Upon discovery of a CRLF individual(s) in an active construction area, all work will cease within a 50-foot radius of the frog. The frog will be allowed to leave the site on its own; or if the frog(s) does not leave on its own, it will be relocated as close to the Project footprint as feasible and with permission from the property owner; and placed in a natural burrow by a Project biologist with the appropriate USFWS 10(a)1(A) handling permit.

  - The USFWS will be notified by phone and email within one working day of any CRLF discovery in the Project footprint.

- **AMM-BIO-04, Proper Use of Erosion Control Devices:** To prevent CRLF from becoming entangled or trapped in erosion control materials, the following: plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes will include coconut coir matting or tackified hydroseeding compounds.

- **AMM-BIO-05, Targeted Pre-construction Plant Survey:** Prior to the initiation of construction, an experienced botanist will conduct a floristic survey in the biological study area (BSA). Surveys would occur during the appropriate blooming period for all special-status plant species with potential to occur within the Project footprint. Surveys would follow California Native Plant Society (CNPS), CDFW, and USFWS protocols.

- **AMM-BIO-06, Tree Replanting Evaluation.** Caltrans will evaluate opportunities for onsite tree replanting during final design, consistent with safety standards for line of sight.

- **AMM-BIO-07, Pre-construction Surveys for Bats:** Prior to the start of work at each location, a Project biologist will conduct a visual survey of the area for bat species. Any bats observed in the BSA will be allowed to leave on their own.

- **AMM-BIO-08, Bat Surveys Prior to Vegetation Removal**: A survey by a Project biologist will be conducted prior to vegetation removal to determine if two-phase tree removal methods are appropriate for any trees scheduled for removal, or if a biological monitor will be required to be present during tree removal. The Project biologist will inspect all trees marked for removal for bat roost habitat (e.g., crevice and foliage habitat types).

- **AMM-BIO-09, Bat Monitoring Protocols:** If a bat or bat colony is observed nesting or roosting in active construction areas at the Project footprint, construction activities that would imminently harm bats will stop within 150 feet of the roosting location until a Project biologist develops a site-specific bat avoidance plan to implement at the roosting site. Once the plan is implemented, Project activities may recommence with Project biologist oversight at that location.

- **AMM-BIO-10, Pre-construction Surveys for Western Pond Turtle (WPT):** An approved biologist will conduct pre-construction surveys for WPT immediately before ground-disturbing activities in areas identified as suitable

WPT habitat within the Project footprint. If WPT is found within the Project footprint and at risk of harm, then it will be relocated by a Project biologist outside of the Project footprint.

- **AMM-BIO-11, Special-status Plant Protection:** If special-status plant species are found during botanical surveys, the following measures would be implemented:
    - The botanist would map the exact boundaries of the population in the Project BSA and record the density of plants within the population.
    - Special-status plant populations would be included as an ESA "Do not enter without approval from the Project Biologist" in Project plans and specifications. These areas would be marked or fenced for avoidance with a 10-foot buffer.
    - Ground-disturbing work near special-status plants would proceed under supervision of a Project biologist.
    - If special-status plant species are found in the Project BSA and avoidance is not possible due to the location of the population, Caltrans would consult with the appropriate resource agencies (CDFW, CNPS, and/or USFWS) to develop mitigation and/or compensation measures needed to avoid adverse effects to the population.
    - Where it is not feasible to avoid special-status plant locations within construction areas, a plan would be developed through consultation with state and Federal agencies. The plan may identify requirements for seed collection and transplanting for annual plant species, native plant nursery propagation and planting for perennial species, redistribution within areas that provide appropriate habitat for the species in the Project BSA, if feasible.
- **AMM-BIO-12, California Red-legged Frog Habitat Compensation:** If Build Alternative 2 is selected, Caltrans would pursue opportunities for offsite compensation for the upland dispersal habitat permanently lost through construction of the Roundabout through the purchase of species credits at a USFWS approved, appropriate conservation bank. This may include the purchase of CRLF credits at a USFWS-approved conservation bank conducting habitat restoration in the region, contribution to a larger advanced mitigation property

acquisition, habitat management, or other beneficial measure that would aid local recovery of the species. These preliminary estimates may change during the design phase. Caltrans would make a final determination on impacts and develop a plan after coordination with USFWS.

- **AMM-PALEO-01, Paleontological Evaluation Report:** Prior to construction, Caltrans would determine whether the Project footprint has a low or high sensitivity for paleontological resources. If Caltrans determines the Project footprint is sensitive for paleontological resources, a person who meets Caltrans requirements of a Principal Paleontologist would prepare a Paleontological Evaluation Report. The Paleontological Evaluation Report would identify measures to avoid or/and minimize impacts to paleontological resources.

- **AMM-NOISE-01, Construction Noise Levels:** The following measures will be incorporated to reduce noise levels during construction:

    - The Contract Specifications would include a Special Provision requiring Noise Monitoring and Control.

    - Any operation exceeding 86 dBA will not be allowed at nighttime from 9:00 p.m. to 6 a.m.

    - Public outreach will be required throughout the Project construction to update residents, businesses, and others regarding upcoming construction-related activities and time frame of Project.

    - Schedule noisy operations within the same time frame where feasible. The total noise level will not be significantly greater than the level produced if operations were performed separately.

    - Avoid unnecessary idling of internal combustion engines within 100 feet of sensitive receptors.

    - Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons for equipment when sensitive receptors adjoin or are near a Project construction area.

- Equip all internal combustion engine driven equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Utilize "quiet" air compressors and other "quiet" equipment where such technology exists.
- No construction equipment will be delivered and dropped off before 6:00 a.m.
- Maintain all internal combustion engines properly to minimize noise generation.

- **AMM-NOISE-02, Vibration Control Measures:** The following measures and non-standard specifications will be incorporated to reduce vibratory impacts during construction:
  - Use a non-vibratory road roller when construction activities are less than 25 feet from structures.
  - Prevent idling of other equipment within 100 feet of structures.
  - Develop and implement a construction vibration monitoring plan in accordance with Caltrans requirements, to document conditions prior to, during, and after construction. A photo-video survey, elevation survey, and crack monitoring survey shall be completed prior to construction, in regular intervals during construction, and after completion of construction to document the condition of foundations, walls and other structural elements in the interior and exterior of nearby structures.

Appendix B List of Technical Studies and References

Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). 2021. *Plan Bay Area 2050, a Vision for the Future*. October. Available at https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf. Accessed March 2023.

Blake, M.C., Graymer R.W., and Stamski, R.E. 2000. *Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California*. U.S. Geological Survey Miscellaneous Field Studies Map MF-2337. Available at https://pubs.usgs.gov/mf/2000/2337/. Accessed February 27, 2023.

Bryant, W.A., and Lundberg, M., compilers, 2002. Fault number 1b, San Andreas fault zone, North Coast section, in Quaternary fault and fold database of the United States. Available at U.S. Geological Survey website https://earthquakes.usgs.gov/hazards/qfaults. Accessed March 6, 2023.

California Air Resources Board (CARB). 2019. Summaries of Historical Area Designations for State Standards. Available at https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations/summary-tables. Accessed March 2, 2023.

California Department of Conservation. 2019. *Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency*. Available at https://www.conservation.ca.gov/dlrp/fmmp/Pages/Sonoma.aspx. Accessed February 2023.

California Department of Conservation. 2020. *2014-2016 California Farmland Conversion Report, Appendix A: County Conversion Tables*. Available by request at https://filerequest.conservation.ca.gov/RequestFile/2817587. Accessed February 2023.

California Department of Forestry and Fire Protection (CalFire). 2022. *Fire Hazard Severity Zones in State Responsibility Areas, Viewer*. November 21. https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/. Accessed March 1, 2023.

California Department of Transportation (Caltrans). 2017a. *Construction Site Best Management Practices (BMP) Manual*. Available at https://dot.ca.gov/-/media/dot-media/programs/construction/documents/environmental-compliance/csbmp-may-2017-final.pdf. Accessed February 27, 2023.

Caltrans. 2017b. *Stormwater Quality Handbooks: Project Planning and Design Guide*. Available at https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0005755-final-ppdgjuly-2017-rev4292019a11y2.pdf. Accessed February 27, 2023.

Caltrans. 2017c. *Rounding Out a Traffic Strategy*. Available at https://dot.ca.gov/-/media/dot-media/programs/risk-strategic-management/documents/mile-marker/mm-2017-q4-roundabout-a11y.pdf.

Caltrans. 2018. *California Log of Bridges on State Highways*. District 4. Available at https://dot.ca.gov/-/media/dot-media/programs/maintenance/documents/f0009151-logd04-a11y.pdf. Accessed February 2023.

Caltrans. 2021a. Water Pollution Control Program (WPCP) Preparation Manual. June. Available at https://dot.ca.gov/-/media/dot-media/programs/construction/documents/environmental-compliance/stormwater/wpcp-manual-final-20210630-filemaker-pro-template-a11y.pdf. Accessed February 27, 2023.

Caltrans. 2021b. *Director's Policy 37 Complete Streets*. December. Available at https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/dp-37-complete-streets-a11y.pdf. Accessed March 1, 2023.

Caltrans. 2022a. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047. Preliminary Traffic Management Plan Data Sheet. July 26.

Caltrans. 2022b. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047. Stage Construction and Traffic Handling Plans. September 29.

Caltrans. 2022c. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Construction-related Energy*. Memorandum. Air Quality and Noise. May 10.

Caltrans. 2022d. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047. *Stormwater Data Report -Short Form.* October.

Caltrans. 2022e. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Drainage Recommendation and Cost Estimate*. Memorandum. Office of Hydraulic Engineering. October 3.

Caltrans. 2022f. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Construction-related Noise Analysis.* Memorandum. Office of Environmental Engineering. May 10.

Caltrans. 2022g. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Construction-related Vibration Analysis.* Memorandum. Office of Environmental Engineering. May 10.

Caltrans. 2022h. Highway Design Manual; 7th Edition: Section 405.10. Available at https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm. Accessed May, 2023.

Caltrans. 2022i. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047. Traffic Operations Analysis and Recommendations. September 15.

Caltrans. 2023a. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047*, Visual Impact Assessment; Install Signals/Construct Roundabout at State Route 116 Stage Gulch Road and Lakeville Highway in Sonoma County*. Office of Landscape and Architecture. February 23.

Caltrans. 2023b. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Natural Environment Study; Install Signals/Construct Roundabout at State Route 116 and Stage Gulch Road in Sonoma County.* Office of Biological Sciences and Permits. February 23.

Caltrans. 2023c. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047, *Office of Cultural Resource Studies (OCRS) Section 106 Closeout Memo for the Signal Installation/Construct Roundabout Project at post mile (PM) 39.27 on State Route 116 in Sonoma County*. Memorandum. Office of Cultural Resource Studies. February 24.

Caltrans. 2023d. 04-SON-116, PM 39.27, EA 04-2Q770, E-FIS 0419000047. *Construction-related Greenhouse Gas (GHG) Emissions Analysis*. Memorandum. Office of Environmental Engineering. February 24.

Caltrans. 2023e. 04-SON-116 – PM 39.3 EA 04-2Q7700 – E-FIS 0419000047 *Intersection Control Evaluation Report*. Safety Improvements May 2023

California Geological Survey (CGS). 2015. *Geologic Map of California*. Available at https://maps.conservation.ca.gov/cgs/gmc/. Accessed February 27, 2023.

CGS. 2022a. *Earthquake Zones of Required Investigation*. Available at https://maps.conservation.ca.gov/cgs/EQZApp/. Accessed February 27, 2023.

CGS. 2022b. *California Tsunami Maps and Data*. Available at https://www.conservation.ca.gov/cgs/tsunami/maps. Accessed February 27, 2023.

California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants of California (online edition). Available at http://www.rareplants.cnps.org. Accessed February 2023.

California State Historic Preservation Officer. 2015. *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance With Public Resources Code Section 5024 and Governor's Executive Order W-26-92, as addended 2019*. January 1. Available at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/5024mou-15-a11y.pdf. Accessed March 2, 2023.

City of Petaluma. 2022. *City of Petaluma Emergency Operations Plan*. March. Available at https://cityofpetaluma.org/documents/emergency-operation-plan/. Accessed February 2023.

Clinkenbeard, J.P., et al. 2018. *Aggregate Sustainability In California Fifty-Year Aggregate Demand Compared to Permitted Aggregate Reserves*. California Geological Survey, Map Sheet 52; scale 1:1,100,000. Available at https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_052_California_Aggregates_Map_201807.pdfhttps://www.conservation.ca.gov/cgs/Documents/Publications/Map-

Sheets/MS_052_California_Aggregates_Map_201807.pdf. Accessed February 2023.

Federal Emergency Management Agency (FEMA). 2015. *Flood Insurance Rate Map (FIRM) Panel 06097C1008F*. Available at https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed February 27, 2023.

Federal Highway Administration (FHWA). 2014. *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California*. January 1. Available at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/106pa-14-a11y.pdf. Accessed March 2, 2023.

FHWA. 2022. *Improving Intersections for Pedestrians and Bicyclists: Informational Guide*. Available at https://safety.fhwa.dot.gov/intersection/about/fhwasa22017.pdf. April. Accessed February 2023.

Galvez, M., et. al. 2012. "Morphological Preservation of Carbonaceous Plant Fossils In Blueschist Metamorphic Rocks From New Zealand." *Geobiology* 10(2). 118-29.

Jennings, M.R. and M.P. Hayes. 1994. *Amphibian and Reptile Species Of Special Concern In California*. California Department of Fish and Game, Sacramento, CA. Available at http://www.elkhornsloughctp.org/uploads/files/1401225720%2382%20%3D%20Jennings%20and%20Hayes.pdf. Accessed March 5, 2023.

Knudsen, K.L., Sowers, J.M., Witter, R.C., Wentworth, C.M., Helley, E.J., Nicholson, R.S., Wright, H.M., and Brown, K.M., 2000. *Preliminary maps of Quaternary deposits and liquefaction susceptibility, nine-county San Francisco Bay region, California*. U.S. Geological Survey Open-File Report 00-444, 3 Arc/Info coverages, plotfiles for 2 sheets, scale 1:275,000, 2 pamphlets. Available at https://pubs.usgs.gov/of/2000/of00-444/. Accessed February 2023.

Kunkel, F., and J.E. Upson. 1960. *Geology and Ground Water in Napa And Sonoma Valleys, Napa and Sonoma Counties, California*. U.S. Geological Survey Water-Supply Paper 1495. Available at https://pubs.usgs.gov/wsp/1495/report.pdf. Accessed February 2023.

National Oceanographic and Atmospheric Administration (NOAA). 2022. *Sea Level Rise Viewer v 3.0.0*. Available at https://coast.noaa.gov/slr/#/layer/slr/0/-13641985.994369186/4609216.64021428/16/satellite/none/0.8/2050/interHigh/midAccretion. Accessed February 27, 2023.

Natural Resources Conservation Service (NRCS). 2018. *Official Soil Series Descriptions and Classifications: Clear Lake Series.* Available at https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CLEAR_LAKE.html. Accessed February 27, 2023.

NRCS. 2022. Web Soil Survey Map and Report for Sonoma County, California. United States Department of Agriculture. Available at http://websoilsurvey.nrcs.usda.gov/. Accessed February 3, 2023.

Nordlin, E.F., Hackett, R.P., & Folsom, J.J. 1970. *Dynamic Tests of California Type 9 Bridge Barrier Rail and Type 8 Bridge Approach Guardrail*. Highway Research Record. Available at https://onlinepubs.trb.org/Onlinepubs/hrr/1970/302/302-001.pdf. Accessed February 2023.

Powell, C.L., et. al. 2019. *Geology and Paleontology of the Late Miocene Wilson Grove Formation at Bloomfield Quarry, Sonoma County, California: U.S. Geological Survey Scientific Investigations Report 2019–5021*. Available at https://doi.org/10.3133/sir20195021. Accessed February 2023.

Rathbun, G., et al. 2002. *Terrestrial Habitat Use by Pacific Pond Turtles in a Mediterranean Climate*. The Southwestern Naturalist. 47. 225. 10.2307/3672910. Available at https://www.researchgate.net/publication/272584097_Terrestrial_Habitat_Use_by_Pacific_Pond_Turtles_in_a_Mediterranean_Climate. Accessed March 5, 2023.

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2023. Underground Storage Tank Program website. Available at

https://www.waterboards.ca.gov/sanfranciscobay/undergrd.html. Accessed March 2, 2023.

Sonoma County. 2016a. *Sonoma County 2020 General Plan: Land Use Element. Figure LU-2h: Zone 8 Petaluma and Environs*. Available at https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/generalplan/organizationandoverview/landuseelement/landuseelementmaps/landusepetalumaandenvirons. Accessed February 2023.

Sonoma County. 2016b. *General Plan 2020*. Adopted September 23, 2008. Amended August 2, 2016. Available at https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/General-Plan/. Accessed February 28, 2023.

Sonoma County. 2020. *Sonoma County GIS: Parcels Public Shapefile*. Available at https://gis-sonomacounty.hub.arcgis.com/datasets/sonomacounty::parcels-public-shapefile/about. Accessed February 28, 2023.

Sonoma County. 2021. *Sonoma County Operational Area Emergency Operations Plan Annex: Evacuation*. Published August. Available at https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Archive/Administration/Services/_Documents/Sonoma-County-Operational-Area-Evacuation-Annex-FINAL-July-2021.pdf. Accessed March 1, 2023.

Sonoma County. 2022. *Sonoma County Emergency Operations Plan, Update*. Published March 22. Available at https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Sonoma-County-Emergency-Operations-Plan-English.pdf. March 1, 2023.

Sonoma County Transportation Authority. 2021. *Moving Forward 2050; Sonoma County Comprehensive Transportation Plan*. September. Available at https://scta.ca.gov/wp-content/uploads/2021/09/SCTA-CTP21_v8.pdf. Accessed March 1, 2023.

State Water Resources Control Board (SWRCB). 2023. GeoTracker. Available at https://geotracker.waterboards.ca.gov/profile_report?global_id=T0609700997&mytab=esidata&subcmd=edfsummarytable#esidata. Accessed October 3, 2022.

SWRCB. 2017. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin. Available at https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html. Accessed February 27 2023.

U.S. Environmental Protection Agency (USEPA). 2023. *Non-attainment Areas for Criteria Pollutants* (Green Book). Available at https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed March 2, 2023.

U.S. Fish and Wildlife Service (USFWS). 2022. Information for Planning and Consultation (IPaC). https://ecos.fws.gov/ipac/. Accessed February 2023.

U.S. Geological Survey (USGS). 2000. *Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California: A Digital Database; Open-File Report 00-444*. Available at https://pubs.usgs.gov/of/2000/of00-444/. Accessed February 2023.

Wills, C.J., Perez, F.G., and. Gutierrez, C. I. 2011. *Susceptibility to Deep-Seated Landslides in California*. California Geological Survey, Map Sheet 58. Available at https://www.conservation.ca.gov/cgs/documents/publications/map-sheets/MS_058.pdf. Accessed February 2023.

Appendix C Caltrans Title VI Policy Statement

California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS–49 | SACRAMENTO, CA 94273–0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov

September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "*No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.*"

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

Appendix D Responses to Comments

Responses to Comments: Individuals

Comments were received from 13 individuals via email and postal mail. The table lists the commenter and date of receipt. Responses to these comments follow.

Comment Number	Commenter	Date Received
IND-1	Margaret Kullberg	April 6, 2023
IND-2	Sandy Kriegsman	April 10, 2023
IND-3	JLT Ranch, Jim & Luci Mendoza	April 10, 2023
IND-4	Russ Jaycox	April 14, 2023
IND-5	Tom Bachman	May 1, 2023
IND-6	Craig Jacobsen	May 1, 2023
IND-7	Allen Marcucci	May 2, 2023
IND-8	JLT Ranch, Jim & Luci Mendoza	May 2, 2023
IND-9	Pang Ho	May 2, 2023
IND-10	Ernest Altenreuther	May 2, 2023
IND-11	Debbie Murnig	May 3, 2023
IND-12	Geoffrey Reilly	May 3, 2023
IND-13	Brenda Sherwood	May 3, 2023
IND-14	Margaret Kullberg	May 11, 2023*
IND-15	J. and L. Mendoza	May 11, 2023*

*These comment letters were received via postal mail on May 11, 2023, but were postmarked as April 29, 2023, during the comment period.

Comment IND-1, page 1 of 1

From: [redacted]
Sent: Thursday, April 6, 2023 5:23 PM
To: SR116stagegulch@DOT

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL. Links/attachments may not be safe.

IND-1-1 Please send me a copy by mail of the Stage Gulch and Lakeville Hwy draft initial study of lights versus a roundabout..
My address is Margaret Kullberg
[redacted]

Response to Comment IND-1

Response to Comment IND-1-1:

Caltrans mailed a hardcopy of the IS/ND to the commenter on April 16, 2023.

Comment IND-2, page 1 of 1

From: [redacted]
Sent: Monday, April 10, 2023 4:46 PM
To: SR116stagegulch@DOT
Subject: round about

EXTERNAL EMAIL. Links/attachments may not be safe.

IND-2-1 I live on Lakeville Hwy. I am very concerned about having a roundabout at the corner of Stage Gulch and Lakeville Hwy. It seems suicidal to ask vehicles, specially semi-trucks, to make a roundabout when driving 55 MPH. A traffic light that is always green on Lakeville until tripped by someone coming from or going to Stage Gulch seems to be the most reasonable and safest option.

The only possible good from the roundabout is that the LVFD is right there to scrap everyone off the road.

Sincerely,

Sandy Kriegsman
[redacted]

Response to Comment IND-2

Response to Comment IND-2-1:

Caltrans notes the commenter's support of Alternative 1: Signalization over Alternative 2: Roundabout.

The current roundabout design incorporates adequate advanced notice for approaching drivers of reduced speeds; the design includes signage and a flashing beacon at each leg of the intersection that will warn drivers that they are approaching a roundabout and that a 25 mph speed is required.

With respect to traffic operations and the ability and speed of trucks to navigate the roundabout, the inscribed circle diameter (ICD) of the roundabout is 180 feet, which, by design, accommodates STAA-designed vehicle, 'WB67.' The WB67 truck type has a large, single-trailer (53-foot trailer) and is a commonly used transportation truck on the highway and interstate systems.

The roundabout will allow large trucks to safely navigate the roundabout and will maintain traffic flow and facilitate the movement of truck traffic in the opening year (2026) while preserving room for future improvements. See also information in Section 2.6 Selection of the Preferred Alternative regarding traffic analysis results.

Comment IND-3, page 1 of 1

From: Luci Mendoza [redacted]
Sent: Monday, April 10, 2023 11:25 AM
To: SR116stagegulch@DOT
Subject: Draft IS/ND

EXTERNAL EMAIL. Links/attachments may not be safe.

IND-3-1 We are residents on Stage Gulch and would appreciate a printed copy of the draft proposal for construction of round-about or signal at Lakeville/Stage Gulch roads. Please respond to this request. Thank you. JLT Ranch, Jim & Luci Mendoza, [redacted]

Response to Comment IND-3

Response to Comment IND-3-1:

Caltrans mailed a hardcopy of the IS/ND to the commenter on April 16, 2023.

Comment IND-4, page 1 of 1

From: Russ Jaycox <[redacted]
Sent: Friday, April 14, 2023 2:49 PM
To: SR116stagegulch@DOT
Subject: Public Notice Postcard - bad QR code
Attachments: Public Notice.jpg

EXTERNAL EMAIL. Links/attachments may not be safe.

Hello!

IND-4-1

I saw this notice posted at a south Petaluma store and tried the QR code. It does not work.
(see attached)

The shop owner had another and it too did not work. It appears as though there is a margin at the bottom of the card which prevents the QR code from appearing fully.

In addition, the email address: sr116stage gulch@dot.ca.gov is incorrect. There is a space between stage and gulch. The correct email address was found in the Draft Initial Study:

Because of these two errors that limit public involvement, will the cards be re-printed and distributed?

Thanks!

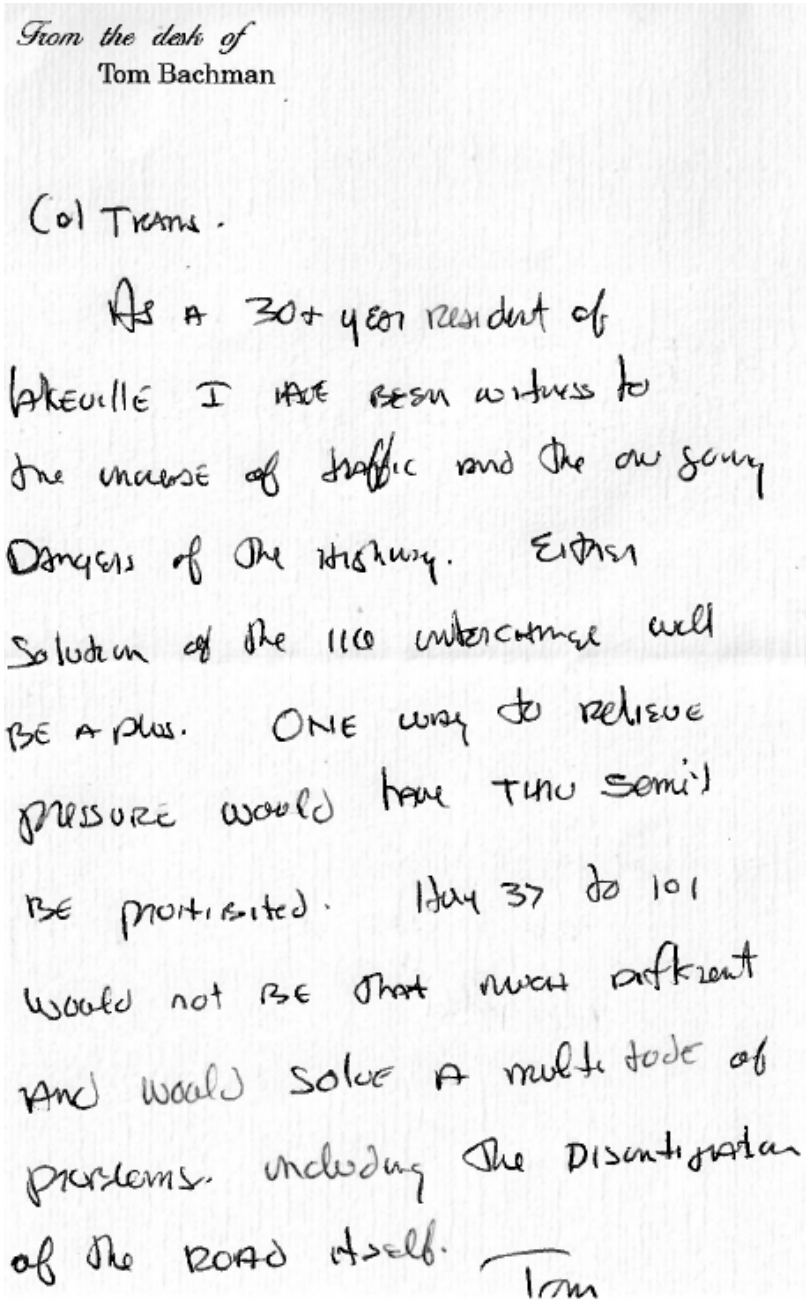
Response to Comment IND-4

Response to Comment IND-4-1:

Caltrans sent a reply email to the commenter and apologized for the printing errors. Caltrans also pointed out that the URL worked, even when the QR Code was cut off and the email address appeared correctly elsewhere on the postcard. It was determined that the information provided on the post cards, despite the mistakes, was sufficient to allow recipients to access the draft environmental document, the virtual tour, and provide comment via the email address.

Caltrans regrets these errors.

Comment IND-5, page 1 of 1



From the desk of
Tom Bachman

Col Trans.

As a 30+ year resident of Lakeville I have been witness to the increase of traffic and the ever growing Dangers of the Highway. Either Solution of the 116 interchange will BE A plus. ONE way to relieve pressure would have THRU Semi's BE prohibited. Hwy 37 to 101 would not BE that much different and would solve A multitude of problems. including the Disintegration of the ROAD itself. Tom

IND-5-1

IND-5-2

Response to Comment IND-5

Response to Comment IND-5-1:

Caltrans notes the commenter's support of the Project. The Project will improve intersection safety.

Response to Comment IND-5-2:

State routes are intended for inter-regional travel of people and goods, and the design guidance for this Project reflects these users. Traffic management decisions are beyond the purpose and need of this project.

Comment IND-6, page 1 of 1

From: Craig J. [redacted]
Sent: Monday, May 1, 2023 4:14 PM
To: SR116stagegulch@DOT
Subject: Safety project at sr116 and Lakeville Hwy.

EXTERNAL EMAIL. Links/attachments may not be safe.

Attn: Maxwell Lammert,

IND-6-1

After attending your Zoom meeting last evening, you have no access planned for the 2 properties west of your 2 projects. We need a way to get the trucks in and out of our hay field, as Ernie needs to get to his property too.

In the Roundabout (RA) option, if I was coming from Petaluma, took the 2nd exit of the RA to go up Stage Gulch (SG), there looked to be no way to turn into Ernie's parking lot, because of the median.

IND-6-2

Sometime in the mid 1980's, the afternoon commute would backup to Gilardi's Marina and beyond when there was a stop sign for northbound Lakeville traffic. Motorist would take old Lakeville Road #1 to beat the traffic. Soon the motorist where using the private driveway (Roche Rd) and coming out on SG, forcing us to close the gate on Old Lakeville Rd #1. This gate is closed the majority of the time now.

The size of the RA doesn't seem large enough for the size of vehicles that will be using it, without slowing traffic significantly.

Craig Jacobsen

[redacted]

Response to Comment IND-6

Response to Comment IND-6-1:

Caltrans has selected the roundabout as the preferred alternative. Caltrans met with the owner of Ernie's Tin Bar on April 28, 2023, to review concerns related to access. The IS/ND has been modified to discuss access to adjacent properties and parking; see Section 2.2.10.

The roundabout alternative would require relocating access to Ernie's Tin Bar. Under existing conditions, ingress/egress is possible along the entire frontage with Stage Gulch Road. No square footage would be lost from the Bar parking lot, but access would be restricted to a single point of entry from Stage Gulch Road, east of the Bar, as shown in Figure 2.3, which would change maneuverability for vehicles within the parking area. The new access point and associated driveway shown on Figure 2-3 would be designed to accommodate delivery trucks and emergency vehicles. Caltrans will continue to communicate with the Bar owner throughout the design phase. During the final design phase, Caltrans will evaluate options for access to the bar, including adding separate entrance only and exit only driveways from Stage Gulch, and modifying the median with a left-turn pocket, which would allow drivers travelling from the intersection eastbound on SR 116/Stage Gulch Road to make a safe left turn. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards.

The roundabout alternative would require relocating access to the 110-acre agricultural field owned by the commenter (APN 068-020-006) located on the west side of Lakeville Highway. As noted by the commenter, equipment currently enters this hay field through an unimproved lot and gate directly across the intersection from Stage Gulch Road. The roundabout would block this access point. During the final design phase, Caltrans will evaluate options to preserve access to this parcel, which may include adding a new access point from Lakeville Highway, south of the roundabout.

The roundabout design would also affect access to a small (0.27-acre) parcel (APN 068-030-002) located immediately west of the existing intersection. This parcel, which is across SR 116 from the Bar, is owned by the Bar owner. As disclosed in Sections 2.9 and 3.3.2 of the IS/ND, the proposed roundabout design would require full acquisition of this parcel due to loss of access. However, during the design phase, Caltrans will evaluate options to reduce the acquisition acreage and provide access to

the remaining parcel, such as modifying the sidewalk design and allowing vehicle access off southbound Lakeville Highway. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards.

Response to Comment IND-6-2:

Caltrans notes the commenter's previous experience with cut-through traffic on residential streets when Lakeville Highway northbound traffic was controlled with a stop sign. The roundabout alternative includes a dedicated lane for northbound traffic to merge onto eastbound SR 116/Stage Gulch Road, which will alleviate the pressure for cut-through traffic.

With respect to traffic operations and the ability and speed of trucks to navigate the roundabout, the inscribed circle diameter (ICD) of the roundabout is 180 feet, which, by design, accommodates STAA-designed vehicle, 'WB67.' The WB67 truck type has a large, single-trailer (53-foot trailer) and is a commonly used transportation truck on the highway and interstate systems.

The roundabout will allow large trucks to safely navigate the roundabout and will maintain traffic flow and facilitate the movement of truck traffic in the opening year (2026) while preserving room for future improvements.

Comment IND-7, page 1 of 1

April 21, 2023

Dear Mr. Lammert:

A few weeks ago I got a post card notifying me of the Caltrans study of the State Route 116-Stage Gulch Road/Lakeville Highway intersection and your two possible plans to make the intersection safer. Are you really serious about perhaps installing a round-about at that intersection !? I hope that you have had the opportunity to sit and observe the speed of cars especially those going towards Petaluma on Lakeville. A round-about would be a perfect launching pad for more serious accidents. Round-abouts are ok for speeds under 35 miles per hour, but not Lakeville Highway. Your other possible solution to the dangerous intersection was a stop light; I feel that would be much better and safer. Perhaps it could be set up to only stop traffic going straight on Lakeville when there is a vehicle coming west on Stage Gulch wanting to get onto Lakeville or people going south on Lakeville wanting to make a left turn onto Stage Gulch going east.

IND-7-1

I have lived on Lakeville highway for over 70 years and I can't tell you how many times I have almost had an accident at that intersection. With people making left turns onto Stage Gulch right on front of me. I always slow down as I approach the intersection expecting someone to make a left turn in front of me. Then we have people making a left turn from Stage Gulch onto Lakeville going south and pull out in front of oncoming traffic. It is a very dangerous intersection and I am sure a round-about would make it much more dangerous. Fortunately there is a fire house close by and the firefighters could come to the aid of those being hit at the intersection or those launching themselves going around the round-about!! Good luck with a round-about!!

Cordially:

Allen Marcucci

[redacted]

Response to Comment IND-7

Response to Comment IND-7-1:

Caltrans notes the commenter's support of Alternative 1: Signalization over Alternative 2: Roundabout.

Caltrans has selected the roundabout as the preferred alternative. The main purpose of this project is to improve safety at the intersection, and a roundabout would perform better than signalization because there are fewer conflict points, especially the high angle conflict points the commenter notes in the letter, which results in less severe crashes when compared to signal-controlled intersections. Over half of vehicle-to-vehicle conflict points associated with signal-controlled intersections are eliminated with the use of a roundabout. Additionally, a roundabout separates the conflict points, which improves the ability of the driver, pedestrian, or bicyclist to identify a conflict and take corrective action to prevent conflicts from becoming crashes.

Roundabouts are designed to reduce the vehicular speeds at intersections. Lower speeds lessen the vehicular crash severity. Likewise, studies indicate that when motorized vehicles are traveling at slower speeds, crash severity with pedestrians and bicyclists is significantly reduced; hence, roundabouts are proven safety countermeasures for traffic calming for complete street designs. (Caltrans, 2017c; Caltrans, 2022h).

The current roundabout design incorporates adequate advanced notice for approaching drivers of reduced speeds; the design includes signage and a flashing beacon at each leg of the intersection that will warn drivers that they are approaching a roundabout and that a 25 mph speed is required.

Comment IND-8, page 1 of 1

April 10, 2023

Caltrans District 4

P.O. Box 23660, MS 8B

Oakland, CA 94623-0660

ATTN: Maxwell Lammert

We are residents at [redacted] and have several concerns about the proposed changes at Lakeville and Stage Gulch. I have requested a copy of the proposed draft, and without having yet seen it, we would still like to make some comments.

IND-8-1

When we moved here in 1979, Lakeville had 2 stop signs at the intersection; one sign stopped traffic heading into Petaluma and the other stopped traffic from Stage Gulch, turning onto Lakeville. Traffic heading out of town had the right-of-way. Despite the fact that there was decidedly less traffic in those days, it worked. To build a round-about is to either eliminate Ernie's Tin Bar or provide semi-trucks with front row seating in the bar. A signal will probably back traffic up in all directions.

IND-8-2

Add to the current traffic problems at this site are the proposed compost dump at 1035 Stage Gulch Rd. and the years of construction on Hwy. 37 that will send thousands of commuters on Stage Gulch as their alternative route. The compost operation proposes to run 6 a.m. to 6 p.m. with multiple heavy trucks moving both waste into (and exiting empty) and finished product out of the site, as well as personal public vehicles. Add this to the current commute back-up.

IND-8-3

Also, on the straight stretch of Stage Gulch Rd., where our ranch is located at [redacted], from May to October, we cross 350 head of cattle over the road back and forth to our pastures, daily at 5 and 9 a.m.. Intermittently, throughout the year, at various times, we cross smaller groups. This often entails additional back-ups between Adobe and Lakeville roads.

All of the above needs to be considered when and if this construction begins. There is no simple solution, however, the impending compost dump, Hwy. 37 construction and our cattle need to be considered.

Thank You.

JLT Ranch, Jim & Luci Mendoza

Jim + Luci Mendoza

Response to Comment IND-8

Response to Comment IND-8-1:

Caltrans notes that the commenters requested a hard copy of the Draft IS/ND; Caltrans mailed a hard copy of the Draft IS/ND on April 16, 2023. See IND-3.

When considering whether to install a new traffic signal or roundabout on a state highway, Caltrans applies criteria from the California Manual on Uniform Traffic Control Devices (CA MUTCD) (California State Transportation Agency and Caltrans 2021), which provides uniform standards and specifications for all official traffic control devices in California. Before recommending a traffic signal or roundabout, Caltrans completed a careful analysis of traffic operations, pedestrian and bicyclist needs, physical intersection characteristics, crash history and safety, and other factors, coupled with engineering judgment, to determine if the intersection meets the minimum conditions under which installing traffic control is justified. The analysis determined that installing a roundabout would improve the overall safety and operation of the intersection and would not seriously disrupt existing traffic flow. See IS/ND Section 2.6 Selection of the Preferred Alternative.

The roundabout alternative does not propose the acquisition of the Ernie's Tin Bar parcel and would not result in the forced removal of the Bar or move traffic closer to the existing building. The roundabout moves the intersection 15 feet southeast of the current location, away from Ernie's Tin Bar. Caltrans has selected the roundabout as the preferred alternative at this location because of the benefits to pedestrian and driver safety and traffic congestion.

Response to Comment IND-8-2:

The added truck traffic from the proposed Stage Gulch Organics compost operation will be evaluated in an Environmental Impact Report (EIR), and Caltrans has provided comments to Sonoma County on the traffic analysis necessary for the traffic impact analysis for that new facility. The commenter's concerns regarding future added traffic on SR 116, Lakeville Highway, and Stage Gulch Road are valid. One reason Caltrans has selected the roundabout alternative is its effectiveness in increasing safety and keeping traffic flowing, while allowing room for future improvements.

Response to Comment IND-8-3:

With the exception of the intersection itself, neither speed limits, nor traffic volumes on Stage Gulch Road would be directly affected by the implementation of the Project. Project implementation would not change conditions for agricultural activities, including the movement of cattle or other livestock.

Comment IND-9, page 1 of 2

[redacted]

5/1/2023

Caltrans, District 4
ATTN: Maxwell Lammert, Office Chief (Acting)
PO Box 23660, MS-8B
(sr116stagegulch@dot.ca.gov

Dear Mr. Lammert,

Thank you for sharing the design concepts for the SR 116 (Stage Gulch Road) and Lakeview Highway intersection improvement plans earlier via the Zoom meeting.

My name is Pang Ho, with PHA Transportation Consultants. We recently conducted a traffic study for the same area including the subject intersection. We agree that the intersection needs to be upgraded to improve traffic safety; we also believe the intersection has operational issues that contribute to traffic delays and collisions.

IND-9-1

Our traffic study evaluated the same two design alternatives; Roundabout and Signalization. We agreed that Roundabout will better retain the rural character of the area and minimize future maintenance costs. However, we believe the Roundabout will not be able to handle the large vehicle traffic volumes and high speeds currently and the future 2040 travel forecasts. Based on our traffic count data collected in 2021, Lakeview Highway near the subject intersection carried more than 1,000 vehicles in both directions and more than 1,450 during the morning peak (7-9 am) and afternoon peak (4-6 pm) respectively, with travel speed exceeding 60 mph. Sonoma County Countywide Traffic Model prepared by the Sonoma County Transportation Authority indicated traffic growth between 10 and 15% by 2040 for the area.

With the Roundabout Alternative, motorists must reduce speed from the currently observed speed of about 60 mph to about 25 mph when approaching the Roundabout and must further reduce speed to below 20 mph once entering the Roundabout. This will create long vehicle queues in both directions of Lakeview Highway and will likely block the fire station access at Lopes Road. As shown in the Roundabout design drawings, there are several merge point motorist must navigate that could lead to sideswipe-type collisions.

The Signalization Alternative will eliminate the above problems; will better maintain vehicle travel speeds, provide protected right-of-way for turning vehicles, and minimize potential

1

Comment IND-9, page 2 of 2

IND-9-1 (cont'd)

sideswipe-type collisions, improve traffic operations (LOS), although it will require periodic maintenance and electrical power supply.

We thank you for the opportunity to review the proposed design alternatives and submit our comments.

Regards,

Pang Ho, AICP
Principal
PHA Transportation Consultants

Response to Comment IND-9

Response to Comment IND-9-1:

Caltrans has selected the roundabout as the preferred alternative at this location. The main purpose of this project is to improve safety at the intersection. A roundabout would perform better than a signalized intersection because there are fewer conflict points, especially the high angle conflict points, which results in less severe crashes when compared to a signal-controlled intersection. Over half of vehicle-to-vehicle conflict points associated with signal-controlled intersections are eliminated with the use of a roundabout. Additionally, a roundabout separates the conflict points into discreet moments, which improves the ability of the driver, pedestrian, or bicyclists to identify a conflict and potentially prevent conflicts from becoming crashes.

Roundabouts are designed to reduce the vehicular speeds at intersections. Lower speeds lessen the vehicular crash severity. Likewise, studies indicate that when motorized vehicles are traveling at slower speeds, crash severity with pedestrians and bicyclists is significantly reduced; hence, roundabouts are proven safety countermeasures for traffic calming for complete street designs.

Roundabouts are yield-controlled intersections, which allow continuous free flow of vehicles, pedestrians, and bicycles when no conflicts exist. This results in less noise and air pollution and reduces overall delays at roundabout intersections. Additionally, since there is no traffic signal, the operations and safety features are not affected by power outages.

Roundabouts tend to have less delay and reduce greenhouse gases when compared to stop-controlled or signal-controlled intersections.

With respect to traffic operations, the roundabout alternative is projected to perform better than the signalized intersection in terms of Level of Service (LOS), delays, and queues for the opening year (2026) and design year (2046). The inscribed circle diameter (ICD) of the roundabout is 180 feet to maintain traffic flow and facilitate the movement of truck traffic while preserving room for future improvements. Caltrans has completed a Traffic Operation Analysis at this intersection; overall, the roundabout is anticipated to have less delay than the signalized alternative, with the northbound right-turn bypass lane helping to improve the capacity of the northbound through movement.

IS/ND Section 2.6 Selection of the Preferred Alternative includes a summary of the traffic operations analysis results. While both Build Alternatives improve LOS and reduce delay compared to the No-Build Alternative (LOS F), Build Alternative 2 Roundabout would result in a PM peak hour intersection LOS B and estimated delay of 12.9 seconds per vehicle, compared to LOS C and 21.6 seconds per vehicle delay for Build Alternative 1 Signalization in the opening year (see new Table 2-1 in the IS/ND). Also, Build Alternative 1 Signalization would have an LOS D for the westbound approach from Stage Gulch Road during the PM peak hour compared to an LOS B for the Build Alternative 2 Roundabout for westbound traffic. For the design year (2046), both Build Alternatives improve LOS and reduce delay for the AM Peak period compared to the No-Build Alternative in the design year (2046) (Table 2-2). Build Alternative 2 Roundabout results in a LOS B compared to LOS C for Build Alternative 1 Signalization in the future AM Peak period. For the PM Peak period, both Build Alternatives and the No-Build Alternative would have a LOS F; however, the Build Alternatives significantly reduce delay compared to the No-Build Alternative. For the design year PM Peak period, the No-Build Alternative has a delay of 1,247.6 seconds (more than 20 minutes), while Build Alternative 1 Signalization has a delay of 106.1 seconds and Build Alternative 2 Roundabout has a delay of 50.4 seconds. Based on the traffic analysis, Build Alternative 2 outperforms both the No-Build Alternative and Build Alternative 1 Signalization for intersection LOS and delay.

Regarding the concern that the fire station access at Lopes Road would be adversely affected by long queues, with a roundabout, trucks and other vehicles would be able to move through the intersection without having to come to a complete stop; therefore, it is anticipated that less traffic will back up in front of Lopes Road with the roundabout than with the signalized intersection. Caltrans will evaluate options during the final design phase to improve safety and warning systems at SR 116/Lopes Road, such as modifying pavement marking to indicate “DO NOT BLOCK”, installation of “DO NOT BLOCK INTERSECTION” signs, and/or flashing beacons. See also response to comments from the Lakeville Volunteer Fire Department (AGENCY-1).

Comment IND-10, page 1 of 1

From: Ernest Altenreuther
To: SR116stagegulch@DOT
Subject: 116 intersection project
Date: Tuesday, May 2, 2023 7:44:26 PM

EXTERNAL EMAIL. Links/attachments may not be safe.

IND-10-1

I am Ernest Altenreuther owner of Ernie's Tin Bar and the property directly across Lakeville Hwy from the bar. My family has owned both pieces of property since 1923 and the bar is 100 years old this year.
First off I am very glad that the danger of this intersection is finally being addressed. We have vocally been pushing for a signal light for years. In regards to the two plans put forward so far we are strongly in favor of the signal light and strongly opposed to the round about. Our main plan isn't to oppose the changes to this intersection but to work with your to find a plan where all the needs of all parties are met. Here I will lay out our questions and concerns.

IND-10-2

-The round about option as it is currently planned would lead to Ernie's Tin Bar closing within a year of completion due the the danger and difficulty for our customers to access the bar. 80% of our business arrives to the bar via Lakeville Hwy. Due to the long dividing islands leading up to the round about the only way for these customers to enter our proposed parking lot would be to drive past the entrance to where the island ends then make an unsafe U-turn on Stage Gulch Rd. then drive back down Stage Gulch Rd to enter our proposed parking lot. Stage Gulch is a winding road with limited visibility that people drive down at high speeds. I don't feel that there is anywhere on this road where it is safe to make a U-turn and forcing a large number of people to do so would lead to a major safety risk for everyone who uses this road. According to cal trans adding a cut through in the island to make the left into the proposed parking lot would not be possible.
-In the plan for the round about one of our buildings was omitted. This building stands in the middle of our parking lot. While the plans without the building maker the parking lot seems feasible to navigate, barely, with the building in it becomes impossible. We request that this building be included in all future plans to accurately represent the layout of the proposed parking lot.
-With those issues to the proposed parking lot it becomes impossible for the beer delivery trucks to enter the parking lot.
-Emergency vehicles would also find it difficult/impossible to enter the parking lot depending on their size.
-The covered area on the western end of the building needs to be accessible to vehicles. The mechanic who has the other business in the building uses that area to work on vehicles and thus needs access to it.

IND-10-3

-Another main issue has to do with the property across the street. In the current round about plans there is no access granted to our property there. The only current access is off of Lakeville Hwy. east of the bridge. With the current round about plan there would be no way we could access it.
-One possible way to mitigate some these issues with the round about would be to add a fourth entrance/exit to it. This would grant access to the land across the street and also allow us to make it an alternate parking area for the bar so that customers coming from lakeville hwy could park there and use the cross walks to cross the street and access the bar.
-The only change to the signal light option I would like is to add the wide right turn bypass off of lakeville like the round about option has.

Thank you. If anyone needs to reach me or has further questions you call call or text me at [redacted] or email me at [redacted]

Ernest Altenreuther

Response to Comment IND-10

Response to Comment IND-10-1:

Caltrans notes that the commenter supports project goals of intersection safety improvements with a strong preference for Build Alternative 1, signalization.

Response to Comment IND-10-2:

Caltrans met with the commenter on April 28, 2023, to review concerns related to access to Ernie's Tin Bar and other properties. See new IS/ND Section 2.2.10 Parking and Property Access.

Build Alternative 2 would require relocating access to Ernie's Tin Bar. Under existing conditions, ingress/egress is possible along the entire frontage with Stage Gulch Road. No square footage would be lost from the Bar parking lot, but access would be restricted to a single point of entry from Stage Gulch Road, east of the Bar, as shown in Figure 2.3, which would change maneuverability for vehicles within the parking area. The new access point and associated driveway shown on Figure 2-3 would be designed to accommodate delivery trucks and emergency vehicles. Caltrans will continue to communicate with the Bar owner throughout the design phase. During the final design phase, Caltrans will evaluate options for access to the bar, including adding separate entrance only and exit only driveways from Stage Gulch, and modifying the median with a left-turn pocket, which would allow drivers travelling from the intersection eastbound on SR 116/Stage Gulch Road to make a safe left turn. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards.

Access changes for the automotive services bay on the west end of the Ernie's Tin Bar structure along SR 116 would also be evaluated during final design; options to preserve access to this business may include ending the proposed sidewalk at the crosswalk so customers could still access the service bay from westbound SR 116.

The outbuilding referred to in the comment was omitted in error from the visual simulations produced by Caltrans for the public meeting. The building is included on Caltrans' design plan sheets, would not be affected by the intersection improvements, and has been considered when determining access to the parking area.

Response to Comment IND-10-3:

See response to comment IND-6 from C. Jorgensen regarding providing access to the property west of the intersection, including the property in this comment mentioned as a potential overflow parking area for the bar.

Comment IND-11, page 1 of 1

From:	DEBBIE
To:	SR116stagegulch@DOT
Subject:	Attn: Maxwell Lammert
Date:	Wednesday, May 3, 2023 5:43:53 PM

Dear Mr. Lammert,

IND-11-1 I am in favor of the signilazition of the proposed intersection at SR 116-Stagegulch Rd. I reside at [redacted] I am very concerned about the safety of the intersection due to the increased traffic and the increased speed that the traffic is going. I also reccomend a speed reduction. We all know when it says 55 people tend to go 5 to 10 over the limit.

Thank You,

Debbie Murnig

Response to Comment IND-11

Response to Comment IND-11-1:

Caltrans notes the commenter's support of intersection safety improvements and preference for Alternative 1: Signalization. The purpose of the project is to improve safety by addressing the high volume of broadside collisions. The roundabout alternative has been selected as the preferred alternative. Roundabouts are designed to reduce the vehicular speeds at intersections. Lower speeds lessen the vehicular crash severity. Likewise, studies indicate that when motorized vehicles are traveling at slower speeds, crash severity with pedestrians and bicyclists is significantly reduced; hence, roundabouts are proven safety countermeasures for traffic calming for complete street designs.

Comment IND-12, page 1 of 3

[redacted]
May 3, 2023

Attn: Maxwell Lammert
Company Name
P.O. Box 23660, MS 8B
Oakland, CA 94623-0060
Sent via email to: sr116stagegulch@dot.ca.gov

Re: Comments on the Draft Initial Study with Proposed Negative Declaration for the State Route 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project

Dear Mr. Lammert:

Thank you for the opportunity to comment on the Draft Initial Study with Proposed Negative Declaration (IS/ND) for the State Route 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project (Project). I am an environmental planner with over 30 years of experience in preparing environmental documents pursuant to the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA, Caltrans Local Assistance, and various other local, state, and federal laws.

IND-12-1

I live in Petaluma, California, and have commuted to and from San Rafael for over 10 years through the Project site via Lakeville Highway. I have driven through the Project site via Stage Gulch Road numerous times on my way to Sonoma, Napa, and beyond. I have also been the Ernie's Tin Bar at the Project site, the first time over 10 years ago. Hence, I am very familiar with the environmental setting of the Project site and area, including the existing hazardous traffic conditions at the intersection (i.e., speeding; lack of flashing beacons; difficulty in making left turns, particularly to southbound Lakeville Highway) and have witnessed more than one accident at the Project site. I appreciate Caltrans' attention to the traffic safety hazards and for considering options to make the intersection safer.

IND-12-2

Pursuant to CEQA and the CEQA Guidelines, I understand that the purpose of the 30-day public review period is to provide comments on the adequacy of the IS/ND and that the merits of the Project are to be considered separately. Nonetheless, I am aware of the various benefits that roundabouts provide, such as improved traffic circulation and less vehicle idling and associated greenhouse gas emissions. Examples include roundabouts in Petaluma on a smaller scale, and on a larger scale on Highway 1 in Fort Bragg and on Highway 89 in Truckee. However, based on my review of the IS/ND, attendance at the Project's virtual Public Meeting on April 20, 2023, review of the Project's visual simulations prepared by Caltrans, and my familiarity with the Project site and area, I find the roundabout to be far too out of scale with the rural setting of the Project site and

Comment IND-12, page 2 of 3

IND-12-2 (cont'd)

area. I believe the roundabout as currently proposed will ruin the visual integrity of the Project site and area that many locals and visitors enjoy on a daily basis, including views of surrounding farmland and Mount Burdell.

IND-12-3

I believe there could have been better and more transparent public outreach to the various stakeholders and landowners that will be affected by the Project, including how Project design features may affect landowners adjacent to the Project site. The roundabout represents a significant hardship to Ernie's Tin Bar in terms of loss of parking; poor ingress and egress for customers, delivery trucks, and emergency vehicles that could result in new traffic safety hazards on Stage Gulch Road (including U-turns and three-point turns on Stage Gulch Road near Roche Road); and by permanently blocking access to their property across Lakeville Highway. It is for these reasons that I believe a traffic signal is a better alternative than the roundabout, acknowledging that a traffic signal would have other adverse effects too, but not at the scale of a roundabout.

I have the following comments on the IS/ND that was prepared for the Project:

IND-12-4

1. Project Description – A detailed and comprehensive project description is required in CEQA documents to ensure that all potentially significant impacts of a given project are adequately addressed. The IS/ND fails to provide a description of ingress and egress to Ernie's Tin Bar and the property across Lakeville Highway under the roundabout option. Of particular concern is that the IS/ND fails to describe the how vehicles will access the parking lot of Ernie's Tin Bar when travelling northbound on Stage Gulch Road. Other than using a detour via Lakeville Highway/Frates Road/Adobe Road, it appears the only option for such motorists would be a U-turn or a three-point turn on Stage Gulch Road which could result in significant traffic safety impacts that are not addressed in the IS/ND. Figure 2-3 of the IS/ND shows a "Potential Staging Area/New Driveway Access" but it is unclear if this is a Project feature or not and it is not addressed in the IS/ND other than in the Figure itself. While parking is no longer a CEQA topic, the IS/ND project description fails to address parking for Ernie's Tin Bar, including the adequacy of parking and if other vehicles may be forced to park elsewhere which could result in significant traffic safety impacts.

IND-12-5

2. Alternatives Considered but Eliminated from Further Discussion – Unlike Environmental Impact Reports (EIRs), CEQA does not require the analysis of project alternatives in Negative Declarations. A more robust public outreach process would have further informed what alternatives may be feasible or not instead of using the CEQA process to address the two alternatives selected beyond the No Project Alternative. It is helpful to see what other alternatives were considered but did Caltrans consider an alternative with simply using flashing beacons, possibly more striping, and signage updates to be consistent with current California Manual on Uniform Traffic Control Devices?

IND-12-6

3. Transportation – The IS/ND is required to address the following question: Would the Project increase hazards because of a geometric design feature? Page 3-99 of the IS/ND states: "The Project does not include design features or Project components that would substantially

Comment IND-12, page 3 of 3

IND-12-6 (cont'd)

increase hazards. There would be no impact." In my professional opinion this is a potentially significant impact that the IS/ND fails to adequately address given the project description (and Transportation impact analysis) fails to adequately describe ingress and egress to Ernie's Tin Bar as well as the other comments in Item 1 (Project Description) above.

Conclusion

IND-12-7

Fair Argument Test: The original determination made on the basis of an initial study whether to prepare either a Negative Declaration or an EIR is subject to the "fair argument" test (*Laurel Heights Improvement Assoc. v. U.C. Regents (1993) 47 Cal.4th 376*). In other words, if a fair argument can be made on the basis of "substantial evidence" in the record that the project may have a significant adverse environmental impact - even if evidence also exists to the contrary - then an EIR is required. A Negative Declaration is authorized when the Lead Agency determines that no substantial evidence exists supporting a fair argument of significant effect.

Based on the above, I recommend that the IS/ND be recirculated to address the potentially significant impacts related to traffic safety impacts on Stage Gulch Road or to prepare an EIR.

Thank you for your consideration of my comments. Please include me in all future correspondence and noticing related to the CEQA process and Project approval consideration.

Sincerely,

Geoffrey Reilly, AICP
[redacted]

Response to Comment IND-12

Response to Comment IND-12-1:

Caltrans notes the commenter's support of intersection safety improvements.

Response to Comment IND-12-2:

The analysis in Section 3.3.1 Aesthetics of the Draft IS/ND concurs with the commenter's description of the rural visual setting, describing vistas from the intersection, including distant hillsides and nearby largely undeveloped agricultural properties, and the corrugated structure of Ernie's Tin Bar, as pleasing. Caltrans also recognizes that the roundabout would be a new transportation feature that would result in an alteration of the existing visual quality. However, Caltrans finds the dominance of the views beyond the highway would remain and would not be significantly degraded by Project implementation.

Response to Comment IND-12-3:

Caltrans met with landowners to discuss project effects on access to local properties on April 28, 2023. Please see responses to comments from Craig Jacobsen in IND-6 and Ernie's Tin Bar Owner in IND-10 for a discussion of access to Ernie's Tin Bar parking.

Response to Comment IND-12-4:

Please see response to comments from Ernie's Tin Bar owner regarding parking access at the bar in IND-10. The commenter is correct that the project description did not include a description of the driveway access shown on Figure 2-3.Please refer to new IS/ND Section 2.2.10 Parking and Property Access, which addresses parking and access to Ernie's Tin Bar and properties west/southwest of the intersection.

Build Alternative 2 would require relocating access to Ernie's Tin Bar. Under existing conditions, ingress/egress is possible along the entire frontage with Stage Gulch Road. No square footage would be lost from the Bar parking lot, but access would be restricted to a single point of entry from Stage Gulch Road, east of the Bar, as shown in Figure 2.3, which would change maneuverability for vehicles within the parking area. The new access point and associated driveway shown on Figure 2-3 would be designed to accommodate delivery trucks and emergency vehicles. Caltrans will continue to communicate with the Bar owner throughout the design phase. During the final design phase, Caltrans will evaluate options for access to the bar, including adding separate entrance only and exit only driveways from Stage Gulch,

and modifying the median with a left-turn pocket, which would allow drivers travelling from the intersection eastbound on SR 116/Stage Gulch Road to make a safe left turn. Any potential design options will be subject to evaluation and approval by Caltrans to meet all safety and traffic operations standards

Response to Comment IND-12-5:

Caltrans determined that more robust traffic controls were required than the addition of signage, striping and flashing beacons to reduce the number and severity of broadside collisions involving northbound through vehicles on Lakeville Highway with left turning vehicles going eastbound on SR 116.

When considering whether to install a new traffic signal or roundabout on a state highway, Caltrans applies criteria from the California Manual on Uniform Traffic Control Devices (CA MUTCD) (California State Transportation Agency and Caltrans 2021), which provides uniform standards and specifications for all official traffic control devices in California. Before recommending a traffic signal or roundabout, Caltrans completed a careful analysis of traffic operations, pedestrian and bicyclist needs, physical intersection characteristics, crash history and safety, and other factors, coupled with engineering judgment, to determine if the intersection meets the minimum conditions under which installing traffic control is justified. The analysis determined that installing a roundabout or signalizing the intersection would improve the safety of the intersection.

Response to Comment IND-12-6:

Caltrans completed an Intersection Control Evaluation Report (ICE Report; Caltrans 2023) for the proposed alternatives. The ICE Report evaluated both alternatives for geometric hazards, including an evaluation of sight distance, view angles, vehicle speed, truck accommodation, and other factors to confirm that the project design meets roadway geometric standards. The ICE Report also includes a Highway Safety Analysis (Caltrans 2022b). These analyses are used to inform the project design and were reviewed when making the impact conclusion in the IS/ND.

Response to Comment IND-12-7:

The proposed project would not result in potentially significant impacts to traffic safety. See response to comment 6 above and responses to comments in IND-6 and IND-10. Recirculation of the environmental document is not required.

Comment IND-13, page 1 of 1

From: Brenda Sherwood
To: SR116stagegulch@DOT
Date: Wednesday, May 3, 2023 5:36:10 PM

EXTERNAL EMAIL. Links/attachments may not be safe.

To whom it may concern,

Thank you for making an effort to help the traffic at the intersection at Ernies Tin Bar on Lakeview.

IND-13-1 I am opposed to the roundabout due to the high traffic of semi, double semi's and large trucks. The stop light at the intersection seems to to be the more intelligent choice. Also then you are not taking up other people's properties.

Thank You

Response to Comment IND-13

Response to Comment IND-13-1:

Caltrans notes the commenter's support of intersection safety improvements and preference for Alternative 1: Signalization. See response to comment IND-6 regarding the design of the roundabout and the ability and speed of trucks to navigate the roundabout.

Comment IND-14, page 1 of 1

Margaret Kullberg
[redacted]

Caltrans District 4
ATTN: Maxwell Lamment
P.O, Box 23660, MS 8B
Oakland, CA 94623-0660

Comments on the Draft IS/ND

Whomever!
I have lived on Stage Gulch Rd. for 73 years. I am 96 years old so bear with me!

IND-14-1 The idea of electric lights will slow traffic down but will be very safe.
A roundabout is abit dangerous as most Americans do not know how to use them. Who goes first, should you signal as to direction. The huge container trucks are a menace to Ernie's Bar.

Have you considered flashing red lights like are used at Frates Rd. and Adobe Rd. Everyone takes their turn and knows when to proceed.

IND-14-2 Also , to state you are not worried about 20 years from now! Are you aware the State has given a contract for 600 homes and an hotel in Eldredge, Glen Ellen which will cause another 600 cars to come down Hwy 116 to go to San Francisco. Every week day afternoon it is bumper to bumper going up Stage Gulch Rd. to Sonoma and Napa now.

Also across the street from me on 1035 Stage Gulch Rd a permit to have a private compost facility is being pursued.

Whatever you decide what to do think carefully as to safety and movement of traffic. The state has to build wider streets if they keep yelling for more housing causing more traffic.

Sincerely,
Margaret Kullberg
Margaret Kullberg
4/27/23

Response to Comment IND-14

Response to Comment IND-14-1:

Caltrans determined that more robust traffic controls were required than the addition of signage, striping and flashing beacons to reduce the number and severity of broadside collisions involving northbound through vehicles on Lakeville Highway with left turning vehicles going eastbound on SR 116. Please refer to responses to comments IND-7 and IND-9 for more information on roundabout safety.

Response to Comment IND-14-2:

The commenter's concerns regarding future added traffic on SR 116, Lakeville Highway, and Stage Gulch Road are valid. One reason Caltrans has selected the roundabout alternative is its effectiveness in increasing safety and keeping traffic flowing, while allowing room for future improvements.

The traffic analysis completed for the project includes projected regional growth in the traffic models and forecast traffic levels in the opening (2026) and design (2046) year (see IND-9). These forecasts include added vehicles from future and planned developments, like the Glen Ellen project referenced by the commenter. The added truck traffic from the proposed Stage Gulch Organics compost operation will be evaluated in an Environmental Impact Report (EIR), and Caltrans has provided comments to Sonoma County on the traffic analysis necessary for the traffic impact analysis for that new facility.

Comment IND-15, page 1 of 2

April 28, 2023

Caltrans District 4

P.O. box 23660, MS 8B

Oakland, CA 94623-0660

Attn: Maxwell Lammert;

Thank you for your department for sending us a copy of the proposed Lakeville/Stage Gulch Safety Project. Having read the report, there are several points that need to be addressed.

IND-15-1

First, Stage Gulch Road is not a well-designed highway capable of handling the amount of traffic CalTrans projects over the next 20 years. Drivers do not adhere to the posted speed limits. If you look at past accidents, the 5 years considered do not address the accidents since 2020. Years vary and every year we ranchers on Stage Gulch are repairing fence and fishing cars out of our fields. In 2020, I was rear-ended by a car attempting to pass me on the straight section, despite my left turn signal. There was no sign of his car when I signaled and started my turn; his speed was the issue; my car was totaled and luckily no one died. Second accident in 2020 was a driver that dosed off and missed a turn, landing 50 feet or so down into our pasture.

Secondly, there were multiple slides during 2022/23 winter along Stage Gulch, some of which closed the road to make it passable. The hills are adobe; slides are common; heavy traffic can be effected by the environmental conditions.

Third, there is no comment about future traffic impacts when Hwy. 37 begins improvements. We are the only alternate rout for commuters and any accidents or construction on 37 sends hundreds more vehicles on Stage Gulch toward Sonoma/Napa/Sacramento daily. There is also no comment about the hundreds of homes to be built on the Sonoma State Hospital grounds in the future or the planned compost dump (UPE12-0031) at 1035 Stage Gulch (also listed as 2277 or 2535) which will increase traffic. The dump alone expects approximately 200 some autos daily as well as multiple garbage trucks.

IND-15-2

Fourth is our own ranch/business that will be impacted. Our cattle (350) cross Stage Gulch twice a day from May to October and intermittently the rest of the year. It takes 3 to 4 employees with lights to control traffic and pray people pay attention and stop. We have been doing this 1979 and traffic continues to increase. We often have back-ups of cars and trucks from hill to hill on the straight stretch, despite trying to accommodate traffic. Add the additional trucks from the impending dump and construction on 37, traffic will be backed up down the hill toward Lakeville and east toward Adobe.

IND-15-3

Finally. Ernie's Tin Bar is an historic family business and structure, and a tourist attraction in Sonoma county. The several months of construction of either a round-about or signal will not

Comment IND-15, page 2 of 2

IND-15-3 (cont'd)

only damage the structure (your report states that velocity of "jacking" is probably more than a 100 year old structure can with-stand) but would certainly drive customers away. The maps provided of the proposed construction show the highway and lighting right up to the front of the business. Established in 1923, the proposed re-routing of road, added traffic, loss of parking and seating is a death knell.

There is no easy solution to fixing Lakeville and Stage Gulch, but a round-about is not it. With the addition of more heavy trucks (the dump), traffic will have a harder time merging into Lakeville traffic. We will be backed up the hill. A signal will slow Lakeville down in and out of Petaluma and back up traffic (again add extra trucks going up to the compost dump). Possibly, a 3-way stop such as Frates and Adobe would be the simple fix, even though that would slow traffic too, but keep things moving more consistently. Eliminating the proposed compost dump would be a possibility to keep the area agricultural and less business impacted and knowing that there is no way of stopping the improvements on Hwy. 37.

Hopefully, there is some way of improving traffic flow and safety without destroying the rural community and family businesses along Lakeville and Stage Gulch Road

Sincerely,

Luci & Jim Mendoza

[redacted]

Response to Comment IND-15

Response to Comment IND-15-1:

Caltrans acknowledges the commenters' experience with more recent crashes and storm-related road closures at this location.

The commenter's concerns regarding future added traffic on SR 116, Lakeville Highway, and Stage Gulch Road are valid. One reason Caltrans has selected the roundabout alternative is its effectiveness in increasing safety and keeping traffic flowing, while allowing room for future improvements. Please see response to comment IND-9 for information regarding the traffic performance of the roundabout alternative compared to the signalization alternative and No-Build Alternative in opening (2026) and design (2046) years.

The traffic analysis completed for the project includes projected regional growth in the traffic models and forecast traffic levels in the opening (2026) and design (2046) year. These forecasts include added vehicles from future planned developments. The Glen Ellen project referenced by the commenter was approved by Sonoma County in December 2022, consistent with their Specific Plan, and has been captured in the regional traffic forecasting. In this way, the IS/ND considers the cumulative impacts of regional and local projects. The added truck traffic from the proposed Stage Gulch Organics compost operation will be evaluated in an Environmental Impact Report (EIR), and Caltrans has provided comments to Sonoma County on the traffic analysis necessary for the traffic impact analysis for that new facility. The SR 37 Sears Point to Mare Island Improvement Project environmental analysis included a review of construction -related traffic impacts; please refer to the Final Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) for the SR 37 project on the Caltrans D4 website.

The commenter is correct that regional environmental conditions like landslides can affect traffic operations and road closures. The proposed project would not modify the landscape beyond the immediate footprint of the preferred alternative.

Response to Comment IND-15-2:

With the exception of the intersection itself, neither speed limits nor traffic volumes on Stage Gulch Road would be directly affected by the implementation of the Project. Project implementation would not change conditions for agricultural activities, including the movement of cattle or other livestock.

Response to Comment IND-15-3:

Please refer to responses to comments from the owner of Ernie's Tin Bar (IND-10) regarding effects of the project on access and parking. The commenter is correct that the IS/ND discloses potential construction noise and vibration impacts on Ernie's Tin Bar. A Construction-related Vibration Analysis Memorandum (Caltrans 2022g) was completed by Caltrans Office of Environmental Engineering. Due to the proximity of Ernie's Tin Bar to proposed pavement removal operations, and the age of the structure, Caltrans would incorporate the following non-standard specifications (AMM-NOISE-2) into project construction operations:

- Use a non-vibratory road roller when construction activities are less than 25 feet from structures.
- Prevent idling of other equipment within 100 feet of structures.
- Develop and implement a construction vibration monitoring plan in accordance with Caltrans requirements, to document conditions prior to, during, and after construction. A photo-video survey, elevation survey, and crack monitoring survey shall be completed prior to construction, in regular intervals during construction, and after completion of construction to document the condition of foundations, walls and other structural elements in the interior and exterior of nearby structures.

Responses to Comments: Agencies

Comments were received from two agencies via postal mail. The table lists the commenter and date of receipt. Responses to these comments follow.

Comment Number	Commenter	Date Received
SA-1	Lakeville Volunteer Fire Department (LVDF)	May 2, 2023
SA-2	California Department of Fish and Wildlife (CDFW)	May 3, 2023

Comment SA-1, page 1 of 1

LAKEVILLE VOLUNTEER FIRE DEPARTMENT

P.O. Box 7033, Petaluma, California 94955
5090 Lakeville Highway, Petaluma, California 94954
Non- Emergency/Office Phone Number: (707)762-2005
501(C)3 ~ Federal ID 94-2548391
www.lakeville-fire.com

May 1, 2023

SA-1-1

Battalion Chief
Nick Silva
P.O. Box 7033
Petaluma, CA 94955
707.762.2005 Office
www.lakeville-fire.com

Caltrans, District 4
ATTN: Maxwell Lammert, Office Chief (Acting)
P.O. Box 23660, MS-8B
Oakland, CA 94623-0660

Dear Mr. Lammert and Caltrans, District 4,

As members of the Lakeville Volunteer Fire Department Board, we are writing to express our concerns regarding the proposed installation of a new stop light or roundabout at the intersection of Lakeville Highway and Stage Gulch Road. While we understand the need for traffic safety measures in our community, we believe that any changes made must also take into consideration the unique needs of emergency response vehicles.

In either scenario, one of our main concerns is that the proposed traffic measures could impede the ability of our trucks and personnel to enter and exit Lopes Road safely and quickly. In order to address this, we strongly recommend the installation of a northbound turn lane onto Lopes Road. This would allow emergency vehicles to turn off of Lakeville Highway without interfering with traffic flow and would greatly improve response times.

Additionally, we would like to see red flashing lights installed from both directions of Lakeville Highway to assist in the safe and timely exit of our fire engines when responding to emergencies with lights and sirens. This would alert drivers on Lakeville to the presence of an emergency vehicle and help to prevent accidents.

Lastly, we recommend the painting of a "keep clear" sign on the southbound Lakeville pavement in front of Lopes Road. This would help to prevent drivers from blocking the intersection and impeding the ability of emergency vehicles to pass through.

We believe that these measures would greatly improve the safety and efficiency of emergency response in our community. We urge the relevant authorities to take our concerns into consideration when making any decisions regarding the proposed traffic changes.

Thank you for your attention to this important matter.

Sincerely,

The Lakeville Volunteer Fire Department Board of Directors
Lakeville Volunteer Fire Department, Inc.

Response to Comment SA-1

Response to Comment SA-1-1:

Caltrans notes that the LVFD supports project goals of intersection safety improvements.

Caltrans has selected the roundabout as the preferred alternative. With a roundabout, trucks and other vehicles would be able to move through the intersection without having to come to a complete stop; therefore, less traffic would back up to Lopes Road. According to our Traffic Operation Analysis Report (2022), at opening year 2026, during the afternoon PM peak hour, Build Alternative 2 Roundabout would provide better LOS and reduced vehicle delay than Build Alternative 1 Signalization or the No Build Alternative. Please refer to new Tables 2-1 and 2-2, reproduced from the Traffic Operations Analysis Report, which present the operational analysis in the AM and PM peak hours for the No Build, Alternative 1 Signalized Intersection and Alternative 2 Roundabout under Opening Year 2026 and Design Year 2046 conditions.

Vehicle movements that contribute to traffic delays near Lopes Road include southbound SR 116 left turns and thru movements, northbound Lakeville Highway thru movements, and westbound Stage Gulch Road right turns. As shown in Table 2-1, while both alternatives improve conditions compared to the No-Build alternative, the roundabout alternative out-performs the signalization alternative in LOS and seconds per vehicle of delay for the intersection movements that influence backups at Lopes Road.

Adding a turn lane from northbound Lakeville Highway to Lopes Road is not part of the preferred roundabout alternative as it would require additional widening of the highway and property acquisition, as well as require widening of the bridge and replacement of an existing retaining wall, all causing additional impacts to the creek and associated sensitive environmental resources.

For this project, Caltrans will evaluate options during the final design phase to improve safety and warning systems at SR 116/Lopes Road, such as modifying pavement marking to indicate “DO NOT BLOCK”, installation of “DO NOT BLOCK INTERSECTION” signs, and/or flashing beacons. Caltrans will monitor the traffic conditions and may recommend additional improvements in a separate project.

Comment SA-2, page 1 of 13

State of California
Department of Fish and Wildlife

Memorandum

Date: May 2, 2023

To: Maxwell Lammert
California Department of Transportation
District 4; Environmental Planning
Post Office Box 24660; MS-8B
Oakland, CA 94623
Maxwell.Lammert@dot.ca.gov

DocuSigned by:
Erin Chappell
[illegible]

From: Erin Chappell, Regional Manager
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: State Route 116 - Stage Gulch Road/Lakeville Highway Intersection Safety Project (2Q770), Notice of Availability of an Initial Study with Proposed Negative Declaration, SCH No. 2023040010, Sonoma County

The California Department of Fish and Wildlife (CDFW) has reviewed the Notice of Availability of an Initial Study with Proposed Negative Declaration (IS/ND) for the State Route 116 Stage Gulch Road – Lakeville Highway Intersection Improvement Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1] CDFW is submitting comments on the IS/ND as a means to inform the California Department of Transportation (Caltrans) as the CEQA Lead Agency, of potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting these comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.).

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Comment AG-2, page 2 of 13

Maxwell Lammert 2 May 2, 2023
California Department of Transportation

Likewise, to the extent the Project may result in "take," as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

PROJECT LOCATION AND DESCRIPTION

Caltrans proposes two build alternatives for the State Route 116 Stage Gulch – Lakeville Highway Intersection Safety Project at Post Mile (PM) 39.3 in Sonoma County. Build Alternative 1 will install traffic signals; Build Alternative 2 will construct a roundabout.

Build Alternative 1 – Signalized Intersection

Build Alternative 1 will add traffic signals on three legs of the intersection. The traffic signal components will include signal and lighting standards, flashing beacons, and controller cabinets. State Route 116 (SR-116) will be realigned and widened under this alternative. The Lakeville Highway northbound approach will be widened to provide a 200-foot-long right-turn lane for vehicles turning east onto SR 116 – Stage Gulch Road. The SR-116 eastbound approach will be widened to extend the existing left-turn pocket for an additional 50 feet for a 150-foot-long pocket. The westbound approach will be reconfigured to provide a single lane for vehicles making left or right turns.

Stage Gulch Creek Bridge Widening

The Stage Gulch Creek Bridge will be widened by three to five feet on the upstream and downstream sides. The widening will accommodate standard shoulder widths and the additional 50-foot queue length for the SR-116 left-turn lane. The existing bridge rails will be replaced and upgraded to concrete barrier type 836, and 230 feet of retaining wall type 1A will be reconstructed.

Drainage Systems

New drainage systems in the vicinity of the retaining wall will be constructed to accommodate runoff increases from the new construction and the new impervious area of 0.48 acres. Two culverts will be replaced, a ditch will be reconstructed, and existing drainage systems will be modified and reconstructed. The 18-inch alternative pipe culvert parallel to westbound SR-116 will be removed and replaced as part of the new drainage system. The reconstructed retaining wall will require a drainage system to intercept highway runoff in front of the wall. An existing 24-inch culvert and drainage inlet crossing SR-116 northwest of the retaining wall will be replaced in kind. The 18-inch culvert parallel to eastbound SR-116 near will be removed and replaced as part of the new drainage system. No significant increase in runoff volume is anticipated at this location. Storm water retention features (i.e., bio-swales, bio-strips) will be employed as part of the new construction.

Comment SA-2, page 3 of 13

Maxwell Lammert 3 May 2, 2023
California Department of Transportation

Electrical Lighting

Build Alternative 1 proposes the installation of three-legged, fully actuated signals, including three signal mast arms with trenching, three advance warning flashing beacons, controllers, controller cabinets, service equipment enclosures, and lighting. Artificial lighting sources include five new overhead streetlights with light emitting diodes (LED) bulbs and one pre-existing LED streetlight. Light retrofitting with shields to minimize light spillage outside the traveled way and reduced output light intensities will be employed.

Ground Disturbance, Planting and Irrigation

Build Alternative 1 will disturb 1.45 acres of soil to achieve widening and realignment. Alternative 1 will not require imported borrow material. Disturbance for grubbing will range from 0 to 4 inches. Excavation depths for tree root removal will range from 1 to 3 feet. Installation of conduit will require excavation of 18 to 30 inches in depth. Lighting standards and flashing beacon foundations will require excavation depths ranging from 6 to 8.5 feet. Signalization pole installation will require an excavation depth of 14 feet. The removal and reconstruction of the retaining wall will require excavation to a depth of 5 feet, and drainage improvements and utility relocations will require excavation to a depth of 3 to 6 feet. To accommodate the right turn lane on the Lakeville Highway northbound approach, mature eucalyptus trees will be removed. Trees will not be replanted on-site. Native and non-native trees at Stage Gulch Creek immediately northwest of the intersection will be impacted by bridge widening. Mature trees on the slope will be affected by retaining wall reconstruction. At this location, excavation to widen the highway an additional 5 feet will damage trees or tree roots and the Lead Agency has chosen to remove the trees. Final tree removal numbers have not been estimated or determined for this alternative.

Build Alternative 2 – Roundabout

Build Alternative 2 is a single-lane roundabout with continuous right-turn bypass lane located 15 feet southeast of the existing intersection. This alternative will construct a roundabout with a 180-foot inscribed circle diameter and a design entry radius of 100 feet at each approach. The roundabout will have a continuous northbound right-turn bypass lane at the south leg of the intersection. The bypass lane will be 200 feet in length and terminate 200 feet past the intersection. Eastbound SR-116 at Stage Gulch Road will be widened for a minimum of 200 feet to accommodate the northbound right-turn bypass lane. There will be single-lane entries for the westbound and eastbound approaches. Build Alternative 2 will include 8-foot-wide shared-use path sidewalks and curb ramps adjacent to the roundabout. Raised islands will separate pedestrians, bicyclists, and vehicular traffic in the roundabout. The inscribed circle diameter of the roundabout would be 180 feet to maintain traffic flow and facilitate the movement of truck traffic.

Comment SA-2, page 4 of 13

Maxwell Lammert 4 May 2, 2023
California Department of Transportation

Electrical Lighting

Build Alternative 2 proposes three advance warning flashing beacons and lighting at the roundabout. Artificial lighting sources include 15 new overhead streetlights with LED bulbs and one preexisting LED streetlight. Lighting will have retrofitting from shields to minimize light spill outside the traveled way and reduced light output intensities will be employed.

Ground Disturbance, Planting and Irrigation

Build Alternative 2 will disturb 1.79 acres of soil. Build Alternative 2 will need 1,500 cubic yards of imported borrow materials and require hauling and disposal of 1,500 cubic yards of material during construction. Ground disturbance will include grubbing, grading, and excavation. Depths of disturbance for grubbing and excavation are described in Build Alternative 1. Build Alternative 1 will remove 18 mature eucalyptus trees along northbound Lakeville Highway, replanting will not occur on-site.

REGULATORY REQUIREMENTS

Lake and Streambed Alteration Agreement

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final Negative Declaration (ND) and complied with its responsibilities as a Responsible Agency under CEQA.

Fish and Game Code 5901

Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 1 3/8, 1 1/2, 1 7/8, 2, 2 1/4, 2 1/2, 2 3/4, 3, 3 1/2, 4, 4 1/8, 4 1/2, 4 3/4, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined as a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals (Fish and Game Code section 45).

Comment AG-2, page 5 of 13

Maxwell Lammert 5 May 2, 2023
California Department of Transportation

Fully Protected Species

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except for collecting these species for necessary scientific research and relocation of a fully protected bird species for the protection of livestock. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP), 2081.7 or a Memorandum of Understanding for scientific research purposes. "Scientific Research" does not include an action taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

ENVIRONMENTAL SETTING

Sufficient information for meaningful review regarding the environmental setting is necessary to understand any potentially significant impacts on the environment of the proposed Project and any alternatives identified in the ND (CEQA Guidelines, §§ 15125 & 15360). CDFW recommends the ND provide baseline habitat assessments for special-status plant, fish, and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, and endangered species (CEQA Guidelines, §15380). Fully protected, threatened or endangered, candidate, and other special-status species that are known to occur, or have the potential to occur, in or near the Project site include, but are not limited to:

Common Name	Scientific Name	Status
California red-legged frog	*Rana draytonii*	SSC, FT
Red-Tailed Hawk	*Buteo jamaicensis*	
Red-Shouldered Hawk	*Buteo lineautus*	
White-tailed kite	*Elanus leucurus*	FP
Nesting Birds and Nesting Habitat		

Comment AG-2, page 6 of 13

Native Amphibian Species		
Central California Coast Steelhead DPS	*Oncorhynchus mykiss irideus*	FT
Western pond turtle	*Actinemys marmorata*	SSC
Native Fish Species		
Notes: FT = Federally Threatened; SSC = State Species of Special Concern (State); FP = Fully Protected; DPS = Distinct Population Segment		

Habitat descriptions and species profiles should include information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS). Based on the data and information from the habitat assessment, the CEQA document can then adequately assess which special-status species are likely to occur in the Project vicinity. CDFW recommends that prior to Project implementation surveys be conducted for special-status species noted in this comment letter with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols.

COMMENTS AND RECOMMENDATIONS

COMMENT 1: Riparian and Tree Stand Removals

SA-2-1

Issue: The IS/ND does sufficiently disclose or adequately analyze the potentially significant impacts to fish and wildlife resources that may occur from the removal, limbing or trimming of riparian trees and upland tree stands at the Project site. Specifically, Page 2-8 indicates that final tree removal numbers will not be determined until the final design has been developed. Page 2-15 indicates that 18 mature eucalyptus trees will be removed along Northbound Lakeville Highway under Alternative 2 but does not provide tree impact details from the proposed retaining wall or within the riparian corridor. Page 3-7 of the IS/ND indicates a large number of trees will be removed under Alternative 1 but does not provide specific details on the riparian trees or eucalyptus tree stands. Furthermore, the Lead Agency has chosen under both alternatives to not implement avoidance and minimization measures that would reduce the impacts below a level of significance. Specifically, the Lead Agency has determined to not replace the impacted trees on-site, citing safety standards and clear-recovery zone concerns within the right-of-way (ROW).

Comment AGENCY-2, page 7 of 13

Maxwell Lammert 7 May 2, 2023
California Department of Transportation

Evidence the impact would be significant: The Project ROW contains riparian and eucalyptus tree stands that provide habitat for a wide range of species. All eucalyptus trees are 25 inches or greater with some reaching 60 inches or greater, diameters at breast height (DBH). It would take decades for replanted trees to reach similar heights and diameters. The removal, limbing or trimming of trees may have a potentially significant impact to fish and wildlife resources by reducing and degrading the quality of habitat for nesting birds, reptiles, amphibians, and invertebrates (McBride, 2014). Riparian areas sustain higher numbers of bird species richness than non-riparian areas (Sabo et. al., 2005). Urbanization and development such as the installation of transportation infrastructure has been shown to decrease species diversity, especially in birds (Sabo et. al., 2005).

While eucalyptus trees are not native to California, they provide suitable nesting habitat for a variety of bird species that range from songbirds to raptors. Up to 38 species have been identified utilizing eucalyptus trees in California (Robertson, 1931). One population of red-shouldered hawk in Santa Clara Valley has shown to benefit from eucalyptus because they are large sturdy trees that provide the best nest sites (Rottenborn, 1999). 14 of 27 nests in 1994 and 38 of 58 nests in 1995 were exotic trees predominantly eucalyptus (Rottenborn, 1999) where red-shoulder hawk nesting occurred. Nesting and fledging success were also higher in exotic trees than in native trees in both years of the study (Rottenborn, 1999). Eucalyptus also provide a host of ecosystem services including carbon sequestration, slope stabilization and diverse wildlife habitat. Therefore, the removal of riparian and mature tree stands will result in potentially immitigable significant impacts to fish and wildlife resources if additional Project avoidance measures are not incorporated into the Project as conditions of approval. Red-shouldered hawks, red-tail and white-tailed kites (State Fully Protected) are known to inhabit the Project vicinity and removal of tree stands could potentially impact nests, nesting behavior and foraging habitat.

SA-2-1 (cont'd)

Recommendation: For both Alternative 1 and Alternative 2; tree numbers, species, common name, DBH, health condition and aerial maps of the trees proposed for impact should be disclosed in the Project CEQA document.

Recommended Measure 1: On-Site Preservation and Avoidance of Mature Tree Stands: The Project Development Team (PDT) for the Lead Agency shall develop design alternatives and incorporate principles to significantly reduce the number of trees removed and maximize protecting trees in place. Once trees are selected for preservation on-site, the Lead Agency shall prepare a tree preservation plan that contains specific tree preservation methods. The plan shall set contractor guidelines for tree protection including prominently marking protected areas, erecting barricades around designated trees, tree bumpers; avoidance of vehicular traffic or parking in these restricted areas; and prohibit material storage, grading, and dumping of chemicals and other materials in restricted areas. To ensure compliance, contractors should enable tree preservation bonds to cover potential noncompliance issues, damage, or loss of trees

Comment SA-2, page 8 of 13

Maxwell Lammert 8 May 2, 2023
California Department of Transportation

Recommendation Measure 2: Off-Site Conservation of Riparian Trees and Tree Stands: If impacts cannot be avoided to riparian trees and mature tree stands (15 DBH or greater) the Lead Agency shall permanently preserve riparian tree and tree stands at an off-site location. The off-site location may be lands with habitats that may be rehabilitated, restored, or preserved and maintained to mitigate potentially significant impacts. The lands must be protected through fee title, transfer, or conservation easement to an appropriate conservation entity to ensure long-term preservation and successful implementation of the mitigation. The fish and wildlife resources or environments replaced or substituted for those impacted must be maintained in perpetuity.

SA-2-1 (cont'd)

Recommendation Measure 3: Individual Tree Inventory Report: The updated IS/ND shall include a tree inventory that includes map key information, species name, common name, DBH and overall health status for each individual tree on-site.

Recommendation Measure 4: On-Site and Off-Site Restoration Plan: The Lead Agency shall develop a more in-depth restoration plan in consultation with the natural resource agencies to replace Measure PF-BIO-13 of the IS/ND. The Lead Agency shall incorporate details that 1) commits itself to the mitigation, 2) adopts specific performance standards the mitigation will achieve, and 3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard. The Lead Agency shall specifically discuss permanent land protection in perpetuity, mitigation/restoration bank credit purchase and more specific acreage restoration areas and requirements in regard to riparian habitat and tree stands. Additional actions should also be included in the IS/ND, such as installation of artificial wood rat boxes and bat boxes to reduce potentially significant impacts to fish and wildlife resources.

COMMENT 2: Fish Passage Assessment and Barrier Remediation

SA-2-2

Issue: One six-foot drop on the downstream side of the culvert exists as a total barrier to fish passage within the identified Project limits. Senate Bill 857 (SB-857), which amended Fish and Game Code § 5901 and added § 156 to the Streets and Highways Code states in § 156.3, "For any project using state or federal transportation funds programmed after January 1, 2006, [Caltrans] shall ensure that, if the Project affects a stream crossing on a stream where anadromous fish are, or historically were found, an assessment of potential barriers to fish passage is done prior to commencing Project design. [Caltrans] shall submit the assessment to the [CDFW] and add it to the California Anadromous Fish and Stream Habitat (CALFISH) database. If any structural barrier to passage exists, remediation of the problem shall be designed into the Project by the implementing agency. New projects shall be constructed so that they do not present a barrier to fish passage. When barriers to fish passage are being addressed, plans and projects shall be developed in consultation with the [CDFW]".

Evidence the impact would be significant: The Project contains a stream crossing identified as unknown within the California Fish Passage Database. CDFW staff visited

Comment SA-2, page 9 of 13

the site on April 18, 2023, and observed a six-foot barrier as part of the existing conditions. The area is also mapped as a historic or current watersheds where anadromous fish are, or historically were found. The species include, but are not limited to, Central California Coast Coho Range (BIOS; DS-804) and Central California Coast Steelhead Range (BIOS; DS-123). The decline of naturally spawning salmon and steelhead trout is primarily a result of the loss of appropriate stream habitat and the inability of fish to get access to habitat, according to reports to the Fish and Game Commission and by CDFW (CDFW, 1998).

SA-2-2 (cont'd)

Recommendations: The Biological Resources section of the IS/ND should be updated to include a fish passage section. The section should discuss the current status of the existing culvert crossing location noted within the Fish Passage Assessment Database (BIOS; DS-69). First pass and or second pass fish assessments, as necessary, and images of the upstream and downstream ends of water conveyance structure should be included in the updated IS/ND.

Recommended Mitigation Measure 1: Fish Passage Assessment: Caltrans shall submit an assessment of potential impacts to native fish, amphibian, and other aquatic species with the potential to occur at the Project location to the CDFW and add it to the CALFISH database. If any structural barrier to passage exists, remediation shall be designed into the Project by the implementing agency. New projects shall be constructed so that they do not present a barrier to fish or other aquatic life passage. When passage barriers are being addressed, plans and projects shall be developed in consultation with the CDFW. CDFW shall be engaged prior to design in early coordination and at 30 percent design at minimum.

Recommended Mitigation Measure 2: Fish Passage Design Coordination: Caltrans shall engage with CDFW in early and continued coordination before design commences on a potential passage remediation structure. See the CDFW Fish Passage Design Manual for guidance on barrier remediation (CDFW, 2009).

COMMENT 3: Light Impact Analysis and Discussion

SA-2-3

Issue: Alternative 1 - Lighted Intersection Design; proposes the installation or replacement of 9 light sources that includes 5 new overhead lights, one replacement overhead light and 3 flashing beacons. Alternative 2 – Roundabout Design; proposes the installation or replacement of 19 light sources that includes 15 new overhead lights, one replacement of an existing overhead light and 3 flashing beacons. New lighting, especially in areas where no lighting or low levels of lighting currently exist, has potential for significant impacts to occur that could result in a finding of significance. Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impacts through substantial degradation of the quality of the environment. Artificial light pollution also has the potential to significantly and adversely affect biological resources and the habitat that supports them. Unlike the natural brightness created by the monthly cycle of the moon, the permanent and continuously

Comment SA-2, page 10 of 13

powered lighting fixtures create an unnatural light regime that produces a constant light output. Continuous light output for 365 days a year can also have cumulatively significant impacts on fish and wildlife populations. CDFW appreciates a similar roundabout construction project designed by Caltrans – District 4 on the State Route 12 - State Route 113 Roundabout Project in Solano County was able to reduce impacts to biological resources by using fewer lights than the proposed Project (11 overhead street light sources (six were replacement light sources) to safely illuminate a similar facility).

SA-2-3 (cont'd)

Evidence the impact would be significant: Artificial night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Artificial night lighting has also been found to impact juvenile salmonid overwintering success by delaying the emergence of salmonids from benthic refugia and reducing their ability to feed during the winter (Contor and Griffith 1995). For nocturnally migrating birds, direct mortality as a result of collisions with anthropogenic structures due to attraction to light (Gauthreux, 2006) is another direct effect of artificial light pollution. There are also more subtle effects, such as disrupted orientation (Poot et al. 2008) and changes in habitat selection (McLaren et al. 2018). There is also growing evidence that light pollution alters behavior at regional scales, with migrants occupying urban centers at higher-than-expected rates as a function of urban illumination (La Sorte et al. 2021). While artificial light pollution can act as an attractant at both regional (La Sorte et al. 2021) and local (Van Doren et al. 2017) scales, there is also evidence of migrating birds avoiding strongly lit areas when selecting critical resting sites needed to rebuild energy stores (McLaren et al. 2018).

Recommendation: CDFW recommends no new lighting is installed as a result of the Project to avoid potentially significant impacts to biological resources.

Recommended Mitigation Measure 1 – Light Output Analysis: Isolux Diagrams that note current light levels present during pre-Project conditions and the predicted Project light levels that will be created upon completion of the Project shall be included in the IS/ND. If an increase in light output from current levels to the projected future levels is evident additional avoidance, minimization or mitigation shall be developed in coordination with the natural resource agencies to offset indirect impacts to special-status species. Within 60 days of Project completion, the Lead Agency shall conduct a ground survey that compares projected future light levels with actual light levels achieved upon completion of the Project through comparison of Isolux diagrams. If an increase from the projected levels to the actual levels is discovered additional avoidance, minimization or mitigation measures may also be required in coordination with the natural resource agencies. This analysis should be conducted across all potential alternatives and compared in table and map format.

Comment SA-2, page 11 of 13

Maxwell Lammert 11 May 2, 2023
California Department of Transportation

SA-2-3 (cont'd)

Recommended Mitigation Measure 2 – Light Output Limits: All LED's or bulbs installed as a result of the Project shall be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum.

Recommended Mitigation Measure 3 – Reflective Signs and Road Striping: Retro-reflectivity of signs and road striping should be implemented throughout the Project to reduce the need for electrical lighting.

Recommended Mitigation Measure 4 – Light Pole Modifications and Shielding: Any new or replacement light poles or sources of illumination shall be installed with the appropriate shielding to avoid excessive light pollution into natural landscapes or aquatic habitat within the Project corridor in coordination with CDFW. In addition, the light pole arm length and mast heights should be modified to site-specific conditions to reduce excessive light spillage into natural landscapes or aquatic habitat within the Project corridor. In areas with sensitive natural landscapes or aquatic habitat the Lead Agency should also analyze and determine if placing the light poles at non-standard intervals has the potential to further reduce the potential for excessive light pollution caused by decreasing the number of light output sources in sensitive areas.

CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California's fish and wildlife resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Mr. Robert Stanley, Senior Environmental Scientist (Specialist), at (707) 339-6534 or Robert.Stanley@wildlife.ca.gov; or Mr. Wesley Stokes, Senior Environmental Scientist (Supervisory), at (707) 339-6066 or Wesley.Stokes@wildlife.ca.gov.

cc: Office of Planning and Research, State Clearinghouse (SCH No. 2023040010)

REFERENCES

Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of Bufo americanus, in relation to light and temperature. Ecology 58:98–108.

California Department of Fish and Wildlife. July, 2009. California Salmonid Stream Habitat Restoration Manual, Part XII.

California Department of Fish and Wildlife. February, 1998. Salmon and Steelhead Habitat Restoration in California.

California Natural Diversity Database. 2021. https://apps.wildlife.ca.gov/bios/

Comment SA-2, page 12 of 13

Contor R., Craig, Griffith, J.S. 1995. Nocturnal emergence of juvenile rainbow trout from winter concealment relative to light intensity. Hydrobiologia Vol. 299: 179-18.

Gauthreraux Jr., S.A., and C.G. Belser. 2006. Effects of artificial night lighting on migrating birds. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 67-93. Washington D.C.: Island Press

La Sorte. February, 2021. Seasonal Variation in the effects of artificial light at night on the occurrence of nocturnally migrating birds in urban areas. Environmental Pollution, Volume 270.

Longcore, T., and C. Rich. 2004. Ecological light pollution - Review. Frontiers in Ecology and the Environment 2:191–198.

McLaren, et. al. 2018. Artificial light at night confounds broad-scale habitat use by migrating birds.

McBride, Joseph R. 2014. Understanding Eucalyptus in the Bay Area. San Francisco Forest Alliance. sfforest.org

Poot, H., B. J. Ens, H. de Vries, M. A. H. Donners, M. R. Wernand, and J. M. Marquenie. 2008. Green light for nocturnally migrating birds. Ecology and Society 13(2): 47.

Robertson, John. August, 1931. Birds and Eucalyptus. The Condor Journal of Western Ornithology.

Rottenborn, Steve. 1999. Nest – Site Selection and Reproductive Success of Urban Red-Shouldered Hawks in Central California. Raptor Research Foundation Volume 34, Issue 1, Page 18-25.

Sabo, et. al. 2005. Riparian Zones Increase Regional Species Richness by Harboring Different, Not More Species. Ecology. Volume 86, Issue 1.

Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127. Elsevier Ltd.

Van Doren, et. al. 2017. High Intensity Urban Light Installation Dramatically Alters Nocturnal Bird Migration.

Comment SA-2, page 13 of 13

Maxwell Lammert 13 May 2, 2023
California Department of Transportation

Figure 1. Location Image of Fish Passage Barrier – PM 39.2 on SR-116

Response to Comment SA-2

Response to Comment SA-2-1:

Caltrans understands that the removal of trees will result in modification to the existing habitat. Alternative 1, signalization (Section 2.1.6) would require only pruning of riparian trees along Stage Gulch Creek for bridge work. Pruning would result in temporary impacts to habitat; under the supervision of an arborist (PF-AES-03). This habitat modification would not cause permanent or long-lasting damage to the riparian habitat and therefore would not rise to the level of significance. No riparian area trees would be pruned or removed under Alternative 2, roundabout, the preferred alternative.

The removal of mature Eucalyptus trees is proposed under both Alternatives 1 and 2. The IS/ND describes the expected location and extent of tree removal for both Alternatives. The IS/ND specified that Build Alternative 2 roundabout would remove up to 18 trees. Based on the design for Build Alternative 1 signalization, up to 24 trees would be removed. Section 2.1.6 of the IS/ND has been updated with the tree removal totals. Caltrans recognizes that removal of these mature eucalyptus trees may reduce availability of nesting habitat; however, the abundance of mature trees within 1-5 miles of the project vicinity, including along Stage Gulch Road and Lakeville Highway, provides nearby nesting habitat. Therefore, the removal of these 18 trees would not have a significant impact on species habitat availability. As noted in the IS/ND, the area between the edge of the pavement and the proposed new ROW line may not be sufficient to allow the trees to be replaced, while maintaining line of sight for roundabout users. When further developing the project design during the design phase, Caltrans will re-evaluate options for replanting trees onsite to minimize less-than-significant impacts to fish, wildlife and aesthetics. See new Avoidance and Minimization Measure, AMM-BIO-06 in Section 3.3.4 Biological Resources. Please note, Biological Resources AMM numbering has been revised since circulation of the Draft IS/ND; refer to the Final IS/ND Appendix A for updated AMM numbers.

The loss of any mature trees could affect birds, but with preferred construction windows and requirements for nesting bird surveys and nest buffers (PF-BIO-07 and PF-BIO-08), neither Alternative 1, nor Alternative 2 would significantly impact nesting birds.

Response to Comment SA-2-2:

Caltrans has notified the CalFish database to identify this barrier.

Caltrans has assessed Stage Gulch Creek and has made the determination that the existing creek habitat is not conducive to anadromy due to current land use practices. It also appears that portions of the creek upstream of the SR 116 crossing exceeds a slope of 12% at multiple locations. Gradients at or above 12% are considered natural fish passage barriers, as indicated in numerous watershed maps published by Pacific Marine Fisheries Services. Caltrans will continue to conduct investigative studies of Stage Gulch Creek, and if warranted, by the selection of Alternative 1, contact CDFW to further discuss fish passage. If needed final design would incorporate crossing design pursuant to SB-857 (Fish and Game Code §5901; Streets and Highways Code § 156.3). To retrofit the existing bridge and channel bottom under the bridge at the five-foot-drop referenced by the commenter, Alternative 1 would require additional activity in the creek than disclosed in the IS/ND, incurring added costs, construction time, and temporary disturbance. However, Build Alternative 2 has been selected and no changes to the bridge or construction activities in Stage Gulch Creek would be required.

Response to Comment SA-2-3:

Caltrans acknowledges that lighting can negatively impact special status species (See Section 3.3.4 of the IS/ND). As such, the Project is designed to use reflective signs and road striping, and require lighting shields to minimize light spillage beyond the prism of the roadway and the use of LED bulbs with lower color temperatures (PF-AES-06 and PF-BIO-9). With these project features, the proposed project lighting will not contribute to significant impacts on special status species.