Marin County U.S. Highway 101 Tamalpais Drive Overcrossing Project

MARIN COUNTY, CALIFORNIA
DISTRICT 4 – MRN – 101 PM 7.37
04-4J860/0416000042

Initial Study with Proposed Negative Declaration

Prepared by the
State of California, Department of Transportation

June 2022

Caltrans

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Negative Declaration (IS/ND) for the proposed Marin County U.S. Highway 101 (U.S. 101) Tamalpais Drive Overcrossing Project, in the City of Corte Madera, post mile (PM) 7.37 (Project).

As the lead agency under the California Environmental Quality Act (CEQA), Caltrans has prepared this IS/ND, which describes why the Project is being proposed, how the existing environment could be affected by the Project, potential environmental impacts, and the proposed Project features, and avoidance and minimization measures.

What you should do:

- Please read this document.
- The document, maps, and Project information are available for review and will be made available at the following two locations in the vicinity of the proposed Project:
    - Corte Madera Library
      707 Meadowsweet Dr.
      Corte Madera, CA 94925
    - Larkspur Library
      400 Magnolia Ave.
      Larkspur, CA 94939
- We would like to hear what you think. Send comments by August 22, 2022, to:

  Caltrans, District 4
  ATTN: Liz Nagle
  P.O. Box 23660, MS-8B
  Oakland, CA 94623-0660

  Or tamalpaisOC@dot.ca.gov

What happens next:

Per CEQA Section 15073, Caltrans will circulate the IS/ND for review for 45 days from July 7, 2022, to August 22, 2022. During the 45-day public review period, the

general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 45-day public review period.

After comments have been received from the public and reviewing agencies, Caltrans may grant environmental approval to the proposed Project, conduct additional environmental studies, or abandon the Project. If the Project is granted environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative Formats:

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

An accessible electronic copy of this document is available to download at: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs

Initial Study with Proposed Negative Declaration

04-MRN-101	7.37	04-4J860
Dist. – Co. – Rte.	PM	E.A.

Project title:	Marin County U.S. Highway 101 Tamalpais Drive Overcrossing Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Liz Nagle, Environmental Scientist (510) 496-9654
Project location:	Marin County, California
General plan description:	Highway
Zoning:	Transportation Corridor
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements);	• California Transportation Commission • Biological Opinion from the U.S. Fish and Wildlife Service • Section 404 Permit, U.S. Army Corps of Engineers • Section 401 Water Quality Certification, State Water Resources Control Board • Section 1602 Lake and Streambed Alteration Agreement, California Department of Fish and Wildlife

The document, maps and other Project information is available for review and download at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

Scott M. Williams
Chief, Office of Environmental Analysis
District 4, California Department of Transportation

6/29/2022
Date

To obtain a copy in Braille, in large print, on computer disk, or on audiocassette, please contact: Department of Transportation, Attn: Liz Nagle, Environmental Scientist, Office of Environmental Analysis, 111 Grand Avenue, MS 8-B, Oakland CA 94612: (510) 496-9654 (Voice) or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Proposed Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Negative Declaration for the Marin County U.S. Highway 101 (U.S. 101) Tamalpais Drive Overcrossing Project, in the City of Corte Madera, at post mile (PM) 7.37 (Project).

The Project features seven alternatives (including a no-build alternative) to construct an Americans with Disabilities Act (ADA) compliant structure across U.S. 101 at Tamalpais Drive Overcrossing (OC). The Project also includes seismic structural improvements, intersection modifications, reconfiguration of the U.S. 101 on/off-ramps, and repairs and maintenance of the existing OC.

Determination

This Proposed Negative Declaration is included to notify the public and reviewing agencies that Caltrans intends to adopt a Negative Declaration for this Project. This Negative Declaration is subject to change based on comments received by the public and reviewing agencies.

Caltrans has prepared an Initial Study for this Project and, pending public review, expects to determine from this study that the proposed Project would not have a significant effect on the environment for the following reasons:

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

_____ _____

Melanie Brent
Deputy District Director, Environmental Planning and Engineering
District 4, California Department of Transportation

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the California Environmental Quality Act (CEQA) lead agency and sponsor for the proposed Marin County U.S. Highway 101 (U.S. 101) Tamalpais Drive Overcrossing Project, in the City of Corte Madera, post mile (PM) 7.37.

Caltrans proposes to upgrade the structure over U.S. 101 at Tamalpais Drive Overcrossing (OC) by replacing the existing nonstandard pedestrian facilities with Americans with Disabilities Act (ADA) compliant features. The Project also includes seismic structural improvements, intersection modifications, reconfiguration of the U.S. 101 on/off-ramps, and repairs and maintenance of the existing structure (Project).

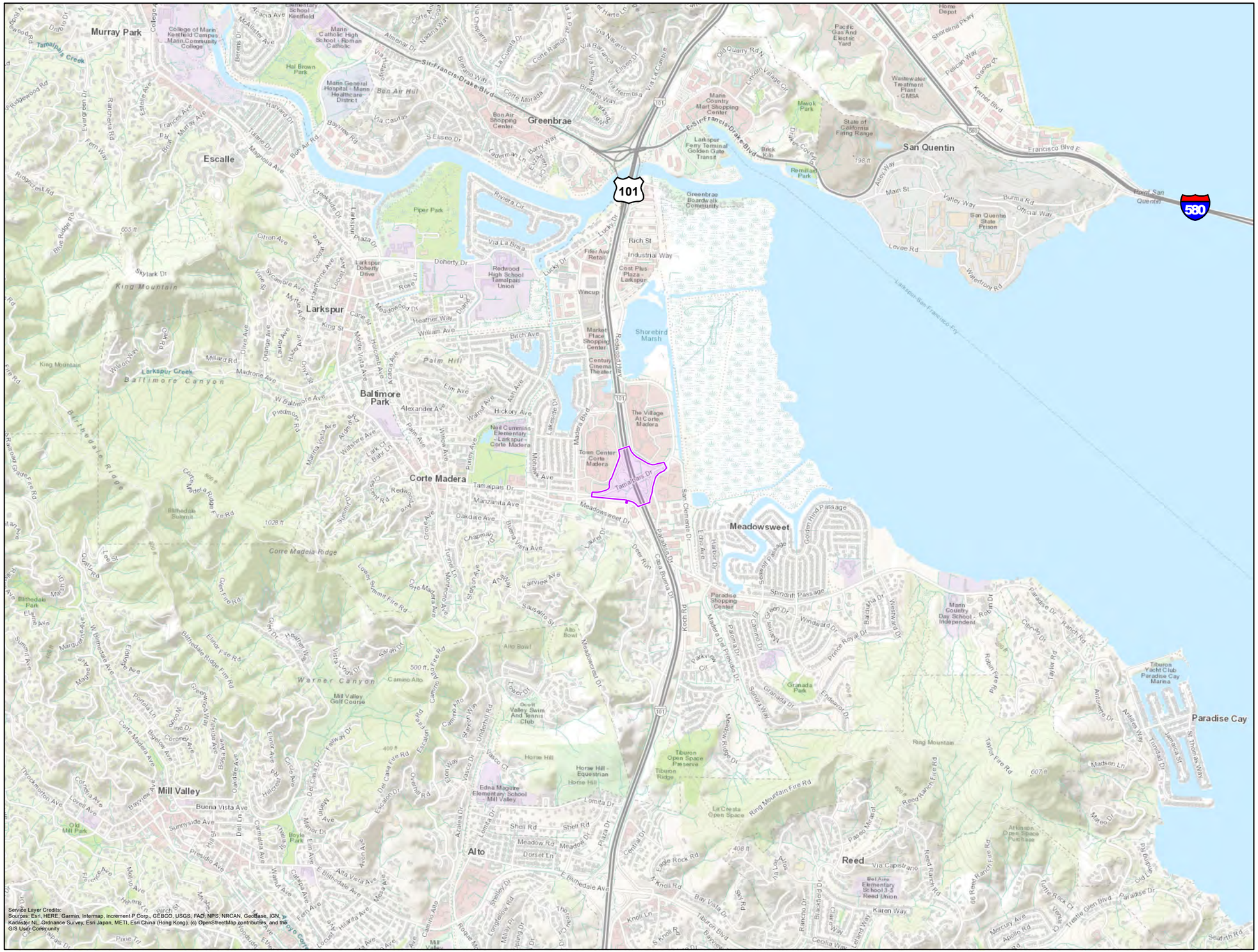
The Project includes seven alternatives being considered for construction: the No-Build alternative and six build alternatives. All six build alternatives include removal of the existing, non-ADA compliant, spiral pathways and staircases on the south side of the structure, and construction of a new ADA pathway that provides east-west access for pedestrians across U.S. 101 at the Tamalpais Drive OC. Each build alternative will also include intersection modifications, and reconfiguration of the U.S. 101 on/off-ramps at Tamalpais Drive. Discussion on the six build alternatives and the configuration of each alternative is described in Section 2.4. Seismic improvements, repairs and maintenance of the existing structure will be similar for the Project, irrespective of the selected build alternative.

This Project is funded by the State Highway Operation and Protection Program (SHOPP) under Bridge Preservation. The SHOPP Program is the state's "fix-it-first" program, which funds the repair and preservation of the state highway system, safety improvements, and some highway operational improvements.

1.2 Purpose and Need

The purpose of this Project is to upgrade the existing pedestrian facilities to provide ADA compliant access across U.S. 101 at Tamalpais Drive OC, seismic improvements and repairs and maintenance of the existing structure.

This Project is needed because the existing pedestrian infrastructure within the Project area is not compliant with current State and Federal accessibility regulations. The Project is also needed because the structure is at risk of seismic failure because it cannot be fully inspected. Repairs and maintenance of the OC are being completed to satisfy maintenance plans for the state highway system within the Project area.



Legend

Project Footprint

Data Sources:
Caltrans
U.S. Geological Survey

1:24,000

0 2,000 4,000
Feet

Figure 1-1
Project Location
U.S. 101 / Tamalpais Drive Overcrossing Project
EA 04-4J860, MRN-101 PM 7.37
Marin County, California

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	MRN	101	7.37	1	2

REGISTERED CIVIL ENGINEER DATE

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TOWN CENTER
CORTE MADERA

THE VILLAGE AT
CORTE MADERA

Relocate Sign
Pave Gore

Relocate Sign
Pave Gore

Pave
Narrow
Area

Pave
Narrow
Area

RAMP WIDENING

Relocate overhead
power line and pole

Relocate overhead
power line and pole

NEW BUS
STOP & BUS
BYPASS

Light Pole

Relocate Traffic
Signal and Pole

Relocate
Light Pole

REDWOOD Hwy

NEW SIDEWALK AND
EXIST BUS STOP

TAMALPAIS DRIVE

NEW PEDESTRIAN
STAIRWAY
STRUCTURE

NEW PEDESTRIAN
STRUCTURE
Length= 525 FT

PARADISE Dr

NEW PEDESTRIAN
STRUCTURE
Length= 490 FT

CASA BUENA Dr

HWY 101

REMOVE BUS
BYPASS & BUS
STOP

Pave
Narrow
Area

Pave
Narrow
Area

Pave Gore
Relocate Sign

Pave Gore
Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
- PROPOSED OR MODIFIED FEATURES
- PROPOSED OR RECONSTRUCT CURB RAMP
- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 2A IMPACT MAP

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CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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04	MRN	101	7.37	1	2

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TOWN CENTER
CORTE MADERA

THE VILLAGE AT
CORTE MADERA

Relocate Sign
Pave Gore

Relocate Sign
Pave Gore

Pave
Narrow
Area

Pave
Narrow
Area

RAMP WIDENING

Relocate overhead
power line and pole

NEW BUS
STOP & BUS
PULLOUT

Relocate overhead
power line and pole

Relocate
Light Pole

Relocate Traffic
Signal and Pole

Relocate
Light Pole

REDWOOD Hwy

NEW SIDEWALK &
EXIST BUS STOP

TAMALPAIS DRIVE

PARADISE Dr

NEW PEDESTRIAN
STAIRWAY
STRUCTURE

NEW PEDESTRIAN
STRUCTURE
Length= 525 FT

NEW PEDESTRIAN
STRUCTURE
Length= 490 FT

HWY 101

CASA BUENA Dr

REMOVE BUS
BYPASS & BUS
STOP

Pave
Narrow
Area

Pave
Narrow
Area

Pave Gore
Relocate Sign

Pave Gore
Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
- PROPOSED OR MODIFIED FEATURES
- PROPOSED OR RECONSTRUCT CURB RAMP
- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 2B IMPACT MAP

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TOWN CENTER
CORTE MADERA

THE VILLAGE AT
CORTE MADERA

Relocate Sign
Pave Gore

Relocate Sign
Pave Gore

Pave
Narrow
Area

Pave
Narrow
Area

RAMP WIDENING

Relocate overhead
power line and pole

REMOVE RAMP
BUS BYPASS &
BUS STOP

Permanent
Easement
for TCE

PREDESTRIAN
STRUCTURE
Length- 466FT

PREDESTRIAN
STRUCTURE
Length- 450FT

NEW BUS
STOP & BUS
PULLOUT
Install Light
and Pole

NEW BUS
STOP & BUS
PULLOUT

Relocate overhead
power line and poles

Relocate
Light Pole

Relocate Traffic
Signal and Pole

REDWOOD Hwy

BRIDGE
WIDENING

Relocate
Light Pole

Relocate
Light Pole

Relocate
Light Pole

Relocate
Light Pole

TAMALPAIS DRIVE

Relocate
Traffic Light

PARADISE Dr

NEW BUS
STOP

Install Traffic
Signal and Pole

HWY 101

CASA BUENA Dr

TCE

REMOVE BUS
BYPASS &
BUS STOP

Pave
Narrow
Area

Pave
Narrow
Area

Pave Gore
Relocate Sign

Pave Gore
Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
- PROPOSED OR MODIFIED FEATURES
- PROPOSED OR RECONSTRUCT CURB RAMP
- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 3A
IMPACT MAP

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TOWN CENTER
CORTE MADERA

THE VILLAGE AT
CORTE MADERA

Relocate Sign
Pave Gore

Relocate Sign
Pave Gore

Pave
Narrow
Area

Pave
Narrow
Area

Relocate light and pole

Relocate overhead
power line and pole

Install Light
and Pole

Install Light
and Pole

NEW PEDESTRIAN
OVERCROSSING

Install Light
and Pole

Relocate overhead
power line and pole

Install Light
and Pole

NEW BUS
STOP & BUS
PULLOUT

RAMP WIDENING

Relocate overhead
power line and pole

Permanent
Easement
33.00 Ac.Ft.

Install Light
and Pole

Install Light
and Pole

Relocate
Light Pole

REMOVE RAMP
BUS BYPASS &
BUS STOP

REDWOOD Hwy

NEW BUS
STOP & BUS
PULLOUT

Install Light
and Pole

Relocate Traffic
Signal and Pole

Relocate
Light Pole

BRIDGE
WIDENING

Install Light
and Pole

Relocate
Light Pole

Relocate
Light Pole

Relocate
Light Pole

TAMALPAIS DRIVE

PARADISE Dr

Relocate Traffic Light

NEW BUS
STOP

Install Traffic
Signal and Pole

HWY 101

CASA BUENA Dr

TCE

REMOVE BUS
BYPASS &
BUS STOP

Pave
Narrow
Area

Pave
Narrow
Area

Pave Gore
Relocate Sign

Pave Gore
Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
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- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 3B
IMPACT MAP

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TOWN CENTER CORTE MADERA

THE VILLAGE AT CORTE MADERA

Relocate Sign Pave Gore

Relocate Sign Pave Gore

Pave Narrow Area

Pave Narrow Area

RAMP WIDENING

Relocate overhead power line and pole

NEW BUS STOP & BUS PULLOUT

Relocate overhead power line and pole

Relocate Light Pole

REDWOOD Hwy

Relocate Light Pole

Permanent Easement 3,100 SQFT

REMOVE RAMP BUS BYPASS & BUS STOP

PREDESTRIAN STRUCTURE Length- 450FT

Relocate Traffic Signal and Pole

BRIDGE WIDENING

NEW BUS STOP & BUS PULLOUT Install Light and Pole

PREDESTRIAN STRUCTURE Length- 466FT

Relocate Light Pole

Relocate Light Pole

Relocate Light Pole

TAMALPAIS DRIVE

PARADISE Dr

Relocate Traffic Light

NEW BUS STOP

Install Traffic Signal and Pole

REMOVE RAMP

HWY 101

CASA BUENA Dr

TCE

REMOVE BUS BYPASS & BUS STOP

Pave Narrow Area

Pave Narrow Area

Pave Gore Relocate Sign

Pave Gore Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
- PROPOSED OR MODIFIED FEATURES
- PROPOSED OR RECONSTRUCT CURB RAMP
- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 4A IMPACT MAP

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UNIT 0000

PROJECT NUMBER & PHASE 0416000042

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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TOWN CENTER CORTE MADERA

THE VILLAGE AT CORTE MADERA

Relocate Sign Pave Gore

Relocate Sign Pave Gore

Pave Narrow Area

Pave Narrow Area

REMOVE RAMP BUS BYPASS & BUS STOP

Permanent Rail 1390 SQFT

NEW BUS STOP & BUS PULLOUT Install Light and Pole

PREDESTRIAN STRUCTURE Length- 466FT

Relocate Light Pole

Relocate Light Pole

Relocate Traffic Light

TAMALPAIS DRIVE

NEW BUS STOP

Install Traffic Signal and Pole

CASA BUENA Dr

TCE

HWY 101

RAMP WIDENING

Relocate overhead power line and pole

NEW BUS STOP & BUS PULLOUT

Relocate overhead power line and pole

PREDESTRIAN STRUCTURE Length- 450FT

Relocate Light Pole

REDWOOD Hwy

BRIDGE WIDENING

Relocate Traffic Signal and Pole

Relocate Light Pole

Relocate Light Pole

Relocate Light Pole

PARADISE Dr

REMOVE BUS BYPASS & BUS STOP

Pave Narrow Area

Pave Narrow Area

Pave Gore Relocate Sign

Pave Gore Relocate Sign

LEGEND:

- REMOVE BUS BYPASS, BUS STOP, PAVEMENT AND PEDESTRIANS RAMPS
- RECONSTRUCT EXISTING SIDEWALK, ROADWAY, AND WALKWAY
- PROPOSED OR MODFIED FEATURES
- PROPOSED OR RECONSTRUCT CURB RAMP
- PROPOSED WIDEN OR ADDED ROADWAY
- PROPOSED BIKE/PED STRUCTURE /SIDEWALK
- TREE REMOVAL
- GREEN STRIPPING FOR BIKE LANE

ALTERNATIVE 4B IMPACT MAP

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0416000042

Chapter 2 Project Description

2.1 Introduction

The U.S. Highway 101 (U.S. 101) corridor, within the Project area, and extending beyond, is a north-south route that begins at the north end of the Golden Gate Bridge and ends at the State Route (SR) 128 interchange in Sonoma County. The corridor is 82 miles long and is mainly a freeway with a section of expressway between Novato and Petaluma. It serves as the lifeline for local, regional, and statewide commute and movement of goods through Marin and Sonoma counties. In Marin County, U.S. 101 travels through major urban centers including Sausalito, Corte Madera, San Rafael and Novato, and intersects SR 128, SR 1, SR 37, SR 131 and Interstate 580.

2.2 Project Components

This section discusses Project components. Figure 1-2 (Project Footprint) contains the locations of Project components.

2.2.1 ADA Improvements

ADA improvements within the Project area primarily include removal of the existing spiral walkway ramps located on the south side of the structure, and construction of an ADA pathway over U.S. 101 at Tamalpais Drive OC. Proposed ADA structure types for each alternative are described further in Section 2.4.

The Project will also remove or reconstruct existing pedestrian facilities within the Project area to tie in with the new ADA structure. All pedestrian facilities constructed as part of this Project will be ADA compliant.

2.2.2 Seismic Structural Improvements

The 2014 Bridge Inspection Report for bridge No. 27-0072 (Tamalpais Drive OC) noted that the existing restrainer cables in a slab of the bridge should be reconstructed with a new system that can be fully inspected during routine investigations.

The Project proposes reconstruction by installing a cable restrainer with concrete seat extensions at Abutment 1, Bent 2 and Abutment 10.

2.2.3 Intersection Modifications

Each of the build alternatives include intersection modifications of one or both of the U.S. 101 interchanges, located east and west of U.S. 101.

Intersection modifications will be designed consistent with ADA requirements for the Project.

2.2.4 U.S. 101 On/Off-ramp Reconfiguration

All build-alternatives propose to alter U.S. 101 access through reconfiguration of the on/off-ramps at Tamalpais Drive. Reconfiguration of the on/off-ramps varies by alternative but would include a portion of the following work: removal of existing on/off-ramp(s), altering on/off-ramp access by adding new roadway(s), widening of existing on/off-ramp.

Existing bus bypasses on the U.S. 101 on/off-ramps will also be reconfigured and include removal of one or both bypasses, with relocation of the bus bypass within the Project area.

2.2.5 Repair and Maintenance

Additional repairs and maintenance of the existing OC will include:

- Replacing access doors.
- Repairing spalled areas on the bridge deck soffit.
- Cleaning deck drains.
- Removing all ivy on concrete surface of structure.

2.3 No-Build Alternative

The No-Build Alternative does not meet the purpose and need for the Project. The No-Build Alternative serves as the baseline condition upon which the impacts of build alternatives are compared.

Under the No-Build alternative, no upgrades or replacement would be made to Tamalpais Drive OC. This would leave the OC at risk of seismic damage and fails to provide ADA compliant access across U.S. at the Project location.

2.4 Build Alternatives

This section includes a description of the six different build alternatives, with a discussion of the structural work needed for each.

2.4.1 Alternative 2A

- Remove the two existing pedestrian spiral walkway ramps and construct two new pedestrian loop ramps with stairways.

- Construct a new pedestrian sidewalk along southbound U.S. 101 off-ramp from the intersection at the Tamalpais OC to the existing southbound bus stop at the bus bypass.
- Installation of Class II bike lanes (5 foot shoulders), painted green, on north and south sides of the OC.
- Realign the northbound U.S. 101 on-ramp to a signalized intersection on Tamalpais Drive OC. The existing northbound U.S. 101 diagonal on-ramp will be converted to a bus bypass.
- The existing bus bypass on northbound U.S. 101 off-ramp will be removed.
- Estimated cost is $14,366,000.

2.4.2 Alternative 2B

- Remove the two existing pedestrian spiral walkway ramps and construct two new pedestrian loop ramps with stairways.
- Construct a new pedestrian sidewalk along southbound U.S. 101 off-ramp from the intersection at the Tamalpais Drive OC to the existing bus stop at the bus bypass.
- Installation of Class II bike lanes (5 foot shoulders), painted green, on north and south sides of the OC.
- The existing northbound U.S. 101 diagonal on-ramp will be removed and realigned to be controlled at a new signalized intersection at Tamalpais Drive OC. The realigned northbound on-ramp will include a new bus stop and bus pullout.
- The existing bus bypass at the northbound U.S. 101 off-ramp will be removed.
- Estimated cost is $14,584,000.

2.4.2.1 STRUCUTRE WORK DESCRIPTION – ALTERNATIVE 2A/2B

The structure work for this alternative is identical for both alternatives 2A and 2B. It is proposed to construct two single loop pedestrian ramp structures on the south side of the existing bridge to replace the existing spiral loop structures. Each of the two loop structures will be approximately 490 feet in length and are comprised of six spans each. The maximum longitudinal gradient will be 5%. The superstructure is proposed to be a cast-in-place reinforced concrete sections. Each of the bents will be

a single column with a pile cap and driven Class 90 piles. Type 7 chain link fence will be constructed on either side of the 8-foot-wide superstructure. The existing sidewalk on the south side of the structure will be removed and replaced with a minimum six-foot-wide sidewalk and will tie into the new loop ramps. It is further proposed to construct two cast-in-place reinforced concrete staircases within the vicinity of the existing spiral structures as an alternative to using the loop ramps. Additionally, the existing bridge cable restrainers will be removed and replaced with steel support brackets at the abutments and the in-span hinge locations. A total of eight steel brackets will be installed at each location.

2.4.3 Alternative 3A

- Remove the two existing pedestrian spiral walkway ramps and construct two new pedestrian ramps on the north side of the existing structure.
- Bridge widening and a new pedestrian/bike sidewalk at the southwest intersection on Tamalpais Drive to Casa Buena Drive.
- Work at the southbound U.S. 101 off-ramp intersection includes ramp widening for a new bus stop and bus pullout.
- Reconfigure the northbound and southbound U.S. 101 on-ramps to include signalized intersections (remove existing on-ramps, except northbound loop).
- The new northbound on-ramp will be widened for a new bus bypass/stop.
- The southbound U.S. 101 loop on-ramp and connected bus bypass/stop will be removed
- The northbound U.S. 101 off-ramp bus bypass will also be removed.
- Estimated cost is $23,510,000.

2.4.4 Alternative 3B

- Remove the two existing pedestrian spiral walkway ramps and construct a new pedestrian OC for bicyclists and pedestrians on the north side of the existing structure.
- Bridge widening and a new pedestrian/bike sidewalk at the southwest quadrant of the intersection on Tamalpais Drive to Casa Buena Drive.

- Work at the southbound U.S. 101 off-ramp intersection includes ramp widening for a new bus stop and bus pullout.
- Reconfigure the northbound and southbound U.S. 101 on-ramps to include signalized intersections (remove existing on-ramps, except northbound loop).
- The new northbound on-ramp will be widened for a new bus bypass/stop.
- The southbound 101 loop on-ramp and connected bus bypass/stop will be removed.
- The northbound U.S. 101 off-ramp bus bypass/stop will also be removed.
- Estimated cost is $21,450,000

2.4.4.1 STRUCTURE WORK DESCRIPTION – ALTERNATIVE 3A

In this alternative, it is proposed to construct two pedestrian ramp structures on the north side of the existing bridge to replace the existing spiral loop structures. The west ramp structure will be 466 feet in length and comprised of six spans. The east ramp structure will be 450 feet in length and comprised of six spans. The maximum longitudinal gradient will be 5%. The superstructure is proposed to be a cast-in-place reinforced concrete voided slab sections. Each of the bents will be a single column with a pile cap and driven Class 90 piles. Type 7 chain link fence will be constructed on either side of the 15-foot-wide superstructure. The existing sidewalk on the south side of the bridge will be removed along with the existing circular pedestrian ramps. It is further proposed to widen the existing bridge with a 17.42-foot maximum width precast, prestressed box girder structure on the north side of the existing structure. This widening will be adjacent to the existing bridge but structurally separate. The widening will vary in width as it approaches the existing bridge Abutment 10 and transition into a reinforced concrete slab structure. The pedestrian ramp structures will tee into this widening structure with a short cantilever span and expansion joint. Additionally, the existing bridge cable restrainers will be removed and replaced with steel support brackets at the abutments and the in-span hinge locations. A total of eight steel brackets will be installed at each location.

2.4.4.2 STRUCTURE WORK DESCRIPTION – ALTERNATIVE 3B

In this alternative, it is proposed to construct a new single pedestrian OC structure to the north of the existing bridge that will tie-in near the existing abutments. This new structure will be 1,155 feet in length and 18 feet in width. The superstructure is comprised of both cast-in-place prestressed box girder spans and reinforced concrete

slab spans. There will be a total of nine spans with closed bin-type structures on either end. The maximum longitudinal gradient will be 5%. Each of the bents will be a single column with a pile cap and driven Class 90 piles. The bin-type structures at the ends will have 18-inch reinforced concrete walls on narrow pile caps with a single row of Class 90 driven concrete piles. Type 7 chain link fence will be constructed on either side of the superstructure. The existing sidewalk on the south side of the bridge will be removed along with the existing pedestrian circular ramps. The existing structure will have a sliver widening at the northwest abutment location. This widening will be 5-feet-wide and will vary to match the existing reinforced concrete slab superstructure. The existing barrier rail at this location will be replaced with a Type 742 concrete barrier with Type 7 chain link fence mounted on top. Additionally, the existing bridge cable restrainers will be removed and replaced with steel support brackets at the abutments and the in-span hinge locations. A total of eight steel brackets will be installed at each location.

2.4.5 Alternative 4A

- Remove the two existing pedestrian spiral walkway ramps and construct two new pedestrian ramps on the north side of the existing structure.
- Bridge widening and a new pedestrian/bike sidewalk at the southwest intersection on Tamalpais Drive to Casa Buena Drive.
- Work at the southbound U.S. 101 off-ramp intersection includes ramp widening for a new bus stop and bus pullout.
- Reconfigure the northbound and southbound U.S. 101 on-ramps to include signalized intersections.
- The new northbound on-ramp will include a new bus stop and bus pullout.
- The northbound and southbound U.S. 101 loop on-ramps and associated bus bypasses/stops will be removed.
- Estimated cost is $23,827,000.

2.4.6 Alternative 4B

- Remove the two existing pedestrian spiral walkway ramps and construct two new pedestrian ramps.

- Bridge widening and a new pedestrian/bike sidewalk at the southwest intersection on Tamalpais Drive to Casa Buena Drive.
- Work at the southbound U.S. 101 off-ramp intersection includes ramp widening for a new bus stop and bus pullout. This option will reconfigure the northbound and southbound U.S. 101 on-ramps, and northbound and southbound U.S. 101 loop-ramps to signalized intersections.
- All existing bus bypasses/stops will be removed with this option.
- Estimated cost is $25,252,000.

2.4.6.1 STRUCTURE WORK DESCRIPTION – ALTERNATIVE 4A

This alternative is identical to build alternative 3A except that it also removes the existing eastbound Tamalpais Drive to U.S. 101 northbound loop on-ramp.

2.4.6.2 STRUCUTRE WORK DESCRIPTION – ALTERNATIVE 4B

This alternative is similar to alternative 4A with the addition of a new southbound U.S. 101 on-ramp bridge and a new northbound U.S. 101 on-ramp bridge. These on-ramp bridges will be cast-in-place reinforced concrete slab superstructures and form a sort of side-hill viaduct with one side of the structure being cast at-grade. The northbound U.S. 101 on-ramp will be 245 feet long. The southbound U.S. 101 on-ramp will be 270 feet long. The width will be approximately 26 feet long and each bent will be comprised of 5 columns (Class 90 pile extensions). Type 742 concrete barriers will be placed on one side of each on-ramp bridge. As the on-ramp elevations touch down to existing ground elevation, the structure will transition to a reinforced concrete cantilever retaining wall on one side of the ramp only. This retaining wall will have a reinforced concrete pile cap foundation on Class 90 driven piles.

2.5 Construction Methodology

This section discusses how construction of the proposed Project would occur.

2.5.1 Construction Staging

Staged construction is not anticipated for this Project. It is expected that all work can be completed utilizing lane and shoulder closures, temporary ramp closures and detours, or the use of temporary concrete barriers and crash cushions. There are no prolonged ramp closures required for this Project. Due to the scattered nature and distribution of work within the Project area, concurrent work at multiple locations by

multiple work forces will be allowed based on approval by the Highway Operations Branch.

2.5.2 Traffic Management

A Transportation Management Plan (TMP) will be developed for this proposed Project during the design phase. Elements currently proposed in the TMP include but are not limited to: providing notification to the public and impacted groups via a public information program, the use of temporary concrete railing and crash cushions, employing portable changeable message signs, providing flaggers for traffic control, and providing funds for a California Highway Patrol (CHP) Construction Zone Enhanced Enforcement Program (COZEEP) that will enhance safety at the Project location during construction.

2.5.3 Utilities

There is an existing 16-inch high pressure Pacific Gas and Electric (PG&E) gas pipeline along southbound U.S. 101, embedded approximately 100 feet away from the edge of the shoulder. The Project area has water meters, backflow preventers, and electrical tie-ins that serve the existing irrigation system. There are light poles on the OC and pull boxes on the downstream side of the sidewalk near the curb ramps. Also, there are traffic lights and poles at the two intersections at the ends of the bridge.

Utility verification and coordination with appropriate utility provider(s) will occur during later Project phases.

2.5.4 Construction Equipment

Equipment used for the Project will include, but not be limited to: utility trucks, back hoes, excavators, cranes, dump trucks, jack hammers, saw cutter, generators, vacuum equipment, water truck, street sweeper, air compressor, asphalt paver, auger, compactor, pile driver, concrete pumps, hydraulic pumps, and scaffolding.

2.5.5 Vegtation and Tree Removal

Vegetation and tree removal will include tree trimming and/or removal and vegetation clearing for equipment staging, construction access, or substructure work. The on-ramp loops are extensive and generally landscaped, with mature trees and other vegetation in most areas. Native vegetation, including native trees, exists on nearby slopes and within the interchange. Native trees include redwoods, oaks, and alders. Staging areas will not be allowed in any area where the removal of trees or native vegetation is required. Vegetation control would be needed in areas located within or near the on-ramp loops.

Although it is estimated that a maximum of 88 trees under Alternative 4B may be affected, all trees occurring within the Project area have the potential to be affected by construction. Trees potentially affected by the proposed Project would either be trimmed or removed; however, these impacts would be minimized or avoided with the implementation of Project Feature BIO-10: Vegetation and Tree Removal (Section 3.3.4).

Table 2-1. Number of Trees to be Removed for Each Project Alternative

Alternative	Species Potentially Affected	Number of Trees Potentially Affected
2A	1 blackwood acacia, 1 red ironbark, 1 glossy privet, 1 olive tree, 5 Monterey pines, 1 cherry plum, 18 coast live oaks, 7 coast redwoods	35
2B	1 blackwood acacia, 1 red ironbark, 1 glossy privet, 1 olive tree, 7 Monterey pines, 1 cherry plum, 18 coast live oaks, 7 coast redwoods	37
3A	2 blackwood acacia, 1 red ironbark, 7 Ngaio trees, 1 Monterey pine, 6 Chinese pistaches, 5 oriental planetrees, 2 purple leaf sand cherries, 31 coast live oaks, 1 Peruvian pepper tree, 9 coast redwoods, 5 Chinese elm	70
3B	2 blackwood acacia, 1 red ironbark, 7 Ngaio trees, 4 Monterey pines, 6 Chinese pistaches, 5 oriental planetrees, 2 purple leaf sand cherries, 26 coast live oaks, 1 Peruvian pepper tree, 13 coast redwoods, 5 Chinese elm	72
4A	2 blackwood acacia, 1 red ironbark, 1 Toyon, 7 Ngaio trees, 3 Monterey pines, 6 Chinese pistaches, 5 oriental planetrees, 2 purple leaf sand cherries, 31 coast live oaks, 2 Arroyo willows, 1 Peruvian pepper tree, 10 coast redwoods, 5 Chinese elm	76
4B	2 blackwood acacia, 1 red ironbark, 1 Toyon, 1 glossy privet, 7 Ngaio trees, 6 Monterey pines, 6 Chinese pistaches, 5 oriental planetrees, 1 cherry plum, 2 purple leaf sand cherries, 36 coast live oaks, 2 Arroyo willows, 1 Peruvian pepper tree, 12 coast redwoods, 5 Chinese elm	88

2.5.6 Construction Schedule

Construction is anticipated to begin in 2025, and the duration is currently estimated to take 360 to 480 working days. It is proposed that work will be completed using a combination of day shifts and night shifts, depending on specific operations.

2.5.7 Right of Way Requirements

Most work is anticipated to be within the existing right of way, except for two temporary construction easements (TCEs) on Casa Buena Drive and northwest of the

southbound off-ramp for U.S. 101. Right of way for this Project is associated with alternatives 3A, 3B, 4A, and 4B (Figure 1-2).

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Appendix A includes Caltrans Title VI Policy Statement.

2.6 Project Features

This Project contains several standardized Project features (such as best management practices [BMPs]), that are employed on most, if not all of, Caltrans projects in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions. Project features were not developed in response to any specific environmental impact resulting from the proposed Project. Such Project features have been considered prior to any significance determinations. The Project also contains avoidance and minimization measures (AMMs), which directly relate to the impacts resulting from the proposed Project. Project features and AMMs for this Project are described in Chapter 3, and listed in Appendix B.

2.7 Permits and Approvals Needed

Table 2-1 lists the permits, licenses, agreements, and certifications that are anticipated to be required for Project construction.

Table 2-2. Required Permits/Approvals

Agency	Permit/Approval	Description
U.S. Fish and Wildlife Service (USFWS)	BO	BO issued in Environmental Phase
U.S. Army Corps of Engineers	Section 404 Permit	Application submittal in next Project phase
State Water Resources Control Board	Section 401 Water Quality Certification	Application submittal in next Project phase
California Department of Fish and Wildlife	Section 1602 Lake and Streambed Alteration Agreement	Application submittal in next Project phase

Chapter 3 California Environmental Quality Act Evaluation

The following discussions evaluate potential environmental impacts related to the California Environmental Quality Act (CEQA) checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091). The environmental analysis considers potential impacts of the proposed Project, as detailed in Chapter 2.

3.1 Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the proposed Project, the following environmental issues were considered, but no impacts were identified: agriculture and forest resources, cultural resources, land use and planning, mineral resources, population and housing, public services, and tribal cultural resources. The environmental factors checked below would be potentially affected by this Project. Further analysis of these environmental factors is included in the following chapter.

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

3.2 Determination

Based on this initial study:

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:**
Printed Name: Scott M. Williams	**For:**

3.3 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed 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 last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not National Environmental Policy Act, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the Project, and standardized measures that are applied to all or most Caltrans projects, such as BMPs and measures included in the standard plans and specifications or as standard special provisions, are considered to be an integral part of the Project and have been considered prior to any significance determinations documented below. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

Sections 3.3.1 through 3.3.21 of this section presents the CEQA Determinations under Appendix G of the CEQA Guidelines. The CEQA determination depend on the level of potential environmental impact that would result from the Project. The level of significance determinations are 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 avoidance and minimization measures.
- Less than Significant Impact with Mitigation Incorporated: Indicates the potential for a significant impact that would be mitigated with the implementation of a mitigation measure to a level of less than significance.
- Potentially Significant Impact: Indicates the potential for significant and unavoidable environmental impact.

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?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?	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?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AESTHETICS

A visual impact assessment (VIA) was completed for the Project (Caltrans 2021a).

The visual environment of the U.S. 101 corridor in the Project area is that of a busy eight-lane freeway, with wide paved shoulders and concrete barriers separating the north and southbound directions of travel. Surrounding land uses include suburban and commercial development, and short stretches of undeveloped and forested hillsides. There are existing and proposed bicycle and pedestrian facilities, intended primarily to facilitate access to regional bus service, which has bus stops located within the Project area. Though urban, the visual setting is relatively and substantially scenic for such a highly developed area. There are distant and impressive views at some locations, including that of nearby Mount Tamalpais. Within the Project area, U.S. 101 is a Classified Landscape Freeway with considerable tree canopy near and beyond the immediate freeway area. The interchange is surrounded by commercial development but includes constrained views of Mount Tamalpais and the forested hillsides to the west. The San Francisco Bay is a short distance to the east but is not visible from the freeway and only minimally so from the elevated portion of Tamalpais Drive above. Traffic volume is heavy at most times of day and extremely busy at rush hour, with northbound traffic typically stop-and-go during the evening commute. The wide expanse of the asphalt paving of the freeway, overhead signs, solid concrete barriers, and chain link fencing constitute the primary elements detracting from the quality of the immediate visual landscape. Beyond the freeway, large parking lots and other elements of surrounding commercial properties are also visual detractors

U.S. 101 at the Project location and nearby is currently not listed as an Officially Designated State Scenic Highway, nor is it listed as being eligible for such designation. However, having been planted by Caltrans, the interchange is within a portion of U.S. 101 from PM 7.18 to PM 7.46 listed as a Classified Landscape Freeway, containing many mature trees, shrubs, and areas of groundcover. Landscaped Freeway designation is used in the control and regulation of outdoor advertising displays and is assigned to sections of freeways with ornamental vegetation that meets the criteria established by the California Code of Regulations, Outdoor Advertising Regulations, Title 4, Division 6. It essentially means the area includes planted, intact, and maintained trees and other landscape vegetation.

The existing elements contributing most to the current quality of the area's scenic resources are distant views and the trees within and near the interchange. The planted landscape within the State right of way consists of mature or established pines, redwoods, and oaks, along with a variety of shrubs. These exist throughout much of the interchange, although trees are generally somewhat scattered rather than densely planted, with the southeast quadrant being the most lightly vegetated. A significant number of the pines and redwoods appear to be in decline, evidenced by sparse canopies and missing branches, although the general appearance is that of a landscaped interchange.

a, b) <u>No Impact</u>

As mentioned above, the Project area, and the nearby highway, are not listed, nor eligible to listed as an Officially Designated State Scenic Highway. Therefore, the Project would not have a substantial, adverse effect on scenic vistas, or damage scenic resources. The Project would be compatible with the existing visual character and quality of the corridor. The Project would not impact or degrade the existing visual character or quality of the Project limits or its surroundings.

The Project would not adversely affect any scenic resource identified as requiring special consideration such as a rock outcropping, important tree grouping, historic properties, etc., as defined by CEQA statutes or guidelines, or Caltrans policy. Existing vistas would be unaltered. The Project elements should not affect the appearance of the highway corridor and would be visually consistent with the character of the corridor and surrounding area.

c) Less than Significant Impact

The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Temporary visual impacts from construction of the Project would not be considered substantial. Specific impacts to scenic characteristics along the Project corridor would be reduced with implementation of AMMs (presented below), which would minimize visual changes that could occur as part of the Project. Upon completion of work, the appearance of the highway corridor within the Project area would be largely unchanged.

d) Less than Significant Impact

The Project would not create a new source of substantial light or glare. Day and nighttime construction activities (if utilized) could temporarily add new sources of light and glare along the Project corridor. These visual impacts would be minimized through implementation of AMM AES-6, thereby reducing the impact to less than significant.

Avoidance and Minimization Measures

Caltrans would incorporate the following AMMs into the Project to offset or avoid potential impacts to aesthetics.

AMM AES-1: Minimize Impacts to Vegetation. To the greatest extent possible, minimize impacts to vegetation while allowing the implementation of the Project. Vegetation to remain should be protected from construction activities by temporary fencing.

AMM AES-2: Staging Areas. Staging areas should not be located where they require removal of vegetation unless deemed appropriate by the Caltrans Project biologist and the Caltrans Project landscape architect.

AMM AES-3: Storage of Construction Materials. Construction materials and equipment should be stored in screened staging areas beyond direct view of the motoring public.

AMM AES-4: Avoid Impacts to Existing Trees. Adjustments to the alignment of pathways and other features allowing damage to trees to be avoided or minimized should be explored.

AMM AES-5: Certified Arborist during Construction. A Certified Arborist should be on-site during construction to determine whether impacts to trees can be avoided and whether realized impacts necessitate that a tree be removed.

AMM AES-6: Directional Lighting. Directional lighting and/or shielding for night work should be used.

AMM AES-7: Architectural Treatment. The architectural treatment of proposed Project elements should be incorporated where appropriate. This may include coloring new concrete paving, stamping or otherwise adding decorative elements to proposed pedestrian structures, including railings, anti-graffiti coatings, and other elements as proposed during the Design phase of design by the Caltrans Office of Landscape Architecture.

AMM AES-8: Erosion Control. Apply erosion control seeding and similar measures to all areas of disturbance beyond pavement.

AMM AES-9: Follow-up Planting Requirements. Following construction, highway planting should be implemented to fully rehabilitate the landscape of the Interchange. Extensive planting will be required, and a follow-up or "child" project is likely to be required. Because mature trees will be replaced with smaller trees, some of which may not survive to maturity, they should be replaced at a ratio greater than 1:1, potentially with some of specimen size, i.e., 15-gallon or larger boxed trees.

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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and 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?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact

CEQA Significance Determinations for Agriculture and Forest Resources

a-e) <u>No Impact</u>

A query of the California Department of Conservation Farmland Mapping Tool determined that the Project area is within an area identified as Urban and Built-Up Land (California Department of Conservation. 2022).

The Project would not convert prime farmland, unique farmland, or farmland of statewide importance because no such farmlands are within the Project area.

There are no Williamson Act lands within the Project area. The Project would not conflict with existing zoning for agriculture use or convert Williamson Act lands to non-agricultural uses; therefore, there would be no impact.

No timber or forest lands are in the Project area or Project vicinity; so, the Project would not convert forest land or conflict with existing timberland zoning. There would be no impact to forests or timberlands.

The Project would not convert farmlands to non-agricultural use; therefore, no impact would occur.

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?	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	Less than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AIR QUALITY

a, c, d) No Impact

The Project is in Marin County within San Francisco Bay Area Air Basin and within the jurisdiction of Bay Area Air Quality Management District (BAAQMD) and California Air Resources Board (CARB). The project would not interfere with any of the control measures set forth in BAAQMD's 2017 Clean Air Plan. Marin County is currently designated as nonattainment for ozone and particulate matter less than 2.5 microns in diameter (PM2.5) under National Ambient Air Quality Standards, and is in nonattainment for ozone, particulate matter less than 10 microns in diameter (PM 10), and PM2.5 under California Ambient Air Quality Standards. The Project is programmed as part of the SHOPP for the 2021/22 fiscal year and is included in the conforming Plan Bay Area 2050 and 2021 TIP. The Project would not conflict with or obstruct implementation of the applicable air quality plan and there would be no impact.

Sensitive receptors are children, elderly, people with asthma, and others who are at a heightened risk of negative health outcomes due to exposure to air pollution. Sensitive receptors are typically associated with schools, residential dwellings, daycare centers, hospitals, and senior-care facilities. The Project is located in an urban area with mixed commercial and residential land use. The interchange is surrounded by businesses such as shopping centers and other retailers. The nearest residences are at an apartment complex southeast of the interchange, approximately 430 feet from northbound U.S. 101. High density residences are approximately 1,000

feet away west of the interchange, and in areas approximately 900 feet southeast to the interchange. There are no other sensitive receptors near the interchange.

The Build Alternatives would not exceed existing condition for criteria pollutants or mobile source air toxics (MSATs), or exceed the BAAQMD's recommended thresholds for construction emissions. Air Quality conditions for sensitive receptors is not expected to worsen. The Build Alternatives would not expose sensitive receptors that could occur near the Project area to substantial pollutant concentrations. Therefore, there would be no impact.

The Project would not introduce odors that are not already associated with existing traffic. Therefore, there would be no impact.

b) Less than Significant Impact

Project-level conformity was evaluated through interagency consultation process for PM2.5. Metropolitan Transportation Commission's California Ambient Air Quality Standards determined that the Project is not a project of air quality concern based on the criteria specified in 40 Code of Federal Regulations (CFR) 93.123(b)(1). Therefore, a quantitative PM2.5 hot-spot modeling is not required to demonstrate conformity. The Project meets the conformity requirements of 40 CFR 93.116 without a quantitative PM10 hot-spot analysis. Project-level conformity demonstration of carbon monoxide is no longer required for the San Francisco Bay area, including Marin County.

The Project would be required to comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with air-pollution control rules, regulations, ordinances, and statutes that apply in the Project area. Construction air pollutants are expected to be minimal to negligible and short term. Potential impacts to air quality, including violation of air quality standards, criteria pollutants, exposure of sensitive receptors to pollutants, and creation of odors, are not anticipated based on the scope of the proposed Project. Project Feature AQ-1 would help minimize impacts from fugitive dust.

Project Feature

Caltrans would incorporate a standard measure into the Project to offset or avoid potential impacts to air quality. This feature is described in the following paragraph.

Project Feature AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

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 NOAA Fisheries?	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?	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?	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?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	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?	No Impact

CEQA Significance Determinations for Biological Resources

A natural environment study (NES) was prepared for the Project to evaluate the effects of this Project on biological resources, including sensitive plant and wildlife species (Caltrans 2022a). This section summarizes the findings of the study.

The biological study area (BSA) was drawn to include a 50-foot buffer surrounding the Project footprint (also referred to as the Project area—the area in which construction will occur) and encompasses the outer limit of all the proposed work. The BSA is the area that was surveyed to evaluate habitat and identify and quantify the natural resources associated with the Project. Another area outside of the identified BSA was also studied for the analysis of this NES. This other area is a 700-foot buffer added at the eastern terminus of the Project and designated as the salt marsh study area, to specifically incorporate adjacent salt marsh habitat.

The BSA contains developed roadway, herbaceous grasslands, ruderal and woodland vegetation, and wetland drainages and associated vegetation.

The additional 700-foot buffer, which is not included in the BSA, extends from the eastern terminus of the Project footprint and specifically includes nearby salt marsh habitat; the 700-foot buffer is referred to as the salt marsh study area (Figure 3-1). The salt marsh study area was also studied for the analysis of the NES.

The salt marsh study area specifically incorporates tidal wetland habitat within the Corte Madera Marsh, where California Ridgway's rail, California black rail, and salt marsh harvest mouse are known to occur.

Biological Studies

As part of the NES, databases were used to evaluate potential impacts that could occur to sensitive biological resources as a result of the Project. Database searches included the California Natural Diversity Database (CNDDB) (CDFW 2022a); species list and critical habitat from the U.S. Fish and Wildlife Service (USFWS) (USFWS 2022a), a species list from NOAA Fisheries (NOAA Fisheries 2022); and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2022). A complete list of species from the database searches is provided in Appendix C.

In addition to database queries, the following technical studies were conducted for the Project: aquatic resources delineation, protocol-level rare plant surveys, tree surveys, bat survey, and reconnaissance-level wildlife survey

a) <u>Less than Significant Impact</u>

With implementation of Project features and AMMs identified below, the Project would have a less-than-significant adverse effect, either directly or through habitat modifications, on any identified candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW), USFWS, or NOAA Fisheries. General Project features that would reduce impacts to special-status species include BIO-3, Worker Environmental Awareness Training, and BIO-4 Mark Environmentally Sensitive Areas. Additional specific Project features are discussed in the subsections that follow.

Special-status species' habitat is present within the Project area, as well as the adjacent salt marsh and wetland habitats. Construction activities could result in increases in noise, which could adversely impact nesting bird species, particularly the California Ridgway's rail and the California black rail. However, these impacts will

be avoided or reduced by implementing AMMs that establish work buffers and restrict work during the breeding season.

Special-status species potentially present within or adjacent to the BSA are discussed below and included in tabular format in Appendix C.

Plants

Napa false indigo: While the proposed Project will have no direct impacts on broad-leafed upland forest, chaparral, or cismontane woodland habitat types, there is marginal suitable habitat for Napa false indigo to occur within the BSA. Therefore, impacts on this species may occur. However, pre-construction rare plant surveys will be performed, and if Napa false indigo is detected, the extent and abundance of the species will be mapped and flagged in the field for future relocation, salvage, and transplantation to avoid impacts. Therefore, impacts on this plant are not expected.

Implementation of the following Project features would avoid impacts to Napa false indigo: BIO-4: Mark Environmentally Sensitive Areas; BIO-7: Stormwater Best Management Practices, BIO-8: Construction Site Management Practices; BIO-11: Restoration of Disturbed Areas. In addition, the following avoidance AMM will be implemented to avoid potential impacts to Napa false indigo: BIO-15: Rare Plant Pre-construction Survey and Rare Plant Salvage and Transplantation Plan.

Point Reyes salty bird's-beak: There is marginal suitable habitat present for Point Reyes salty bird's-beak to occur within the BSA; therefore, impacts on this species may occur. However, pre-construction rare plant surveys will be performed, and if Point Reyes salty bird's- beak is detected, the extent and abundance of the species would be mapped and flagged in the field for future relocation, salvage, and transplantation to avoid impacts. Therefore, impacts on this plant are not expected.

The proposed Project would have no direct impacts to tidal wetland (salt marsh or brackish marsh) habitat. Therefore, there would be no direct impacts to the Point Reyes salty bird's-beak or its habitat.

Legend

- Post Miles
- Caltrans Right of Way
- Project Footprint (20.39 acres)
- Biological Study Area (25.99 acres)
- Salt Marsh Study Area (13.3 acres)

Data Source:
Caltrans Designs Provided April 2022
Imagery Source:
Marin County

N

0 200 400
Feet

Caltrans

Figure 3-1
Biological Study Area
U.S. 101 / Tamalpais Drive Overcrossing Project
EA 04-4J860, MRN-101 PM 7.37
Marin County, California

Implementation of the Project features outlined in Table 1-1 will result in avoiding indirect impacts on Point Reyes salty bird's-beak. In particular, implementation of the following will specifically avoid impacts on wetland habitat: BIO-4: Marking of Environmentally Sensitive Areas, BIO-7: Stormwater Best Management Practices, BIO-8: Construction Site Management Practices, BIO-11: Restoration of Disturbed Areas. In addition, the following AMM will be implemented to avoid and/or minimize potential impacts on Point Reyes salty bird's-beak: BIO-15: Rare Plant Pre-construction Survey and Rare Plant Salvage and Transplantation Plan.

Wildlife

California Ridgway's Rail: There would be no impacts on California Ridgway's rail habitat as a result of this Project. In addition, rails are not expected to occur within the BSA; therefore, the Project is not expected to have direct impacts such as injury or mortality on rails.

Work will include pile driving, which could affect California Ridgway's rail via noise disturbance. Specifically, if rails are located close to the construction work, pile driving could cause them to flush, making them more vulnerable to predators, or pile driving may startle nesting birds and cause nest abandonment if work occurs during the rail nesting season. USFWS considers the species sensitive to disturbance and seeks to minimize human intrusion into occupied marshes, particularly during the breeding season (USFWS 2013). Birds may be disrupted from normal behavior when noise levels rise above 80 to 85 decibels (USFWS 2013).

Additional coordination with USFWS is underway to determine the level of impact from pile driving to California Ridgway's rail species. For the purposes of this proposed Initial Study, it is anticipated that the Project "may affect, likely to adversely affect" the California Ridgway's rail due to pile driving activities, and that a Biological Opinion (BO) may be necessary.

In addition to biology-related Project features that protect aquatic resources and provide biological oversight and wildlife protection, the following AMM will be implemented as deemed necessary by the Project biologist to avoid and/or minimize potential impacts on California Ridgway's rail: BIO-16: California Ridgway's Rail and California Black Rail Pre-Construction Survey,

In addition, further AMMs may be required by USFWS during coordination of the BO for the California Ridgway's rail. Updates to the AMMs will be incorporated into the final Initial Study for this Project.

California Black Rail: There would be no impacts on California black rail habitat as a result of this Project. In addition, California black rails are not expected to occur within the BSA; therefore, the Project is not expected to have direct impacts, such as injury or mortality, on the rails.

Due to the noise sensitivity of the California black rail, AMM BIO-16 also applies to this species (in addition to other biology-related Project features).

California Red-Legged Frog: While suitable habitat is present within the BSA, including potentially suitable breeding and nonbreeding aquatic habitat in the form of the palustrine emergent wetlands on site, as well as suitable upland/dispersal habitat, the potential for California red-legged frog (CRLF) to use these areas is probably very low due to habitat fragmentation. Because CRLF are not likely to be present in the BSA, no take of CRLF is anticipated, and the Project is not anticipated to have an effect on CRLF or its habitat.

In addition to Project features the following AMMs will be implemented to avoid and/or minimize potential impacts on CRLF: BIO-18: CRLF Preconstruction Surveys, BIO-19: Wildlife Exclusion Fencing, BIO-20: CRLF Monitoring.

Salt Marsh Harvest Mouse: Implementation of the proposed Project will not include ground-disturbing work in salt marsh harvest mouse habitat. The Project's eastern terminus is approximately 400 feet east of salt marsh harvest mouse habitat within Corte Madera Marsh. Salt marsh harvest mice occurring in Corte Madera Marsh are not anticipated to enter the BSA because of the presence of developed areas between the marsh and the BSA. Therefore, there would be no impacts on individual salt marsh harvest mice or salt marsh harvest mouse habitat associated with this Project.

Implementation of biology-related Project features will result in avoiding indirect impacts on salt marsh harvest mouse. In particular, implementation of the following will specifically avoid and/or minimize impacts on salt marsh habitat: BIO-4: Marking of Environmentally Sensitive Areas, BIO-7: Stormwater Best Management Practices, BIO-8: Construction Site Management Practices, and BIO-11: Restoration of Disturbed Areas.

Salt Marsh Common Yellowthroat: Because this species may nest in freshwater wetland habitat or the adjacent shrubs and or herbaceous vegetation within the BSA, the Project may affect salt marsh common yellowthroat. Project construction has the potential to result in the take of nests, eggs, young, or individuals. Construction

disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to the abandonment of nests. However, any birds within the BSA are likely habituated to a high level of baseline disturbance from the constant traffic noise on U.S. 101.

Potential Project impacts may also include temporary or permanent loss of salt marsh common yellowthroat potential foraging and nesting habitat resulting from vegetation clearing and the construction of new Project elements (Figure 3-2). With the incorporation of Project features and AMMs into the proposed Project, no take of salt marsh common yellowthroat or eggs is anticipated: BIO-5: Nesting Bird Surveys and BIO-6: Active Nest Buffers.

Monarch Butterfly: Given that the BSA is not located within a CDFW Area of Conservation Emphasis for monarch butterfly and does not contain a known California monarch overwintering roost (an area, usually wooded, that provides shelter for butterflies during the winter), there is a low potential for this species to forage or be present within the BSA, and no impacts to monarch butterfly are anticipated.

However, Project construction has the potential to result in direct impacts on individual butterflies including the temporary or permanent loss of monarch butterfly potential foraging and overwintering habitat resulting from vegetation clearing. Implementation of Project features will avoid and/or minimize impacts on the monarch butterfly.

Other Nesting Birds/Raptors: Project construction has the potential to result in the take of nests, eggs, young, or individuals of species protected under the Migratory Bird Treaty Act. Potential Project impacts include temporary impacts on foraging habitat and temporary or permanent loss of potential nesting habitat resulting from tree and vegetation clearing. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to the abandonment of nests. With the incorporation of Project features and AMMs BIO-5 and BIO-6 into the proposed Project, no take of migratory birds or eggs is anticipated.

Bat Species: Bat species have the potential to use highway structures, such as bridges, if conditions for roosting are appropriate, as well as nearby trees. Suitable day and night bat crevice, cavity, and foliage roosting habitat is present throughout the BSA in the form of Tamalpais Drive Bridge, pedestrian walkways, on- and off-

ramps, and trees located within the BSA. Therefore, there is potential for bat species and bat roosting habitat to be affected during Project activities.

Temporary impacts are defined as those created when potentially suitable bat roost habitat would be unavailable to bats during construction activities, but not permanently altered. Permanent impacts are those that occur when areas defined as potentially suitable bat habitat areas are permanently modified.

Up to 88 trees are anticipated to be affected, either through trimming or removal, including trees that could provide potential roosting habitat (Figure 1-2 and Table 2-1). Loss of these trees would be considered a permanent impact. In addition, foliage-nesting bats may be harmed by tree removal activities.

If night work is required, indirect impacts could occur. Night roost disturbance could come in the form of habitat degradation, such as light and noise disturbance. Most insectivorous bats rely on hearing the returning echoes of their ultrasonic echolocation calls to orientate, detect prey, and communicate. Night construction noise may mask prey-generated sounds and the lower frequency components of echolocation calls (Altringham and Kerth 2016). Light can also attract some bat species, particularly open-air foragers (Rydell 1992, Blake et al. 1994) because short-wavelength light attracts insect prey. Bats exploiting insect swarms around (night) construction lights may be at greater risk of collision with traffic (Altringham and Kerth 2016).

Impacts on Tamalpais Drive Bridge and the spiral pedestrian walkways, including loss of suitable crevice and cavity roosting habitat, would be considered a permanent impact on roosting habitat. Impacts on Tamalpais Drive Bridge and the spiral pedestrian walkways could also result in direct impacts on bat species, including injury or mortality, if bat species are occupying the crevices or cavities that provide roosting habitat during construction activities. However, with the implementation of bat protection measures, as described below, these impacts would be avoided.

Implementation of the Project features BIO-12: Bat Protection, and BIO-14: Night Lighting, will avoid and/or minimize impacts on bat species. In addition, AMM BIO-17: Bat Monitoring Protocols, will be implemented to avoid and/or minimize potential impacts on bats.

Legend

- Post Miles
- Project Footprint (20.39 acres)
- Biological Study Area (25.99 acres)

Habitat Types:

- CA Annual and Perennial Grassland (2.47 acres)
- Developed/Major Road (15.61 acres)
- Distichlis spicata Flat (0.01 acre)
- Landscaped (1.17 acres)
- Non-native Forest (0.79 acre)
- Quercus agrifolia Woodland (0.86 acre)
- Carpobrotus chilensis Ruderal (1.63 acres)
- Acacia melanoxylon Ruderal Shrubs (0.70 acre)
- Ruderal (1.56 acres)
- Salicornia pacifica Drainage (0.03 acre)
- Typha latifolia Drainage (0.28 acre)
- Salix lasiolepis Thicket (0.06 acre)
- Seasonal Wetland Drainage (disturbed) (0.32 acre)
- Sequoia sempervirens Grove (0.51 acre)

Data Source:
Caltrans Designs Provided April 2022
Imagery Source:
Marin County

N

0 100 200
Feet

Figure 3-2
Habitat Types Present within the Biological Study Area
U.S. 101 / Tamalpais Drive Overcrossing Project
EA 04-4J860, MRN-101 PM 7.37
Marin County, California

b, c) Less than Significant Impact

The Project would not have a substantial adverse effect on riparian habitat or an environmentally sensitive natural community. Nor would the Project have a substantial adverse effect on a state or federally protected wetland.

Sensitive Natural Communities

There are no mapped CDFW-designated sensitive natural communities recorded within the BSA (CDFW 2022a). However, there are freshwater wetlands within the BSA and Project footprint that may be subject to Section 1600 of the CDFW Code. The natural land cover types mapped within the BSA are described for each alternative within the NES for the Project.

Potential Jurisdictional Aquatic Resources

The Project is anticipated to have a less than significant impact on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal areas) through direct removal, filling, hydrological interruption, or other means.

Potential jurisdictional aquatic resources were delineated in the BSA. Vegetation, hydrology, and soils were used to determine the presence of jurisdictional wetlands. The predominant wetland type was *Typha latifolia* habitat, found throughout the BSA in a wetland/drainage feature. This feature has several box culverts that drain water from the wetland feature into United States Army Corps of Engineers (USACE) jurisdictional waters.

Emergent wetlands were also present within the BSA. This wetland type was delineated in three locations: a roadside ditch adjacent to the Corte Madera Town Center in the northwestern portion of the BSA, adjacent to an off-ramp in the northeastern portion of the BSA, and within the drainage channels located in the southeastern portion of the BSA. Generally, wetlands that are not directly connected to waters of the United States are not considered to be jurisdictional; however, these wetlands are connected to waters that are under USACE jurisdiction and may thus be subject to regulatory oversight.

Based on the results of the aquatic resources delineation, the BSA contains 0.35 acre of potential jurisdictional wetlands of the United States and 0.63 acre of potential jurisdictional other waters of the United States (Table 3-1).

Table 3-1. Summary of Potential Aquatic Resources within BSA

Aquatic Resource in BSA	Acres	Linear Feet
Potential Jurisdictional Wetlands of the United States	0.35	1,755
Potential Jurisdictional Other Waters of the United States and Roadside Ditches	0.63	4,110

Potential jurisdictional aquatic resources within the BSA could be directly affected by the proposed Project. Because there has not yet been a final jurisdictional determination of aquatic resources for this Project, it cannot be definitively concluded that jurisdictional aquatic features will be affected as a result of the Project. For the sake of caution, the preliminary area of mapped potential jurisdictional wetlands and waters that fall within the Project footprint is included in Table 3-2 as potentially affected. Table 3-2 describes the potential temporary and permanent impacts (in acres) on potential jurisdictional aquatic resources resulting from the various Project alternatives.

Table 3-2. Direct Temporary and Permanent Impacts on Potential Jurisdictional Aquatic Resources

Impacts	Potential Jurisdictional Wetland or Other Water Features	Acreage within Project BSA	Impacts by Alternative (Acres)					
			2A	2B	3A	3B	4A	4B
Temporary	Wetlands of the United States	0.348	0.040	0.04	-	-	0.007	0.009
Temporary	Other Waters of the United States	0.630	0.054	0.060	0.077	0.070	0.086	0.081
Permanent	Wetlands of the United States	0.348	0.017	0.017	-	-	0.007	0.013
Permanent	Other Waters of the United States	0.630	0.009	0.009	0.079	0.080	0.082	0.096

d) <u>No Impact</u>

The Project will not affect habitat connectivity because the BSA does not contain suitable habitat for a migration corridor. The Project does have the potential to affect individuals of special-status species, if they are within the BSA during construction (discussion on special-status species in response to question A of this section).

e) No Impact

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

f) No Impact

This Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact.

Project Features

Caltrans would incorporate its standard measures into the Project to offset or avoid potential impacts to biological resources. These features include those described in the following paragraphs.

Project Feature BIO-1: Documentation at Project Site. A permit compliance binder would be maintained at the construction site at all times and presented to resource agency (USACE, USFWS, Regional Water Quality Control Board [RWQCB] and/or CDFW) personnel upon request. The permit compliance binder would include a copy of all original permits and agreements, and any extensions and amendments to the permits and agreements.

Project Feature BIO-2: Work According to Documents. Except as they are contradicted by measures within the permits and agreements, all work would be conducted in conformance with the Project description and the AMMs.

Project Feature BIO-3: Worker Environmental Awareness Training. Prior to the start of construction, a biological monitor would 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 would receive the same training before beginning work on site. Upon completion of the education program, employees would 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, environmentally sensitive areas (ESAs) within the Project site, and notes key avoidance measures, as well as employee guidance would be given to each person who completes the training program. These forms would be made available to the resource agencies upon request.

Project Feature BIO-4: Mark Environmentally Sensitive Areas. Before construction begins, ESAs would be clearly delineated using high-visibility orange fencing, flagging, or similar marking to delineate sensitive habitats. The ESA marking would 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 would depict all locations where ESA markings would be installed and how the markings would be installed. The bid solicitation package special provisions would 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 would be maintained in good repair throughout the Project as needed.

Project Feature BIO-5: Nesting Bird Surveys. If Project activities occur from February 1 to September 30, then a pre-construction survey will be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer will be established, and the nest will be monitored for compliance with the MBTA and California Fish and Game Code (FGC) 3503.

Project Feature BIO-6: Active Nest Buffers. If an active bird nest is found during construction activities, then the following ESA buffers would be established: if an active raptor nest is observed, a 300-foot-wide ESA buffer would be implemented to avoid impacting the young until they have fledged; if an active nest of non-raptor migratory birds is observed, a 50-foot-wide ESA buffer would be implemented to protect the young until they have fledged, or as otherwise determined through consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California FGC 3503.

Project Feature BIO-7: Stormwater Best Management Practices. Water pollution control and erosion control best management practices (BMPs) will be developed and implemented to minimize wind- or water-related erosion. BMPs will follow the requirements of the RWQCB and standards outlined in Construction Site Best Management Practices BMPs Manual (Caltrans 2017). At a minimum, protective measures will include the following:

a. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

b. Maintaining equipment to prevent vehicles from leaking fluids such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils, solvents, etc. will be

stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats.

c. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

d. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts, located at least 50 feet from watercourses.

e. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

f. Using water trucks and dust palliatives to control dust in unvegetated areas and covering of temporary stockpiles when weather conditions require.

g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls or straw wattles along toes of slopes or along edges of designated staging areas, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds

Project Feature BIO-8: Construction Site Management Practices. The following site restrictions would be implemented to avoid or minimize potential impacts on sensitive biological resources:

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

b. Locate construction access, staging, storage, and parking areas within the Caltrans right of way and outside of any designated ESA to the extent practicable. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Clearly mark routes and boundaries of roadwork before initiating construction.

c. Certify, to the maximum extent practicable, borrow material is non-toxic and weed free.

d. Enclose food and food-related trash items in sealed trash containers and remove them from the site at the end of each day.

e. Prohibit pets from entering the Project area during construction.

f. Prohibit firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

Project Feature BIO-9: Invasive Weed Control. To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor would be required to contain the plant material associated with these noxious weeds and dispose of the material in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would 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 area would be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

If work occurs in sensitive habitats, vehicles and equipment would be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

Project Feature BIO-10: Vegetation and Tree Removal. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently affected or excavated. This will allow plants that reproduce vegetatively to resprout after construction.

Project Feature BIO-11: Restore Disturbed Areas. Temporarily disturbed areas would be restored to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native grasses to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted, based on the local species composition.

Project Feature BIO-12: Bat Protection. A habitat assessment would be conducted for potentially suitable bat roosting habitat prior to construction activities. If the habitat assessment reveals any structures are suitable roosting habitat for bats, then the appropriate exclusionary measures would be implemented prior to construction during the period between March 1 and April 15, or August 31 and October 15. Potential avoidance may include exclusionary blocking or filling potential cavities with foam, visual monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting would not be used.

If the habitat assessment reveals suitable bat habitat in trees, and tree removal is scheduled from April 16 through August 30 and/or October 16 through February 28, then presence/absence surveys will be conducted 2 to 3 days prior to tree removal or trimming. If presence/absence surveys are negative, then tree removal will proceed following a two-phase tree removal system. If presence/absence surveys indicate bat occupancy, then the occupied trees will only be removed from March 1 through April 15 and/or August 31 through October 15 by following the two-phase tree removal system. The two-phase system will be conducted over 2 consecutive days. On the first day (in the afternoon), limbs and branches will be removed by a tree cutter using chainsaws or other hand tools. Limbs with cavities, crevices, or deep bark fissures will be avoided, and only branches or limbs without those features will be removed. On the second day the entire tree will be removed.

Bats will not be disturbed without specific notice to, and consultation with, CDFW.

Project Feature BIO-13: Prevent Inadvertent Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep would 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 would be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried.

Project Feature BIO-14: Night Lighting. Some nighttime work is anticipated for this Project. For unavoidable nighttime work, all lighting would be shielded and directed downwards towards the active construction area to avoid exposing nocturnal wildlife to excessive glare.

Avoidance and Minimization Measures

Caltrans would incorporate the following AMMs into the Project to offset or avoid potential impacts to biological resources.

AMM BIO-15: Rare Plant Pre-construction Survey and Rare Plant Salvage and Transplantation Plan. During the spring season prior to construction, Caltrans will conduct focused pre-construction surveys for the rare plants identified in the Project area. The extent and abundance of the rare plants will be mapped and flagged in the field for future relocation, salvage, and transplantation. These surveys will be conducted during the season in which the rare plants are detectable and in the phenological stage of development for correct identification (typically late spring).

If a rare plant is identified within the Project area during the pre-construction survey, a rare plant transplantation plan will be prepared. The transplantation plan will be submitted to the regulatory agencies for approval prior to the beginning of construction.

AMM BIO-16: California Ridgway's Rail and California Black Rail Pre-Construction Surveys. For portions of the Project that are within 700 feet of Corte Madera Marsh (the eastern portion of the Project Footprint), if work will occur during the rail nesting season (February 1 through August 31), surveys will be conducted to determine whether the species are present. Protocol-level surveys, if required, will be conducted beginning between January 15 and February 1. A minimum of four surveys will be required. Each survey should be 2 to 3 weeks apart, and the final survey should be completed by March or mid-April to ensure that no California Ridgway's rail or California black rail are present during construction. Surveys will be completed prior to the initiation of construction, with 3 weeks remaining after completion of surveys and before Project initiation to submit results to CDFW for review. Protocol survey requirements will adhere to the most recent USFWS/CDFW protocols.

If California Ridgway's rail and/or California black rail are detected during pre-construction surveys, then pile driving will not occur within 700 feet of an identified detection (or smaller distance if approved by USFWS and CDFW) during the rail nesting season. If rail activity is detected within the 700-foot buffer, immediate consultation with USFWS and CDFW is required.

AMM BIO-17: Bat Monitoring Protocols. If a bat or bat colony is observed nesting or roosting in active construction areas at the Project area, construction activities that

would imminently harm bats will stop within 150 feet of the roosting location until a qualified 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-18: Preconstruction Surveys for CRLF. Preconstruction 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 Wildlife Exclusion Fencing (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/media/revised-guidance-site-assessments-and-field-surveys-california-red-legged-frogamphibians.

Preconstruction surveys will include:

- Foot surveys will be conducted of potential frog habitat within the Work Area and accessible adjacent areas (within at least 50 feet of Work Area).
- Potential cover sites (burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil for signs of CRLF will be investigated.

Native vertebrates found in cover sites within the Work Area 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-19: Wildlife Exclusion Fencing. Before starting construction, WEF will be installed where wildlife could enter the Project area. Locations of the WEF will be determined in coordination with the onsite biologist. WEF installation locations will be identified during the plans, specifications, and estimate 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.

AMM BIO-20: CRLF 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 Work Area 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 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 qualified 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 site 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 1 working day of any CRLF discovery in the Project area.

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?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

A Section 106 Screening Memorandum was prepared by the Caltrans Office of Cultural Resource Studies (Caltrans 2022e). The investigation was performed 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.

There were no identified sacred sites in the Project area, therefore coordination with Native American tribes and individuals was not conducted.

Caltrans' PQS staff conducted a literature review of the Caltrans Cultural Resource Database, as-built plans, aerial photographs, and maps. There are no resources within the Project area that are eligible for the National Register of Historic Places. No further cultural resources study was required for the built environment resources.

Based on the literature review and the archaeological survey, Caltrans determined that the Project has no potential to affect cultural resources.

a, b, c) <u>No Impact</u>

The proposed Project is in a heavily developed commercial area. The underlying soils are mapped as artificial fill placed to reclaim the historic marshland. The location is of low sensitivity for buried archaeological deposits.

The proposed Project has no potential to affect cultural resources. Implementation of Project features CULT-1 and CULT-2 would reduce potential impacts to undiscovered cultural resources.

Project Feature

Caltrans would incorporate its standard measures into the Project to offset or avoid potential impacts to cultural resources. These Project features include those described in the following paragraphs.

Project Feature CULT-1: Discovery of Cultural Resources. If previously unidentified cultural resources are unearthed during construction, work would be halted in that area until a qualified archaeologist can assess the significance of the discovery.

Project Feature CULT-2: Discovery of Human Remains. If remains are discovered during dredging activities, all work within 60 feet of the discovery would halt and Caltrans Cultural Resource Studies Office would be called. Caltrans Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, would contact the County Coroner, per Public Resources Code, Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the coroner determines the remains to be Native American, then the coroner would contact the Native American Heritage Commission, which would assign a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of Public Resources Code, Section 5097.98 would be followed as applicable.

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?	Less than Significant
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

An *Energy Analysis Memo* (Caltrans 2022d) was completed for the Project. This section summarizes the findings of this report.

a) Less than Significant Impact

Activities that consume energy also generate byproducts. Greenhouse gases (GHGs) are the most closely studied byproducts of energy consumption because they are linked to climate change (also refer to Section 3.3.8, Greenhouse Gas Emissions). The Road Construction Emissions Tool Model (RCEM), version 9.0, was used to estimate diesel and gasoline fuel consumption that generates from construction equipment and vehicles. A summary of energy usage in terms of fuel consumption is shown in Table 3-3.

Table 3-3. Construction Equipment and Vehicle Fuel Consumption

Diesel (gallons)	Gasoline* (gallons)
85,881.95	4,701.87

*Gasoline fuel consumption was adjusted to account for the Safer Affordable Fuel-Efficient (SAFE) Rule Part One and Final SAFE Rule.

The Project is not a congestion relief project. Construction activities would be short term and would not increase highway capacity or otherwise significantly alter long-term vehicular circulation that could affect energy use. During construction, BMPs, as described under Project Feature Energy-1, would be implemented for energy efficiency of construction equipment. During Project operation, energy consumption would be limited to routine maintenance. The impact would be less than significant.

b) No Impact

The Project has the potential to reduce vehicle miles traveled (VMTs) by improving east-west access over U.S. 101 for pedestrians and bicyclists, which could reduce emissions and energy consumption. Traffic volumes and types of vehicles using the highway would not change as result of the Project. Therefore, the proposed Project would not conflict with the regional/statewide goals on climate change, air quality, and petroleum reduction.

The Project would not conflict with a state or local plan for renewable energy or energy efficiency. There would be no impact.

Project Feature

Caltrans would incorporate a standard measure into the Project to offset or avoid potential impacts to energy. This feature is described in the following paragraph.

Project Feature Energy-1: Minimize Energy Consumption from Construction Activities. The use of construction BMPs would minimize energy consumption from construction activities, including, but not limited to: (1) limit idling of vehicles and equipment; (2) use solar power as a power source, where feasible; (3) ensure regular maintenance of construction vehicles and equipment; and (4) if feasible, recycle nonhazardous waste and excess materials to reduce disposal offsite.

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.	No Impact
(ii) Strong seismic ground shaking?	No Impact
(iii) Seismic-related ground failure, including liquefaction?	No Impact
(iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	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?	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?	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?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

CEQA Significance Determinations for Geology and Soils

The entire Project area lies on engineered (artificial) fill overlying marine or marsh deposits (Caltrans 2022b).

a(i) – (iv) <u>No Impact</u>

The Project would be subjected to strong ground shaking from nearby faults; however, the potential for fault rupture does not exist at the Project site. The Project does not directly or indirectly increase the potential for surface rupture, or strong ground shaking, or expose the public to increased risk of loss, injury, or death.

Soils may be subject to liquefaction during a strong seismic event; however, Project elements would not further add to the hazard. The Project would not expose the public to hazards from landslides or erodible soils. Soft soils (clay or silty clay soils) are found at the site. Soils are not expansive or collapsible, and the Project does not propose septic systems.

The Project is not located on a geologic unit or soil that is unstable. Therefore, the Project would not increase the potential risk of loss, injury, or death resulting from seismically related liquefaction. There would be no impact.

The Project would not affect geologic or native soil conditions and would not disturb the native subsurface because the Project would be located on previously disturbed ground. There would be no additional impacts to the public from earthquakes, landslides, liquefaction, or other geologic hazards.

b) Less than Significant Impact

The Project would require soil disturbance, which could result in erosion. With Caltrans construction BMPs, outlined in AMMs Water Quality WQ-1 through WQ-4, discussed under Hydrology and Water Quality, the Project would not result in substantial erosion or loss of topsoil and the impact would be less than significant.

c, d, f) No Impact

There are no sensitive geologic, paleontological, or mineral resources in the Project limits. No additional impacts to the public from earthquakes, landslides, liquefaction, or other geologic hazards would result from the Project. Project excavation would be in engineered fill over marsh deposits. These units are not fossil bearing and would not require monitoring during excavation. Therefore, no impact would occur.

e) No Impact

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

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?	Less than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

CEQA Significance Determinations for Greenhouse Gas Emissions

Greenhouse Gas Emissions (GHGs) associated with the Project were analyzed within the *Air Quality Report* (Caltrans 2022e). This section summarizes the findings of the report.

a) Less than Significant Impact

GHG emissions resulting from construction activities of the Project would be short term and, therefore, would not result in a long-term impact on the environment. Construction-generated GHG includes emissions resulting from material processing, onsite construction equipment, workers commuting to and from the Project site, and traffic delays from construction. The GHG emissions would be produced at different levels throughout the Project, depending on the activities involved at various phases of construction.

The latest version of Caltrans Emission Factor (CT-EMFAC), CT-EMFAC2017, was used to estimate emissions of GHGs associated with different alternatives for the Project. GHG emissions were estimated based on GHG emission factors from CT-EMFAC and the annual vehicle miles traveled (VMT) information of each alternative. Carbon dioxide (CO_2) emissions is the single most important GHG pollutant because of its abundance when compared with other vehicle-emitted GHG, including methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbon, and black carbon. CO2, N2O, and CH4 emissions were included in the emissions calculation.

Table 3-4 summarizes the operational-related GHG emissions associated with the different alternatives for the Project, including the total carbon dioxide equivalent (CO_2e) emission. Frequency and occurrence of GHG emissions would be reduced through Project Feature GHG-1.

Table 3-4. Alternatives Comparison: Operational-related GHG Emissions

Alternative/Analysis Year	GHG Emissions (MTCO2e per year)	Annual Vehicle Miles Traveled[1]
Existing Conditions, 2022	5,745.7	17,958,725
Open to Traffic Year, 2026		
No-Build Alternative	5,366.0	18,320,791
Build Alternative 2A	5,369.0	18,333,967
Build Alternative 2B	5,371.9	18,339,484
Build Alternative 3A/3B	5,380.0	18,370,558
Build Alternative 4A	5,405.6	18,457,558
Build Alternative 4B	5425.7	18,524,276
Design Year 2046		
No-Build Alternative	5,127.1	20,242,512
Build Alternative 2A	5,129.7	20,257,145
Build Alternative 2B	5,132.2	20,263,235
Build Alternative 3A/3B	5,141.1	20,297,522
Build Alternative 4A	5,166.1	20,393,572
Build Alternative 4B	5183.0	20,467,302
Horizon Year 2050		
No-Build Alternative	5,214.7	20,650,425
Build Alternative 2A	5,219.9	20,665,349
Build Alternative 2B	5,219.9	20,671,543
Build Alternative 3A/3B	5,228.8	20,706,590
Build Alternative 4A	5,254.1	20,804,638
Build Alternative 4B	5272.6	20,879,854

[1] Annual VMT values derived from daily VMT values multiplied by 347, per CARB methodology (CARB 2008).

Because the CT-EMFAC modeling did not consider the congestion relief by the Project's build alternatives, potential GHG reductions benefits due to the Project were not reflected in the emissions in Table 3-4. Actual GHG emissions from the Build Alternatives may be lower than the No-Build Alternative because of the improved travel speed and the reduced vehicle idling time from ramp improvements as well as improvements in bicycle and pedestrian infrastructure across U.S. 101. In addition, with innovations such as longer pavement lives, improved traffic management plans,

and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

b) No Impact

The Project is included in the Metropolitan Transportation Commission's Plan Bay Area 2050 and the 2021 Transportation Improvement Program (TIP). The associated air quality conformity analysis verifies that the Plan Bay Area 2050 and the 2021 TIP conform with the latest U.S. Environmental Protection Agency transportation conformity regulations and the relevant State Implementation Plan for attaining National Ambient Air Quality Standards and California Ambient Air Quality Standards. Therefore, the Project has no potential to interfere with air quality plans that are designed to reduce cumulative air quality impacts in the Project study area.

Project Feature

Caltrans would incorporate a standard measure into the Project to offset or avoid potential impacts to GHG's. This feature is described in the following paragraph.

Project Feature GHG-1: Control Measures for Greenhouse Gases.
Implementation of Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the contract and the use of construction BMPs, would result in reducing GHG emissions from construction activities. These BMPs would include, but not be limited to: (1) ensure regular maintenance of construction vehicle and equipment; (2) limit idling of vehicles and equipment onsite; and (3) recycle nonhazardous waste and excess material if practicable.

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?	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
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?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	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?	No Impact

CEQA Significance Determinations for Hazards and Hazardous Materials

There is the potential for encountering hazardous materials during the construction stage of the Project (Caltrans 2021c). Limited testing may need to be conducted during later Project phases, including surveys for asbestos-containing material (ACM) and lead-containing paint (LCP) that may be present on the bridge structure. In addition, if required by the scope of the Project, Caltrans Office of Hazardous Waste will conduct a site investigation to characterize soil for contaminants, primarily aerially deposited lead, during the Project design phase. The results of these studies will dictate the special provisions required for the safe handling of hazardous materials.

a, b) Less than Significant Impact

The Project would not create a significant hazard to the public related to the routine transport, use, or disposal of hazardous materials. Also, the Project would not 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.

Caltrans standard specifications BMPs would be implemented to prevent spills or leaks from construction equipment, as well as from storage of materials, such as fuels, lubricants, and solvents. All aspects of the Project associated with removal, storage, transportation, and disposal would be in strict accordance with the appropriate regulations of the California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste. The impact would be less than significant.

c) No Impact

The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school because there are no existing or proposed schools within 0.25 mile of the Project; therefore, there would be no impact.

d) No Impact

The Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no impact.

e) No Impact

The Project is not located within an airport land use plan or within two miles of a public airport or public use airport. There would be no impact.

f) Less than Significant Impact

The Project would minimally interfere with any emergency response or evacuation plan. Potential traffic delays would result from construction activities. During daytime construction, one-way traffic control and one lane closure would be required. Nighttime work to construct the portion of the Project that abuts or spans U.S. 101 would include closure of U.S. 101 within the Project area, and detours to side streets.

Prior to construction, a traffic management plan (TMP) (AMM Transportation and Traffic TRANS-1 in the Transportation and Traffic section) would be developed to control traffic, minimize traffic delays, and provide alternative routes. Emergency response times are not anticipated to change during construction because the TMP would provide priority to emergency vehicles during one-way traffic control and

proposed closures. The TMP would provide instructions for emergency response or evacuation in an emergency. In addition, the Project would not conflict with any other emergency response or evacuation plan. The impact would be less than significant.

g) No Impact

The Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Caltrans proposes to upgrade existing infrastructure at the U.S. 101, Tamalpais Drive interchange, and would not have occupants or require installing associated infrastructure that would exacerbate fire risk or expose people or structures to risks. There would be no impact.

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?	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;	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No 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	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

CEQA Significance Determinations for Hydrology and Water Quality

Caltrans completed the following hydrology and water quality technical studies for the Project, the *Location Hydraulic Study/Floodplain Analysis* (Caltrans 2021d), and *Water Quality Study* (Caltrans 2021e). This section summarizes the findings of those reviews.

The Project site is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (Region 2 SFB RWQCB); thus, the RWQCB is responsible for the enforcement of State and Federal Water Quality Regulations for the Project site. The direct receiving water body is San Francisco Bay Lower. The Project is within the San Rafael watershed area.

a) Less than Significant Impact

The proposed Project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

The California State Water Resources Control Board issued a statewide Construction General Permit (GCP) for construction activities (2009-0009-Division of Water Quality [DWQ], CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ). The CGP applies to stormwater discharges from land where clearing, grading, and excavation result in a Disturbed Surface Area (DSA) of 1 acre or greater. Projects subject to the CGP require a Stormwater Pollution Prevention Plan (SWPPP) per Caltrans Standard Specification 13, "Water Pollution Control." The expected DSA would be greater than one acre; therefore, this Project's construction activities are subject to the CGP. A SWPPP would be prepared by the Contractor and approved by Caltrans to control all the potential temporary construction impacts resulting from the Project. AMMs WQ-1 Water Quality Best Management Practices, WQ-2 Design Pollution Prevention Temporary Construction BMPs, and WQ-3 Design Pollution Prevention BMPs Post Construction would reduce impacts to less than significance.

According to the initial Project design information the net new impervious surface would be greater than 1 acre. Because the new impervious surface would be more than 1 acre, post-construction stormwater treatment measures would be provided for this new impervious surface area, as described in AMM WQ-4 Post-Construction Treatment BMPs.

Section 401 of the Clean Water Act requires a water quality certification from either the SWRCB or RWQCB when a project would require a federal permit. A Section 404 permit, issued by USACE may be pursued, because work may impact potential Waters of the U.S. (Section 3.3.4 Biological Resources). If a 404 permit is pursued, and there is water work involved for the Project, a 401 water quality certification may be required.

Potential temporary impacts to existing water quality would result from active construction areas, which could lead to the release of fluids, concrete material, construction debris, sediment, and litter beyond the perimeter of the Project site. Implementation of AMMs WQ-1 and WQ-2 would be used for sediment control and material management. The anticipated sources for potential, temporary impacts to the water quality during construction may include, but are not limited, to the following:

- Debris and sediments from excavation and demolition
- Removing the existing pedestrian loop ramp and building the new pedestrian ramp

- Oil and grease from vehicles and construction equipment
- Concrete waste during concrete work
- Chemicals used for equipment and operations
- Painting or restriping
- Trash generation

The Project area is a significant trash concentration area, which triggers the requirement of trash capture devices, as described in AMM WQ-5, permanent trash capture devices will be considered during the design phase of the Project.

Potential, long-term impacts to water quality resulting from the Project are the deposition and transport of sediment and vehicular-related pollutants, such as oil, wearing of brake pads, and litter from motorists; and the removal of vegetation resulting from earthwork from locations, such as contractor staging and stockpile areas, that create DSAs. If not stabilized prior to completion of the construction phase, DSAs could discharge sediment post-construction. Implementation of AMM WQ-3, Design Pollution BMPs Post Construction, would reduce the potential for impacts to water quality following construction.

With implementation of AMMs WQ-1 through WQ-5, the Project would not substantially degrade surface water quality and the impact would be less than significant.

b) No Impact

The Project would have no effect to groundwater supplies or groundwater recharge areas in the Project vicinity. There would be no impact.

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

The Project would not substantially alter the existing drainage pattern of the Project site and would not result in substantial erosion or siltation. The Project would not result in an increase of surface runoff, create runoff that would exceed existing storm drain systems, or create substantial additional sources of polluted runoff. The Project would not impede or redirect flood flows. There would be no impact.

d) No Impact

No floodplain impacts from the Project are expected. While the Project is within the Federal Emergency Management Agency (FEMA) Base Floodplain Zone AE, with a Base Flood Elevation of 10 feet, the area has a one-percent chance of equaling or exceeding surface water elevation due to flooding in any given year. The Project would not alter existing terrain or existing drainage patterns; therefore, the Project would not increase the risk of flooding or damage to residences, buildings, or crops. The Project would not impact natural and beneficial floodplain values or support incompatible floodplain development. The Project would not impact the floodplain; therefore, no measures to minimize floodplain impacts are required.

The proposed Project is not in seiche or tsunami zones. There would be no impact.

e) No Impact

The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

Avoidance and Minimization Measure

Caltrans would incorporate the below AMMs into the Project to offset or avoid potential impacts to hydrology and water quality.

AMM WQ-1: Water Quality Best Management Practices. This Project will require a 401 Permit from the San Francisco Bay RWQCB. It is anticipated that the RWQCB permit will require a SWPPP, which will provide guidance on erosion control BMPs to be implemented to minimize wind- or water-related erosion. These BMPs will also be implemented via language in the *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017), which provides guidance for including provisions in all construction contracts to protect sensitive areas, and prevent and minimize stormwater and non-stormwater discharges. BMPs will include wind erosion controls (such as temporary covers, hydraulic mulch, hydroseeding and wood mulching), and drainage inlet protection.

AMM WQ-2: Design Pollution Prevention Temporary Construction BMPs. The BMPs recommended for potential temporary construction impacts resulting from the project are: (1) job site management (2) sediment control (3) waste management and materials pollution control, (4) non-storm water management, (5) stockpile

management, (6) tracking controls, (7) wind erosion controls, and (7) drainage inlet protection.

AMM WQ-3: Design Pollution Prevention BMPs Post Construction: Design pollution prevention BMPs will be applied for post-construction erosion control since the Project involves a DSA within the Project limits. The BMPs will control post-construction impacts resulting from the Project.

AMM WQ-4: Post-Construction Treatment BMPs. Because new impervious surface is more than 1-acre, post-construction stormwater treatment measures need to be provided for the new impervious surface. Furthermore, because net new impervious surface is more than 1 acre, hydromodification is required to control all the post-construction impacts resulting from the Project.

AMM WQ-5: Full Trash Capture Devices. The Project area is located within a significant trash concentration area, therefore permanent trash capture devices will be considered during the design phase of the Project.

3.3.11 Land Use and Planning

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	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?	No Impact

CEQA Significance Determinations for Land Use and Planning

The Project area encompasses 20.39 acres, 15.61 acres of which include the highway, on/off-ramps and local roadways. The Project area consists of the vegetated and developed areas north and south of Tamalpais Drive and east and west of U.S. 101 between all freeway on/off-ramps.

According to the Corte Madera General Plan (Town of Corte Madera 2009) the Project is located within the San Clemente/Paradise Community Plan Study Area. Zoning districts surrounding the Project area consist of regional shopping, highway commercial and commercial service. The City of Corte Madera has identified the San Clemente/Paradise Community Plan Study Area as an area to encourage mixed-use development and linking it to nearby commercial districts and residential neighborhoods. “Physically, future development in this area would largely occur as infill (renovations of currently-developed sites), as well as improvements such as pedestrian-oriented plazas, walkways, and circulation spaces.” (Corte Madera General Plan, 2009).

The Project area is also within and adjacent to an area designated as Baylands Risk Zone (Town of Corte Madera 2018). “A zone that requires hazard assessment for building on bay mud, including settlement assessments” (Lacko 2018, p 21).

No changes in land use would occur from the Project in the Project vicinity.

a) <u>No Impact</u>

The Project would not physically divide an established community. The Project proposes improvements to existing bicycle and pedestrian pathways east and west of U.S. 101 at Tamalpais Drive by providing ADA upgrades. ADA-compliant infrastructure will improve access for all non-motorists traveling within the Project vicinity. There would be no impact.

b) No Impact

Consistency with State, Regional, and Local Plans and Programs

Coordination with the public and Project stakeholders (including the Transportation Agency of Marin and the Town of Corte Madera) began in 2006 and includes consideration of traffic operations, interchange design, and pedestrian and bicycle issues at and around the Project location.

Land use plans, policies, and regulations that are applicable to the Project include the Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2013 to 2040 (ABAG and MTC 2017); Marin Countywide General Plan (Marin County 2007), and the Town of Corte Madera General Plan 2009 (Corte Madera 2009). The Project's consistency with the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) Plan is discussed under Section 3.3.17, Transportation. The Project would be consistent with both the Marin County and Town of Corte Madera General Plans.

In summary, the Project would not conflict with any adopted land use plan, policy, or regulation. The Project would be consistent with the Marin County General Plan, the Town of Corte Madera General Plan and other local, regional and state policies. There would be no impacts.

3.3.12 Mineral Resources

Would the project:

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?	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?	No Impact

CEQA Significance Determinations for Mineral Resources

a-b) No Impact

The Project would not result in the loss of availability of a known mineral resource or result in the loss of availability of a locally important mineral resource recovery site because there are no documented mineral resources within the Project area (Marin County 2022). Therefore, no impacts on mineral resources would result from the Project.

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?	Less than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	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?	No Impact

CEQA Significance Determinations for Noise

A formal traffic noise study is not required for this project. A noise analysis was conducted for this Project (Caltrans 2022f) and is summarized the following findings.

As noted in the Biology section, construction noise could disturb migratory bird nesting and foraging activities. See discussion under the CEQA Environmental Checklist, Section 3.3.4, Biological Resources.

a) Less than Significant Impact

Noise and vibration associated with construction is controlled by Caltrans Standard Specification 14-8, Noise and Vibration. AMM Noise-1, Specifications for Controlling Noise and Vibration, states noise would be controlled and monitored for work activities, and noise should not exceed 86 decibels (maximum) at 50 feet from the job site between the hours of 9:00 p.m. and 6:00 a.m.

The nearest residential receptors are more than 400 feet away from the Project area. Due to the sound level drop off rate and the distance of the nearest residential receptor in proximity to where construction would occur, construction noise levels would be below 86 dBA during all construction phases. The measures listed in AMM Noise-2, Noise During Construction, would be implemented to reduce the potential for noise impacts.

The Project would not cause a permanent, substantial increase in ambient noise level above existing conditions. Construction noise would be temporary; therefore, there would be no permanent noise impact.

b) Less than Significant Impact

It is anticipated that the Project will create groundborne vibration during pile-driving activities, however these vibrations would not be excessive nor cause excessive groundborne noise levels. Increases in noise levels from construction activities would be temporary. Following construction, noise levels would not change from existing levels. Therefore, impacts would be less than significant.

c) No Impact

The Project is not within the vicinity of a private airstrip or an airport land use plan. There would be no impact.

Avoidance and Minimization Measures

Caltrans would incorporate the following AMMs into the Project to offset or avoid potential impacts from noise.

AMM Noise-1: Specifications for Controlling Noise and Vibration. Noise from construction activities is not to exceed 86 A-weighted decibel Lmax at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m. per 2018 Caltrans Standard Specifications, Section 14-8.02.

AMM Noise-2: Noise Levels During Construction. The following measures would be implemented during construction to reduce noise:

- Restrict the times of overly loud construction activities to between 6:00 a.m. and 9:00 p.m. (except on holidays).
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate all stationary, noise-generating, construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors.
- Use quiet air compressors and other quiet equipment where such technology exists.
- As practicable, have construction equipment conform to Section 14-8.02, Noise Control, of the latest Caltrans Specifications.

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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

CEQA Significance Determinations for Population and Housing

a, b) No Impact

The Project would not induce substantial, unplanned, population growth either directly or indirectly because it does not increase capacity within the Project area, remove barriers to future growth, or increase population or housing growth (or increase demand for new housing, utilities, or public services). The Project would not displace existing people or housing or necessitate the construction of replacement housing elsewhere. There would be no impact 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?	No Impact
Police protection?	No Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

CEQA Significance Determinations for Public Services

a) No Impact

The proposed Project would not result in the substantial alteration of government facilities, such as fire and police protection, schools, parks, or other public facilities, in the Project area. Additionally, the proposed Project would not trigger the need for new government facilities or alter the demand for public services. There would be no impact.

Traffic delays could occur as a result of temporary closures during construction. A TMP would be prepared that would provide accommodation for police, fire, emergency, and medical services in the local area during construction (AMM TRANS-1 in the Transportation and Traffic section).

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?	Less than Significant
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR RECREATION

There are no recreational facilities within the Project area. The nearest public park is the Corte Madera Marsh State Marine Park approximately 500 feet to the east of the Project area.

a) Less than Significant

Existing recreational facilities within walking or biking distance of the Project area could experience increased use with the proposed ADA improvements, however, there is already existing pedestrian and bicyclist infrastructure that provides east-west access over U.S. 101 at the Project location. Therefore, the Project will improve the existing conditions, and poses less than significant degradation to existing public facilities within the area.

b) No Impact

The proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities. There would be no impact.

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?	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

The Project is located at the U.S. 101/Tamalpais interchange and proposes to upgrade the existing pedestrian facilities within the area, as well as access improvements to U.S. 101/Tamalpais Drive for vehicles.

The MTC, which functions as both the state-designated Regional Transportation Planning Agency and federally designated Metropolitan Planning Organization, is responsible for regional transportation planning. MTC's Plan Bay Area 2050 serves as the San Francisco Bay Area's Regional Transportation Plan and Sustainable Communities Strategy (ABAG/MTC 2021).

Local transportation planning organizations includes TAM, as the designated Congestion Management Agency and the Transportation Sales Tax Authority for Marin County. TAM is responsible for managing various transportation projects and programs in Marin County, receiving federal, state, regional, and local funds, while working closely with all 11 cities and towns and the County.

At the local community level, the City of Corte Madera provides guidance on circulation in its 2009 General Plan, and recommendations for building out pedestrian and bicyclist networks in its (Town of Corte Madera 2016).

a) No Impact

The Project is consistent with, and would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

The Project would maintain all existing roadway features and would provide upgrades to the current circulation system. Curb ramps that would be upgraded at Tamalpais Drive would be temporarily unavailable for public use during construction.

As discussed in AMM TRANS-1, a Traffic Management Plan (TMP) would be developed to minimize potential effects from construction to motorists. The TMP would include elements such as detour and haul routes, one-way traffic control, flaggers, and phasing, to reduce impacts to local residents and emergency and medical service providers. The TMP would also ensure access to businesses in the local area is maintained. Therefore, there would be no permanent impact to components of the transportation system.

b) No Impact

The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). The Project would have no permanent impact on vehicle miles traveled. Under Section 15064.3, subdivision b, transportation projects that have no impact on vehicle miles traveled should be presumed to cause no impact on transportation.

c) No Impact

The Project would not increase hazards because of a geometric design feature or inconsistent use. The Project proposes to improve existing design features by upgrading one or both of the two intersections of U.S. 101 and Tamalpais Drive. There would be no impact.

d) Less than Significant Impact

The Project would not result in inadequate emergency access. The Project could cause short-term, localized, traffic congestion and delays, resulting from temporary lane closures or detours of the U.S. 101/Tamalpais Drive interchange.

Under the TMP (AMM TRANS-1), medical and emergency vehicles would be able to continue to use routes along the Project corridor to serve fire, medical, and law enforcement purposes. Flaggers would give priority to emergency vehicles. The impact would be less than significant.

Avoidance and Minimization Measure

AMM TRANS-1: Traffic Management Plan: To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using local streets, a TMP will be developed by Caltrans and implemented throughout construction. The TMP will include public information, motorist information, incident management, construction, and alternate routes. The TMP will also include elements, such as detour and haul routes, one-way traffic control, flaggers, phasing, and use of CHP Construction Zone Enhanced Enforcement Program (COZEEP). During construction, the TMP will reduce impacts to local residents as much as feasible, enhance safety of travelers and maintain access to businesses in the local area. The TMP will also provide access for police and emergency service providers. Lane closures will be planned in coordination with Caltrans, Marin County, and the City of Corte Madera, and will include notices to emergency service providers, and the public in advance.

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	No 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.	No Impact

CEQA Significance Determinations for Tribal Cultural Resources

a-b) <u>No Impact</u>

The Project would not cause a substantial adverse change in the significance of a tribal cultural resource. No tribal cultural resources were reported in record searches associated with this Project; there would be no impact.

Project Features CULT-1 and CULT-2, discussed under Cultural Resources, would be implemented if cultural resources or human remains are discovered during Project construction.

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?	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?	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?	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?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

CEQA Significance Determinations for Utilities and Service Systems

There is an existing 16-inch high pressure Pacific Gas and Electric (PG&E) gas pipeline along U.S. 101 southbound, embedded approximately 100 feet away from the edge of the shoulder. The Project area has water meters, backflow preventers, and electrical tie-ins that serve the existing irrigation system. There are light poles on the bridge and pull boxes on the downstream side of the sidewalk near the curb ramps. Also, there are traffic lights and poles at the two intersections at each end of the bridge.

a) Less than Significant Impact

The proposed Project would not result in the construction of new or expanded utilities. Utility relocation is anticipated, and utility verification will be conducted. Caltrans will coordinate with appropriate utility providers during the design phase of the Project; the impact would be less than significant.

b, c, d, e) No Impact

The proposed Project would not generate a demand for potable water supplies or the services of a wastewater treatment provider. Therefore, there would be no impact.

The proposed Project would not result in any substantial demands for solid waste disposal and would comply with federal, state, and local statutes regarding the disposal of solid waste. Implementation of Project Features UTI-1 and UTI-2 would require the proper disposal of construction trash. There would be no impact.

Project Features

Caltrans would incorporate its standard measures into the Project to offset or avoid potential impacts to utilities and service systems. These features include those described in the following paragraphs.

Project Feature UTI-1: Trash Management. All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and SFB RWQCB Cease and Desist Order.

Project Feature UTI-2: Treated Wood Waste. Wood removed from metal beam guardrails would be considered treated wood waste and be disposed of by the contractor pursuant to Caltrans standard specifications.

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?	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?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

CEQA Significance Determinations for Wildfire

The Project is located within a Local Responsibility Areas for wildfire prevention and suppression (CalFire 2007).

a) Less than Significant Impact

The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. A TMP (AMM TRANS-1 in the Transportation and Traffic section) will be developed during later Project phases that identifies traffic diversion, staging, and alternative routes. Emergency response times are not anticipated to change during construction because the TMP will provide measures to ensure priority for emergency vehicles during one-way traffic control. The TMP also provides instructions for response and evacuation in an emergency. Additionally, the Project would not conflict with any other emergency response or evacuation plan. The impact would be less than significant.

b, c, d) No Impact

The Project would not exacerbate wildfire risks, require the installation or maintenance of infrastructure that may exacerbate wildfire risk, or expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Caltrans proposes to improve existing transportation infrastructure; therefore, it does not involve occupation or habitable structures, and does not include the installation of associated infrastructure that would exacerbate wildfire risk. There would be no impact.

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

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less than Significant Impact

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 has the potential to impact a minor amount of potentially jurisdictional aquatic resources (3.3.4 Biological Resources). AMMs and BMPS will be implemented to avoid and/or minimize impacts on aquatic features. Coordination with the appropriate regulatory agencies will also be conducted in the later stages of the Project.

During construction the Project may utilize pile driving to install ADA infrastructure and ramp improvements. Noise levels associated with pile driving (approximately 80 decibels or greater) could disrupt specials status rail species, within or adjacent to the Project area, from their normal behavior. AMMs BIO-16-17 include measures to avoid and/or minimize potential impacts to these special-status species. Additional coordination with USFWS will also be conducted for the Project to ensure that all appropriate measures are being utilized to avoid harm of the species.

The Project would also result in other temporary, minor, and construction-related impacts. Project Features and AMMs (Appendix B), would reduce potentially significant impacts to less than significant levels.

b) Less than Significant Impact

The Project involves replacement and maintenance of existing infrastructure on the U.S. 101/Tamalpais Drive interchange. Current or future SHOPP projects, located on U.S. 101 in the Project vicinity, are listed in Table 3-5.

Table 3-5. SHOPP Program Projects along U.S. 101 in the Project Vicinity

Project Name	Location	Characteristics	Status
Ramp Metering	U.S. 101 from PMs 0.0 to 9.0	Install ramp metering and traffic operations (TOS) elements in/near Sausalito, Mill Valley, Corte Madera, Larkspur and Marin City from north of the Golden Gate Bridge to 0.3 miles north of Sir Francis Drake Boulevard	In Construction
Marin 101 Storm Damage Regrade Slope	U.S. 101 from PMs 6.1 to 6.3	In Corte Madera, from 0.4 mile to 0.6 mile north of Route 131 (Tiburon Boulevard). Restore slope, regrade unlined ditch, and install erosion control measures.	Under Environmental Review Phase
CAPM	U.S. 101 from PMs 8.0 to 15.3	In and near Corte Madera, Larkspur, and San Rafael, from north of Nellen Avenue Undercrossing to south of Miller Creek Road. Rehabilitate pavement and drainage systems, upgrade guardrail, and upgrade facilities to Americans with Disabilities Act (ADA) standards.	Under Environmental Review Phase
Corte Madera Creek Bridge	U.S. 101 PM 8.5	In Larkspur, at Corte Madera Creek Bridge No. 27-0008K. Patch deck spalls, replace joint seal, treat bridge deck with methacrylate and overlay with polyester concrete, place galvanic anode jacket system around columns, and build up bridge approaches	Environmental Review Phase slated to begin October 2022.
Stormwater Mitigation	U.S. 101 at PM 10.1	Repair sinking pavement and drainage system in San Rafael, at the route 101/580 Interchange	In Construction
N/S Greenway Gap Closure Project	U.S. 101 PMs 8.2 to 8.7	Multimodal improvements at southbound and northbound 101, including construction of multi-use bike path from Tamalpais Dr. Interchange in Corte Madera to Sir Francis Drake Boulevard in Larkspur	In Construction

In analyzing the Project's potential cumulative environmental effects, the analysis determines which resources would be significantly impacted by the Project and whether there could be a detrimental condition or deterioration in health of a resource within the context of impacts from past, present, and other reasonably foreseeable future actions. The analysis determines whether, collectively, the Project and the foreseeable condition combine to result in a cumulative impact.

The Project involves maintenance and upgrades to existing infrastructure within a transportation corridor. The Project would primarily occur within the Caltrans right of way with potential use of two temporary construction easements (TCEs) located at Casa Buena Drive and northwest of the southbound off-ramp for U.S. 101. The Project would not convert lands to new or different uses, increase roadway capacity, induce growth, or otherwise change land use patterns. The Project would not result in long-term, adverse environmental effects, and so would not contribute to cumulative environmental impacts. The analysis presented in this IS/ND identifies temporary construction-related impacts on aesthetics, air quality, biological resources, energy, geology/soils, GHG emissions, hazards/hazardous materials, hydrology/water quality, noise, transportation/traffic, utilities/service systems, and wildfire. These impacts are anticipated to be minorly incremental in nature and not cumulatively significant when considering the larger transportation network and overall region.

Other planned highway improvement projects along U.S. 101 (Table 3-5) are anticipated to occur within a similar timeframe. These projects could interact and contribute to a need to develop a comprehensive traffic management plan. Caltrans routinely coordinates with regional transportation managers and local agencies to minimize impacts in the region resulting from construction of multiple planned projects. The short duration and limited scope of this Project would not contribute to substantial cumulative environmental impacts; and Project-related impacts to resources would be reduced with the proper implementation of Project features and AMMs. Therefore, the impact would be less than significant.

c) Less than Significant Impact

This Project would not adversely affect human beings either directly or indirectly. Project impacts are anticipated to be minor and result mostly from construction-related delays and traffic management. Intermittent night work is anticipated to occur. Daytime work would occur throughout the proposed Project area with the potential to impact residences and businesses in proximity to the Project area; however,

implementation of Project features and AMMs would address dust-, noise-, and traffic-related impacts. Temporary construction-related activities would result in less than significant environmental impacts to human beings.

Chapter 4 Comments and Coordination

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

4.1 Community Outreach

The document, maps, and Project information are available for review and download at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs. Additionally, the document will be made available at the Corte Madera Library, 707 Meadowsweet Dr, and the Larkspur Library, 400 Magnolia Ave. The deadline for submission of comments on the IS/ND is August 22, 2022.

A community workshop for the Project is tentatively planned early August 2022 and will precede a Town of Corte Madera council meeting scheduled for August 16, 2022.

4.2 Consultation and Coordination with Public Agencies

Consultation with agencies occurred during the environmental evaluation process. A list of coordination activities and contacts is provided in Table 4-1.

Table 4-1. Agency Coordination Meetings

Organization(s)	Date	Topic
Transportation Authority of Marin	Began 2006 through ongoing	Collaboration for addressing the traffic operations, interchange design, pedestrian and bicycle issues at Project location
City of Corte Madera	Began 2006 through ongoing	Collaboration for addressing the traffic operations, interchange design, pedestrian and bicycle issues at Project location
U.S. Fish and Wildlife Service	June 1, 2022	Meeting to discuss the Project and potential impacts to federally listed species

Chapter 5 List of Preparers

The primary people responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Melanie Brent	Deputy District Director, Environmental Planning and Engineering
Caltrans	Scott Williams	Chief, Office of Environmental Analysis
Caltrans	Prakash Sivagnanasundaram	Project Management – North (Marin)
Caltrans	Helen Blackmore	Branch Chief, Architectural History
Caltrans	Jessica Thaggard	Branch Chief, Office of Biological Sciences and Permits
Caltrans	Stephen Haas	Design Senior
Caltrans	Ghulam Popal	Design Senior
Caltrans	Emarnan Pongpairoj	Project Engineer, Design
Caltrans	Chris Else	Landscape Associate
Caltrans	Diana Pink	Landscape Associate
Caltrans	Joaquin Pedrin	Branch Chief, Office of Landscape Architecture
Caltrans	Arnica MacCarthy	Branch Chief, Office of Environmental Analysis
Caltrans	Elizabeth Nagle	Environmental Scientist
Caltrans	Wilfung Martono	Branch Chief, Senior Transportation Engineer, Stormwater Design D
Caltrans	Mark Morancy	District Branch Chief, Office of Hydraulic Engineering
Caltrans	Chris Risden	Branch Chief, Geology Services Branch B
Caltrans	Kathryn Rose	Branch Chief, Archaeology
Caltrans	Shilpa Mareddy	Branch Chief, Air Quality and Noise
Caltrans	Marisol Marin	Hazardous Waste Associate
Caltrans	Mojgan Oosoli	Branch Chief, Stormwater Design
Caltrans	Alicia Sanhueza	Associate Environmental Planner, Architectural History
Caltrans	Chris Risden	Branch Chief, Office of Geotechnical Design
Caltrans	Kathryn Rose	Senior Environmental Planner, Office of Cultural Resources
Caltrans	Alvin Rosa-Figueroa	Environmental Planner, Office of Cultural Resources

Organization	Name	Role
Caltrans	Jessica Thaggard	Biologist, Biological Sciences and Permits
Caltrans	Ganga Tripathi	Water Quality Analyst
Caltrans	Kenny Tsan	Air Quality and Noise Analyst
Caltrans	Nandini Vishwanath	Branch Chief, Hazardous Waste
Jacobs	Erika Sawyer	Project Manager
Jacobs	Scott Lindemann	Biologist
Jacobs	Sam Schoevaars	Environmental Planner

Chapter 6 Distribution List

The Initial Study with proposed Negative Declaration will be circulated July 7, 2022, to the following agencies and government officials.

Agencies

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

State Water Resources Control Board

San Francisco Bay Regional Water Quality Control Board

California Department of Fish and Wildlife

California Department of Parks and Recreation

Bay Area Air Quality Management District

Governor's Office of Planning and Research

Transportation Authority of Marin

Town of Corte Madera Public Works

Elected Officials

Senator Dianne Feinstein

Senator Alex Padilla

Senator Mike McGuire

Assembly Member Marc Levine

Supervisor Dennis Rodoni

Mayor Fred Casissa, Town of Corte Madera

Vice Mayor Charles Lee, Town of Corte Madera

Councilmember Eli Beckman, Town of Corte Madera

Councilmember Leila Mongan, Town of Corte Madera

Councilmember Bob Ravasio, Town of Corte Madera

Appendix A Title VI Policy Statement

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Making Conservation a California Way of Life.

September 2021

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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 nondiscriminatory 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) 324-8379 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 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

Appendix B Summary of Project Features and Avoidance and Minimization Measures

Project Features

Project Feature AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

Project Feature BIO-1: Documentation at Project Site. A permit compliance binder would be maintained at the construction site at all times and presented to resource agency (USACE, USFWS, Regional Water Quality Control Board [RWQCB] and/or CDFW) personnel upon request. The permit compliance binder would include a copy of all original permits and agreements, and any extensions and amendments to the permits and agreements.

Project Feature BIO-2: Work According to Documents. Except as they are contradicted by measures within the permits and agreements, all work would be conducted in conformance with the Project description and the AMMs.

Project Feature BIO-3: Worker Environmental Awareness Training. Prior to the start of construction, a biological monitor would 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 would receive the same training before beginning work on site. Upon completion of the education program, employees would 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, environmentally sensitive areas (ESAs) within the Project site, and notes key avoidance measures, as well as employee guidance would be given to each person who completes the training program. These forms would be made available to the resource agencies upon request.

Project Feature BIO-4: Mark Environmentally Sensitive Areas. Before construction begins, ESAs would be clearly delineated using high-visibility orange fencing, flagging, or similar markings to delineate sensitive habitats. The ESA marking would 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 would depict all locations where ESA markings would be installed and how the markings would be installed. The bid solicitation package special provisions would 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 would be maintained in good repair throughout the Project as needed.

Project Feature BIO-5: Nesting Bird Surveys. If Project activities occur between February 1 and September 30, then a pre-construction survey(s) would be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer would be established, and the nest would be monitored for compliance with the MBTA and California Fish and Game Code (FGC) 3503.

Project Feature BIO-6: Active Nest Buffers. If an active bird nest is found during construction activities, then the following ESA buffers would be established: if an active raptor nest is observed, a 300-foot-wide ESA buffer would be implemented to avoid impacting the young until they have fledged; if an active nest of non-raptor migratory birds is observed, a 50-foot-wide ESA buffer would be implemented to protect the young until they have fledged, or as otherwise determined through consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California FGC 3503.

Project Feature BIO-7: Stormwater Best Management Practices. Water pollution control and erosion control best management practices (BMPs) will be developed and implemented to minimize wind- or water-related erosion. BMPs will follow the requirements of the RWQCB and standards outlined in Construction Site BMPs Manual (Caltrans 2017). At a minimum, protective measures will include the following:

a. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

b. Maintaining equipment to prevent vehicles from leaking fluids such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils, solvents, etc. will be

stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats.

c. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

d. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts, located at least 50 feet from watercourses.

e. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

f. Using water trucks and dust palliatives to control dust in unvegetated areas and covering of temporary stockpiles when weather conditions require.

g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls or straw wattles along toes of slopes or along edges of designated staging areas, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds

Project Feature BIO-8: Construction Site Management Practices. The following site restrictions would be implemented to avoid or minimize potential impacts on sensitive biological resources:

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

b. Locate construction access, staging, storage, and parking areas within the Caltrans right of way and outside of any designated ESA to the extent practicable. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Clearly mark routes and boundaries of roadwork before initiating construction.

c. Certify, to the maximum extent practicable, borrow material is non-toxic and weed free.

d. Enclose food and food-related trash items in sealed trash containers and remove them from the site at the end of each day.

e. Prohibit pets from entering the Project area during construction.

f. Prohibit firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

Project Feature BIO-9: Invasive Weed Control. To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor would be required to contain the plant material associated with these noxious weeds and dispose of the material in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would 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 area would be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

If work occurs in sensitive habitats, vehicles and equipment would be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

Project Feature BIO-10: Vegetation and Tree Removal. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently affected or excavated. This will allow plants that reproduce vegetatively to resprout after construction.

Project Feature BIO-11: Restore Disturbed Areas. Temporarily disturbed areas would be restored to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native grasses to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted, based on the local species composition.

Project Feature BIO-12: Bat Protection. A habitat assessment would be conducted for potentially suitable bat roosting habitat prior to construction activities. If the habitat assessment reveals any structures are suitable roosting habitat for bats, then the appropriate exclusionary measures would be implemented prior to construction during the period between March 1 and April 15, or August 31 and October 15. Potential avoidance may include exclusionary blocking or filling potential cavities with foam, visual monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting would not be used.

Bats would not be disturbed without specific notice to, and consultation with, CDFW.

Project Feature BIO-13: Prevent Inadvertent Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep would 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 would be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried.

Project Feature BIO-14: Night Lighting. Some nighttime work is anticipated for this Project. For unavoidable nighttime work, all lighting would be shielded and directed downwards towards the active construction area to avoid exposing nocturnal wildlife to excessive glare.

Project Feature CULT-1: Discovery of Cultural Resources. If previously unidentified cultural resources are unearthed during construction, work would be halted in that area until a qualified archaeologist can assess the significance of the discovery.

Project Feature CULT-2: Discovery of Human Remains. If remains are discovered during dredging activities, all work within 60 feet of the discovery would halt and Caltrans Cultural Resource Studies Office would be called. Caltrans Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, would contact the County Coroner, per Public Resources Code, Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the coroner determines the remains to be Native American, then the coroner would contact the Native American Heritage Commission, which would assign a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on

treatment and reburial of the remains. Further provisions of Public Resources Code, Section 5097.98 would be followed as applicable.

Project Feature Energy-1: Minimize Energy Consumption from Construction Activities. The use of construction BMPs would minimize energy consumption from construction activities, including, but not limited to: (1) limit idling of vehicles and equipment; (2) use solar power as a power source, where feasible; (3) ensure regular maintenance of construction vehicles and equipment; and (4) if feasible, recycle nonhazardous waste and excess materials to reduce disposal offsite.

Project Feature GHG-1: Control Measures for Greenhouse Gases. Implementation of Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the contract and the use of construction BMPs, would result in reducing GHG emissions from construction activities. These BMPs would include, but not be limited to: (1) ensure regular maintenance of construction vehicle and equipment; (2) limit idling of vehicles and equipment onsite; and (3) recycle nonhazardous waste and excess material if practicable.

Project Feature UTI-1: Trash Management. All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per the Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco RWQCB Cease and Desist Order.

Project Feature UTI-2: Treated Wood Waste. Wood removed from metal beam guardrails would be considered treated wood waste and be disposed of by the contractor pursuant to Caltrans standard specifications.

Avoidance and Minimization Measures

AMM AES-1: Minimize Impacts to Vegetation. To the greatest extent possible, minimize impacts to vegetation while allowing the implementation of the Project. Vegetation to remain should be protected from construction activities by temporary fencing.

AMM AES-2: Staging Areas. Staging areas should not be located where they require removal of vegetation unless deemed appropriate by the Caltrans Project biologist and the Caltrans Project landscape architect.

AMM AES-3: Storage of Construction Materials. Construction materials and equipment should be stored in screened staging areas beyond direct view of the motoring public.

AMM AES-4: Avoid Impacts to Existing Trees. Adjustments to the alignment of pathways and other features allowing damage to trees to be avoided or minimized should be explored.

AMM AES-5: Certified Arborist during Construction. A Certified Arborist should be on-site during construction to determine whether impacts to trees can be avoided and whether realized impacts necessitate that a tree be removed.

AMM AES-6: Directional Lighting. Directional lighting and/or shielding for night work should be used.

AMM AES-7: Architectural Treatment. The architectural treatment of proposed Project elements should be incorporated where appropriate. This may include coloring new concrete paving, stamping or otherwise adding decorative elements to proposed pedestrian structures, including railings, anti-graffiti coatings, and other elements as proposed during the Design phase of design by the Caltrans Office of Landscape Architecture.

AMM AES-8: Erosion Control. Apply erosion control seeding and similar measures to all areas of disturbance beyond pavement.

AMM AES-9: Follow-up Planting Requirements. Following construction, highway planting should be implemented to fully rehabilitate the landscape of the Interchange. Extensive planting will be required, and a follow-up or "child" project is likely to be required. Because mature trees will be replaced with smaller trees, some of which may not survive to maturity, they should be replaced at a ratio greater than 1:1, potentially with some of specimen size, i.e., 15-gallon or larger boxed trees.

AMM BIO-15: Rare Plant Pre-construction Survey and Rare Plant Salvage and Transplantation Plan. During the spring season prior to construction, Caltrans will conduct focused pre-construction surveys for the rare plants identified in the Project area. The extent and abundance of the rare plants will be mapped and flagged in the

field for future relocation, salvage, and transplantation. These surveys will be conducted during the season in which the rare plants are detectable and in the phenological stage of development for correct identification (typically late spring).

If a rare plant is identified within the Project area during the pre-construction survey, a rare plant transplantation plan will be prepared. The transplantation plan will be submitted to the regulatory agencies for approval prior to the beginning of construction.

AMM BIO-16: California Ridgway's Rail and California Black Rail Pre-Construction Surveys. For portions of the Project that are within 700 feet of Corte Madera Marsh (the eastern portion of the Project Footprint), if work will occur during the rail nesting season (February 1 through August 31), surveys will be conducted to determine whether the species are present. Protocol-level surveys, if required, will be conducted beginning between January 15 and February 1. A minimum of four surveys will be required. Each survey should be 2 to 3 weeks apart, and the final survey should be completed by March or mid-April to ensure that no California Ridgway's rail or California black rail are present during construction. Surveys will be completed prior to the initiation of construction, with 3 weeks remaining after completion of surveys and before Project initiation to submit results to CDFW for review. Protocol survey requirements will adhere to the most recent USFWS/CDFW protocols.

If California Ridgway's rail and/or California black rail are detected during pre-construction surveys, then Project activities will not occur within 700 feet of an identified detection (or smaller distance if approved by USFWS and CDFW) during the rail nesting season. If rail activity is detected within the 700-foot buffer, immediate consultation with USFWS and CDFW is required.

AMM BIO-17: Bat Monitoring Protocols. If a bat or bat colony is observed nesting or roosting in active construction areas at the Project area, construction activities that would imminently harm bats will stop within 150 feet of the roosting location until a qualified 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-18: Preconstruction Surveys for CRLF. Preconstruction 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 Wildlife Exclusion Fencing (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/media/revised-guidance-site-assessments-and-field-surveys-california-red-legged-frogamphibians.

Preconstruction surveys will include:

- Foot surveys will be conducted of potential frog habitat within the Work Area and accessible adjacent areas (within at least 50 feet of Work Area).
- Potential cover sites (burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil for signs of CRLF will be investigated.

Native vertebrates found in cover sites within the Work Area 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-19: Wildlife Exclusion Fencing. Before starting construction, WEF will be installed where wildlife could enter the Project area. Locations of the WEF will be determined in coordination with the onsite biologist. WEF installation locations will be identified during the plans, specifications, and estimate 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.

AMM BIO-20: CRLF 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 Work Area 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 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 qualified 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 site 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 1 working day of any CRLF discovery in the Project area.

AMM WQ-1: Water Quality Best Management Practices. This Project will require a 401 Permit from the San Francisco Bay RWQCB. It is anticipated that the RWQCB permit will require a SWPPP, which will provide guidance on erosion control BMPs to be implemented to minimize wind- or water-related erosion. These BMPs will also be implemented via language in the *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017), which provides guidance for including provisions in all construction contracts to protect sensitive areas, and prevent and minimize stormwater and non-stormwater discharges. BMPs will include wind erosion controls (such as temporary covers, hydraulic mulch, hydroseeding and wood mulching), and drainage inlet protection.

AMM WQ-2: Design Pollution Prevention Temporary Construction BMPs. The BMPs recommended for potential temporary construction impacts resulting from the

project are: (1) job site management (2) sediment control (3) waste management and materials pollution control, (4) non-storm water management, (5) stockpile management, (6) tracking controls, (7) wind erosion controls, and (7) drainage inlet protection.

AMM WQ-3: Design Pollution Prevention BMPs Post Construction: Design pollution prevention BMPs will be applied for post-construction erosion control since the Project involves DSA within Project limits. The BMPs will control post-construction impacts resulting from the Project.

AMM WQ-4: Post-Construction Treatment BMPs. Because new impervious surface is more than 1-acre, post-construction stormwater treatment measures need to be provided for the new impervious surface. Furthermore, because net new impervious surface is more than 1 acre, hydromodification is required to control all the post-construction impacts resulting from the Project.

AMM WQ-5: Full Trash Capture Devices. The Project area is located within a significant trash concentration area, therefore permanent trash capture devices will be considered during the design phase of the Project.

AMM Noise-1: Specifications for Controlling Noise and Vibration. Noise from construction activities is not to exceed 86 A-weighted decibel Lmax at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m. per 2018 Caltrans Standard Specifications, Section 14-8.02.

AMM Noise-2: Noise Levels During Construction. The following measures would be implemented during construction to reduce noise:

- Restrict the times of overly loud construction activities to between 6:00 a.m. and 9:00 p.m. (except on holidays).
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate all stationary, noise-generating, construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors.
- Use quiet air compressors and other quiet equipment where such technology exists.

- As practicable, have construction equipment conform to Section 14-8.02, Noise Control, of the latest Caltrans Specifications.

AMM TRANS-1: Traffic Management Plan: To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using local streets, a TMP will be developed by Caltrans and implemented throughout construction. The TMP will include public information, motorist information, incident management, construction, and alternate routes. The TMP will also include elements, such as detour and haul routes, one-way traffic control, flaggers, phasing, and use of CHP Construction Zone Enhanced Enforcement Program (COZEEP). During construction, the TMP will reduce impacts to local residents as much as feasible, enhance safety of travelers and maintain access to businesses in the local area. The TMP will also provide access for police and emergency service providers. Lane closures will be planned in coordination with Caltrans, Marin County, and the City of Corte Madera, and will include notices to emergency service providers, and the public in advance.

Appendix C Species Lists

Table C-1. Special-status Plants with Potential to Occur in the BSA

Common Name (Scientific name)	Federal/ State/ CNPS	Habitat	Blooming Period	Suitable Habitat Present or Absent in the BSA?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	-/-/1B.1	Freshwater marshes and swamps, riparian scrub. Wet areas, marshes, and riparian banks with other wetland species. 16 to 1,180 feet.	May to July	Present	None. Suitable habitat present, but nearest occurrence is of low confidence, more than 11 miles west of BSA.	N/A
Napa false indigo (*Amorpha californica* var. *napensis*)	-/-/1B.2	Broad-leafed upland forest (openings), chaparral, and cismontane woodland. 165 to 6,560 feet.	April to July	Present	Moderate. Marginal suitable habitat within the BSA. A confident occurrence is 2.5 miles from BSA.	N/A
Bent-flowered fiddleneck (*Amsinckia lunaris*)	-/-/1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 10 to 2,608 feet.	March to June	Present	None. Marginal suitable habitat present. However, nearest occurrence is 6.3 miles northwest of BSA.	N/A
Franciscan manzanita (*Arctostaphylos franciscana*)	FE/-/1B.1	Coastal scrub (serpentinite). 195 to 985 feet.	February to April	Absent	None. No suitable habitat within the BSA.	No effect
Mt. Tamalpais manzanita (*Arctostaphylos montana* ssp. *montana*)	-/-/1B.3	Chaparral and valley and foothill grassland on rocky and serpentinite soils. 525 to 2,495 feet.	February to Apr	Absent	None. No suitable habitat within the BSA.	N/A
Presidio manzanita (*Arctostaphylos montana* ssp. *ravenii*)	FE/SE/1B.1	Chaparral, coastal prairie, and coastal scrub. 150 to 705 feet.	February to Mar	Absent	None. No suitable habitat within the BSA.	No effect
Marin manzanita (*Arctostaphylos virgata*)	-/-/1B.2	Broad-leafed upland forest, closed-cone coniferous forest, chaparral, north coast coniferous forest. On sandstone or granitic soil. 200 to 2,300 feet.	January to March	Present	Low. Marginal suitable habitat within the BSA and occurrences 3 miles west of BSA.	N/A
Marsh sandwort (*Arenaria paludicola*)	FE/SE/1B.1	Marshes and swamps (brackish, fresh water). 10 to 560 feet.	May to August	Absent	Low. Marginal suitable habitat within the BSA, and associated species present. However, nearest occurrence is more than 6 miles south.	No effect
Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*)	-/-/1B.2	Coastal dunes, coastal salt marshes, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0 to 100 feet.	April to October	Absent	None. No suitable habitat within the BSA.	N/A
Alkali milk-vetch (*Astragalus tener* var. *tener*)	-/-/1B.2	Playas, valley and foothill grassland (adobe clay), and vernal pools. On alkaline soils. 5 to 195 feet.	March to June	Absent	None. No suitable habitat within the BSA.	N/A
Thurber's reed grass (*Calamagrostis crassiglumis*)	-/-/2B.1	Coastal scrub (mesic) and marshes and swamps (freshwater). 35 to 195 feet.	May to August	Absent	None. No suitable habitat within the BSA.	N/A
Tiburon mariposa-lily (*Calochortus tiburonensis*)	FT/ST/1B.1	Valley and foothill grassland on open, rocky, slopes in serpentine grassland. 164 to 492 feet.	March to June	Absent	None. No suitable habitat within the BSA.	No effect
Coastal bluff morning-glory (*Calystegia purpurata ssp. saxicola*)	-/-/1B.2	Coastal dunes, coastal scrub, coastal bluff scrub, north coast coniferous forest. 13 to 541 feet.	(March)April to September	Absent	None. Marginal suitable habitat within the BSA. However, nearest occurrence is more than 6 miles south along the coast.	N/A
Seaside bittercress (*Cardamine angulata*)	-/-/2B.2	North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 16 to 1,690 feet.	(January)March to July	Absent	None. Marginal suitable habitat within the BSA. However, nearest occurrence is more than 12 miles northwest and is of low confidence.	N/A
Bristly sedge (*Carex comosa*)	-/-/2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places; site below sea level is on a Delta island. -16 to 3,314 feet.	May to September	Present	None. Marginal suitable habitat within the BSA; however, nearest occurrence is an 1866 record within the city of San Francisco.	N/A

Common Name (Scientific name)	Federal/ State/ CNPS	Habitat	Blooming Period	Suitable Habitat Present or Absent in the BSA?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Lyngbye's sedge (*Carex lyngbyei*)	-/-/2B.2	Marshes and swamps (brackish or freshwater). 0 to 656 feet.	April to August	Present	None. Marginal suitable habitat within the BSA with a presumed extirpated population more than 6 miles west.	N/A
Northern meadow sedge (*Carex praticola*)	-/-/2B.2	Meadows and seeps. Moist to wet meadows. 49 to 10,499 feet.	May to July	Present	None. Marginal suitable habitat within the BSA. However, only occurrence in Marin County is on Angel Island more than 6 miles southeast of BSA.	N/A
Tiburon paintbrush (*Castilleja affinis* var. *neglecta*)	FE/ST/1B.2	Valley and foothill grassland. Rocky serpentine sites. 394 to 1,312 feet.	April to June	Absent	None. No suitable habitat within the BSA.	No effect
Nicasio ceanothus (*Ceanothus decornutus*)	-/-/1B.2	Chaparral. Maritime chaparral; serpentinite, rocky, sometimes clay. 771 to 951 feet.	March to May	Absent	None. No suitable habitat within the BSA.	N/A
Mason's ceanothus (*Ceanothus masonii*)	-/R/1B.2	Chaparral. Serpentine ridges or slopes in chaparral or transition zone. 590 to -1,509 feet.	March to April	Absent	None. No suitable habitat within the BSA.	N/A
Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp. *palustre*)	-/-/1B.2	Coastal salt marsh. Usually in coastal salt marsh with *Salicornia, Distichlis, Jaumea, Spartina*, and similar. 0 to 377 feet.	June to October	Present	Moderate. Some nearby occurrences within 1 mile of BSA. Associated species *Salicornia* and *Distichlis* are present within BSA.	N/A
San Francisco Bay spineflower (*Chorizanthe cuspidata* var. *cuspidata*)	-/-/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Closely related to *C. pungens*. Sandy soil on terraces and slopes. 7 to 1,804 feet.	April to July(August)	Absent	None. No suitable habitat within the BSA.	N/A
Franciscan thistle (*Cirsium andrewsii*)	-/-/1B.2	Coastal bluff scrub, broad-leafed upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0 to 968 feet.	March to July	Absent	None. No suitable habitat within the BSA.	N/A
Mt. Tamalpais thistle (*Cirsium hydrophilum* var. *vaseyi*)	-/-/1B.2	Broad-leafed upland forest, chaparral, meadows and seeps. Serpentine seeps and streams in chaparral and woodland. 590 to 2,001 feet.	March to July	Absent	None. No suitable habitat within the BSA.	N/A
Presidio clarkia (*Clarkia franciscana*)	FE/SE/1B.1	Coastal scrub, valley and foothill grassland. Serpentine outcrops in grassland or scrub. 66 to 1,001 feet.	May to July	Absent	None. No suitable habitat within the BSA.	No effect
Round-headed Chinese-houses (*Collinsia corymbosa*)	-/-/1B.2	Coastal dunes. 0 to 98 feet.	April to June	Absent	None. No suitable habitat within the BSA.	N/A
San Francisco collinsia (*Collinsia multicolor*)	-/-/1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 33 to 902 feet.	(February)March to May	Absent	None. No suitable habitat within the BSA.	N/A
Western leatherwood (*Dirca occidentalis*)	-/-/1B.2	Broad-leafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 66 to 2,100 feet.	January to March(April)	Present	Low. Marginal suitable habitat. However, nearest occurrences are more than 5 miles west of BSA.	N/A
Koch's cord moss (*Entosthodon kochii*)	-/-/1B.3	Cismontane woodland. 591 to 3,281 feet.	-	Absent	None. BSA below appropriate elevation range of species.	N/A
Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*)	-/-/1B.2	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravelly sites. 197 to 2,100 feet.	May to September	Absent	None. No suitable habitat within the BSA.	N/A

Common Name (Scientific name)	Federal/ State/ CNPS	Habitat	Blooming Period	Suitable Habitat Present or Absent in the BSA?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Minute pocket moss (*Fissidens pauperculus*)	-/-/1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 98 to 3,363 feet.	-	Absent	None. No suitable habitat within the BSA.	N/A
Marin checker lily (*Fritillaria lanceolata* var. *tristulis*)	-/-/1B.1	Coastal bluff scrub, coastal scrub, coastal prairie. Occurrences reported from canyons and riparian areas as well as rock outcrops; often on serpentine. 16 to 1,001 feet.	February to May	Absent	None. No suitable habitat within the BSA.	N/A
Fragrant fritillary (*Fritillaria liliacea*)	-/-/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported although usually on clay, in grassland. 10 to 1,263 feet.	February to April	Present	None. Marginal suitable habitat within the BSA. However soil type is not present within BSA, and no occurrences within 5 miles.	N/A
Blue coast gilia (*Gilia capitata* ssp. *chamissonis*)	-/-/1B.1	Coastal dunes, coastal scrub. 10 to 656 feet.	April to July	Absent	None. No suitable habitat within the BSA.	N/A
Woolly-headed gilia (*Gilia capitata* ssp. *tomentosa*)	-/-/1B.1	Coastal bluff scrub, valley and foothill grassland. Rocky outcrops on the coast, serpentine. 66 to 410 feet.	May to July	Absent	None. No suitable habitat within the BSA.	N/A
Dark-eyed gilia (*Gilia millefoliata*)	-/-/1B.2	Coastal dunes. 3 to 197 feet.	April to July	Absent	None. No suitable habitat within the BSA.	N/A
Diablo helianthella (*Helianthella castanea*)	-/-/1B.2	Broad-leafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 148 to 3,510 feet.	March to June	Present	None. No suitable habitat within BSA. Only occurrence in Marin County is from 1938 and is of low confidence around Mill Valley.	N/A
Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	-/-/1B.2	Valley and foothill grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 16 to 1,706 feet.	April to November	Present	Low. Marginal habitat occurs within the BSA. The closest occurrence is 4 miles northwest but of low confidence.	N/A
Marin western flax (*Hesperolinon congestum*)	FT/ST/1B.1	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 197 to 1,312 feet.	April to July	Absent	None. No suitable habitat within the BSA.	No effect
Water star-grass (*Heteranthera dubia*)	-/-/2B.2	Marshes and swamps. Alkaline, still or slow-moving water. Requires a pH of 7 or higher, usually in slightly eutrophic waters. 49 to 4,954 feet.	July to October	Present	None. Marginal suitable habitat, but the nearest occurrence is generalized in the city of San Francisco	N/A
Santa Cruz tarplant (*Holocarpha macradenia*)	FT/SE/1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with non-natives. 33 to 902 feet.	June to October	Present	Low. Marginal habitat within BSA, and occurrences within 3 miles of BSA but are of low confidence on Mt. Tamalpais.	No effect
Kellogg's horkelia (*Horkelia cuneata* var. *sericea*)	-/-/1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. 16 to 1,411 feet.	April to September	Absent	None. No suitable habitat within the BSA.	N/A
Point Reyes horkelia (*Horkelia marinensis*)	-/-/1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 7 to 2.543 feet.	May to September	Absent	None. No suitable habitat within the BSA.	N/A
Thin-lobed horkelia (*Horkelia tenuiloba*)	-/-/1B.2	Broad-leafed upland forest, chaparral, valley and foothill grassland. Sandy soils; mesic openings. 148 to 2,100 feet.	May to July(August)	Absent	None. No suitable habitat within the BSA.	N/A
Island tube lichen (*Hypogymnia schizidiata*)	-/-/1B.3	Chaparral, closed-cone coniferous forest. On bark and wood of hardwoods and conifers. 837 to 1,788 feet.	-	Absent	None. No suitable habitat within the BSA.	N/A
Small groundcone (*Kopsiopsis hookeri*)	-/-/2B.3	North coast coniferous forest. Open woods, shrubby places, generally on Gaultheria shallon. 394 to 4,708 feet.	April to August	Present	None. Marginal suitable habitat within the BSA but outside of suitable elevation range.	N/A

Common Name (Scientific name)	Federal/ State/ CNPS	Habitat	Blooming Period	Suitable Habitat Present or Absent in the BSA?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Beach layia (*Layia carnosa*)	FE/SE/1B.1	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 9 to 98 feet.	March to July	Absent	None. No suitable habitat within the BSA.	No effect
Rose leptosiphon (*Leptosiphon rosaceus*)	-/-/1B.1	Coastal bluff scrub. 33 to 459 feet.	April to July	Absent	None. No suitable habitat within the BSA.	N/A
San Francisco lessingia (*Lessingia germanorum*)	FE/SE/1B.1	Coastal scrub. On remnant dunes. Open sandy soils relatively free of competing plants. 9 to 509 feet.	(June)July to November	Absent	None. No suitable habitat within the BSA.	No effect
Tamalpais lessingia (*Lessingia micradenia* var. *micradenia*)	-/-/1B.2	Chaparral, valley and foothill grassland. Usually on serpentine, in serpentine grassland, or serpentine chaparral. Often on roadsides. 197 to 1,001 feet.	(June)July to October	Absent	None. No suitable habitat within the BSA.	N/A
Marsh microseris (*Microseris paludosa*)	-/-/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 9 to 2,001 feet.	April to June(July)	Present	Low. Marginal suitable habitat within BSA; nearby occurrence is within 1 mile north of BSA but of low confidence.	N/A
Marin County navarretia (*Navarretia rosulata*)	-/-/1B.2	Closed-cone coniferous forest, chaparral. Dry, open rocky places; can occur on serpentine. 607 to 2,100 feet.	May to July	Absent	None. No suitable habitat within the BSA.	N/A
White-rayed pentachaeta (*Pentachaeta bellidiflora*)	FE/SE/1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 115 to 2,001 feet.	March to May	Absent	None. No suitable habitat within the BSA. However, a nearby occurrence is within 3 miles north of BSA but is of low confidence.	No effect
Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*)	-/-/1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 16 to 2,313 feet.	March to June	Present	None. Marginal habitat, but no known occurrences in Marin County. Nearest occurrence is in the city of San Francisco.	N/A
San Francisco popcornflower (*Plagiobothrys diffusus*)	-/FE/1B.1	Valley and foothill grassland, coastal prairie. Historically from grassy slopes with marine influence. 148 to 1,181 feet.	March to June	Absent	None. No suitable habitat within the BSA.	N/A
Hairless popcornflower (*Plagiobothrys glaber*)	-/-/1A	Meadows and seeps, marshes and swamps. Coastal salt marshes and alkaline meadows. 16 to 410 feet.	March to May	Absent	None. No suitable habitat within the BSA. Thought to be extirpated from occurrence at Stinson Beach.	N/A
North Coast semaphore grass (*Pleuropogon hooverianus*)	-/FT/1B.1	Broad-leafed upland forest, meadows and seeps, north coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 148 to 3,806 feet.	April to June	Present	None. Marginal habitat present within BSA. However, BSA is below elevation range.	N/A
Oregon polemonium (*Polemonium carneum*)	-/-/2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. 49 to 5,003 feet.	April to September	Absent	None. No suitable habitat within the BSA.	N/A
Tamalpais oak (*Quercus parvula* var. *tamalpaisensis*)	-/-/1B.3	Lower montane coniferous forest, cismontane woodland. 656 to 2,100 feet.	March to April	Absent	None. No suitable habitat within the BSA.	N/A
Adobe sanicle (*Sanicula maritima*)	-/R/1B.1	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Moist clay or ultramafic soils. 49 to 705 feet.	February to May	Absent	None. Marginal habitat, but no known occurrences in Marin County. Nearest occurrence is in the city of San Francisco.	N/A
Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*)	-/-/1B.2	Marshes and swamps. Freshwater marshes near the coast. 16 to 312 feet.	April to September	Absent	None. No suitable habitat within the BSA.	N/A
Marin checkerbloom (*Sidalcea hickmanii* ssp. *viridis*)	-/-/1B.1	Chaparral. Serpentine or volcanic soils; sometimes appears after burns. 3 to 1,394 feet.	May to June	Absent	None. No suitable habitat within the BSA.	N/A

Common Name (Scientific name)	Federal/ State/ CNPS	Habitat	Blooming Period	Suitable Habitat Present or Absent in the BSA?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Scouler's catchfly (*Silene scouleri* ssp. *scouleri*)	-/-/2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 16 to 1,033 feet.	(March to May)June to August(September)	Present	None. Marginal suitable habitat within BSA. Nearest occurrence is more than 5 miles south of BSA and is of low confidence.	N/A
San Francisco campion (*Silene verecunda* ssp. *verecunda*)	-/-/1B.2	Coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, coastal prairie. Often on mudstone or shale; one site on serpentine. 98 to 2,116 feet.	(February)March to July(August)	Absent	None. No suitable habitat within the BSA, and no known occurrences in Marin County. Nearest occurrence is in the city of San Francisco.	N/A
Long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*)	-/-/1B.2	Marshes and swamps, meadows and seeps. Alkaline. 0 to 722 feet.	February to May	Present	None. Marginal habitat, but no known occurrences in Marin County. Nearest occurrence is in the city of Richmond.	N/A
Santa Cruz microseris (*Stebbinsoseris decipiens*)	-/-/1B.2	Broad-leafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 295 to 2,461 feet.	April to May	Absent	None. No suitable habitat within the BSA.	N/A
Tamalpais jewelflower (*Streptanthus batrachopus*)	-/-/1B.3	Closed-cone coniferous forest, chaparral. Talus serpentine outcrops. 1,099 to 2,198 feet.	April to July	Absent	None. No suitable habitat within the BSA.	N/A
Tiburon jewelflower (*Streptanthus glandulosus* ssp. *niger*)	FE/SE/1B.1	Valley and foothill grassland. Shallow, rocky serpentine slopes. 98 to 492 feet.	May to June	Absent	None. No suitable habitat within the BSA.	N/A
Mt. Tamalpais bristly jewelflower (*Streptanthus glandulosus* ssp. *pulchellus*)	-/-/1B.2	Chaparral, valley and foothill grassland. Serpentine slopes. 410 to 2,198 feet.	May to July(August)	Absent	None. No suitable habitat within the BSA.	N/A
Suisun Marsh aster (*Symphyotrichum lentum*)	-/-/1B.2	Marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. 0 to 49 feet.	(April)May to November	Present	None. Marginal suitable habitat within the BSA, and associated marsh species are present. However, nearest occurrence is along the coast in the city of Richmond.	N/A
Two-fork clover (*Trifolium amoenum*)	FE/-/1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently sited on roadside and eroding cliff face. 16 to 1,017 feet.	April to June	Present	Low. Marginal grassland habitat within the BSA and nearby occurrences. However, occurrence 3 miles east of BSA is of low confidence, pre-1950, and is thought to be extirpated, and occurrence 3 miles west of BSA is from 1933.	No effect
Saline clover (*Trifolium hydrophilum*)	-/-/1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 3 to 115 feet.	April to June	Present	None. Marginal suitable habitat within the BSA, but no known occurrences in Marin County. Nearest occurrence is along the coast in the city of Richmond.	N/A
San Francisco owl's-clover (*Triphysaria floribunda*)	-/-/1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. On serpentine and nonserpentine substrate (such as at Pt. Reyes). 3 to 492 feet.	April to June	Present	None. Marginal suitable habitat within BSA. However, no occurrences within 5 miles. Nearest occurrence is within the city of San Francisco.	N/A
Coastal triquetrella (*Triquetrella californica*)	-/-/1B.2	Coastal bluff scrub, coastal scrub. Grows within 30 meters of the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops. 66 to 3,855 feet.	-	Absent	None. No suitable habitat within the BSA.	N/A

Table C-2. Special-status Animal Species with Potential to Occur in the BSA

	Common Name (Scientific name)	Federal/ State/ CDFW	General Habitat and Microhabitat Combined	Suitable Habitat Present or Absent in the BSA/Salt Marsh Study Area?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Crustaceans	California freshwater shrimp (*Syncaris pacifica*)	FE/SE/-	Endemic to Marin, Napa, and Sonoma Counties. Found in low elevation, low-gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	Absent	None. No suitable freshwater habitat featuring flowing water and appropriate stream features is present in the BSA.	No effect
Invertebrates	Monarch butterfly (*Danaus plexippus*)	FC/-/-	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Present	Low. A variety of flowering plants grow within the BSA; species could potentially forage in the BSA; however, there are no suitable roosting locations, and the BSA is surrounded by development. There is one CNDDB occurrence within 5 miles of the BSA.	No effect
	Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT/-/-	Native grasslands on outcrops of serpentine soil. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *Orthocarpus purpurscens* are the secondary host plants.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Mission blue butterfly (*Icaricia icarioides missionensis*)	FE/-/-	Inhabits grasslands of the San Francisco Peninsula. Has three larval host plants: *Lupinus albifrons*, *L. variicolor*, *and L. formosus*, of which *L. albifrons* is favored.	Absent	None. The BSA is outside of the current range of this species.	No effect
	Callippe silverspot butterfly (*Speyeria callippe callippe*)	FE/-/-	Restricted to the northern coastal scrub of the San Francisco Peninsula. Hostplant is *Viola pedunculata*. Most adults found on eastern facing slopes; males congregate on hilltops in search of females.	Absent	None. The BSA is outside of the current range of this species.	No effect
Fish	North American green sturgeon (*Acipenser medirostris*) Southern Distinct Population Segment (DPS) and Critical Habitat	FT/-/SSC	Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temperatures between 8 to 14 degrees Celsius. Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Tidewater goby (*Eucyclogobius newberryi*)	FE/-/-	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches; they need fairly still but not stagnant water and high oxygen levels.	Absent	None. No suitable habitat is present in the BSA. USFWS declares this population to be extirpated from San Francisco Bay tributaries (USFWS 2005).	No effect
	Southern coastal roach (*Hesperoleucus venustus subditus*)	-/-/SSC	Found in the drainages of Tomales Bay and northern San Francisco Bay in the north, and drainages of Monterey Bay in the south.	Absent	None. No suitable habitat is present in the BSA.	N/A
	Delta smelt (*Hypomesus transpacificus*)	FT/SE/-	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found at salinities greater than 10 parts per thousand. Most often at salinities less than 2 parts per thousand.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the current range of this species.	No effect
	Central California coast coho salmon (*Oncorhynchus kisutch*) Evolutionarily Significant Unit (ESU) and Critical Habitat	FE/SE/-	Federal listing is for populations between Punta Gorda and the San Lorenzo River. State listing is for populations south of Punta Gorda. Species requires beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and enough dissolved oxygen.	Absent	None. No suitable habitat is present in the BSA, and the species is extirpated from the San Francisco and San Pablo Bays and their tributaries.	No effect

	Common Name (Scientific name)	Federal/ State/ CDFW	General Habitat and Microhabitat Combined	Suitable Habitat Present or Absent in the BSA/Salt Marsh Study Area?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
	Central California coast steelhead (*Oncorhynchus mykiss irideus*) DPS and Critical Habitat	FT/-/-	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Central Valley steelhead (*Oncorhynchus mykiss irideus*) DPS	FT/-/-	Occurs from Russian River south to Soquel Creek near Santa Cruz and to, but not including, the Pajaro River near Watsonville, California. Also occurs in San Francisco and San Pablo Bay.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) ESU	FT/ST/-	Adults spawn in the Sacramento River below Keswick Dam and in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14ºC for spawning.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*) ESU and Critical Habitat	FE/SE/-	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning.	Absent	None. No suitable habitat is present in the BSA, and the Project is located outside of the ESU boundaries.	No effect
	Sacramento splittail (*Pogonichthys macrolepidotus*)	-/-/SSC	Endemic to the lakes and rivers of the Central Valley but now confined to the Delta, Suisun Bay, and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside the current range of this species.	N/A
	Longfin smelt (*Spirinchus thaleichthys*)	FC/ST/-	Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 parts per thousand but can be found in completely fresh water to almost pure seawater.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Eulachon (*Thaleichthys pacificus*)	FT/-/-	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	Absent	None. No suitable habitat is present in the BSA.	No effect
Amphibians	California giant salamander (*Dicamptodon ensatus*)	-/-/SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	Absent	None. No suitable habitat is present in the BSA.	N/A
	Foothill yellow-legged frog *(Rana boylii*)	-/SE/SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Absent	None. No suitable habitat is present in the BSA.	N/A
	California red-legged frog (*Rana draytonii*)	FT/-/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	Present	Low. Only marginally suitable habitat is present in the BSA. There are three CNDDB occurrences within 5 miles of the BSA; however, the BSA is surrounded by development, which would likely impede dispersal into the BSA.	No effect

	Common Name (Scientific name)	Federal/ State/ CDFW	General Habitat and Microhabitat Combined	Suitable Habitat Present or Absent in the BSA/Salt Marsh Study Area?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
Reptiles	Green sea turtle (*Chelonia mydas*)	FT/-/-	Marine. Completely herbivorous; needs adequate supply of seagrasses and algae.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Western pond turtle (*Emys marmorata*)	-/-/SSC	An aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000-foot elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	Present	Low. Only marginally suitable habitat is present in the BSA. There are two CNDDB occurrences within 5 miles of the BSA; however, the closest CNDDB occurrence is located approximately 3.5 miles northwest of the BSA and the BSA is surrounded by development which would likely impede dispersal into the BSA.	N/A
Birds	Short-eared owl (*Asio flammeus*)	-/-/SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields.	Absent	None. No suitable habitat is present in the BSA.	N/A
	Burrowing owl (*Athene cunicularia*)	-/-/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Present	Low. Marginally suitable foraging habitat is present within the BSA in ruderal and grassland habitats; however, no burrows were observed within the BSA, and there are no CNDDB occurrences within 5 miles of the BSA.	N/A
	Marbled murrelet (*Brachyramphus marmoratus*)	FT/SE/-	Feeds near shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to 6 miles inland, often in Douglas fir.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Western snowy plover (*Charadrius nivosus nivosus*)	FT/-/SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Northern harrier (*Circus cyaneus*)	-/-/SSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Present	Low. Marginally suitable foraging and nesting habitat is present in the BSA; however, there are no CNDDB occurrences within 5 miles of the BSA.	N/A
	Black swift (*Cypseloides niger*)	-/-/SSC	Coastal belt of Santa Cruz and Monterey Counties; central and southern Sierra Nevada; San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	Absent	None. No suitable habitat is present in the BSA.	N/A
	White-tailed kite (*Elanus leucurus*)	-/-/FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Present	Low. Suitable foraging habitat is present within the BSA in ruderal and grassland habitats, and marginally suitable nesting habitat is present in the BSA; however, there are no CNDDB occurrences within 5 miles of the BSA.	N/A
	American peregrine falcon (*Falco peregrines anatum*)	FD/SD/FP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	Present	Low. Marginally suitable foraging habitat is present in ruderal and grassland habitats in the BSA. There is one CNDDB occurrence within 5 miles of the BSA.	N/A
	Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	-/-/SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Present	Moderate. Suitable habitat is present in the Corte Madera Marsh, approximately 400 feet east of the BSA, and the species could move inland into the BSA.	N/A
	California black rail (*Laterallus jamaicensis coturniculus*)	-/ST/FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year, and dense vegetation for nesting habitat.	Present	Low. Suitable habitat is present in the Corte Madera Marsh, approximately 400 feet east of the BSA, where there are known CNDDB occurrences of this species. Therefore, there is potential for this species to occur near the BSA and for noise impacts to affect this species; however, there is no suitable habitat within the BSA.	N/A

	Common Name (Scientific name)	Federal/ State/ CDFW	General Habitat and Microhabitat Combined	Suitable Habitat Present or Absent in the BSA/Salt Marsh Study Area?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
	Alameda song sparrow (*Melospiza melodia pusillula*)	-/-/SSC	Found in tidal salt marsh habitat with exposed ground for foraging with no more than 1 to 2 inches between bases of plants; current range is generally only along the San Francisco Bay.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the species range.	N/A
	San Pablo song sparrow (*Melospiza melodia samuelis*)	-/-/SSC	Resident of salt marshes along the northern side of San Francisco and San Pablo Bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	Present	Low. Suitable salt marsh habitat is present in the Corte Madera Marsh, approximately 400 feet east of the BSA; however, this species is confined to salt marsh habitat, which is not present in the BSA, and there would be no noise impacts on this species.	N/A
	California Ridgway's rail (*Rallus obsoletus* [*R. longirostris obsoletus*])	FE/SE/FP	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	Present	Low. Suitable habitat is present in the Corte Madera Marsh, approximately 400 feet east of the BSA, where there are known CNDDB occurrences of this species. Therefore, there is potential for this species to occur near the BSA and for noise impacts to affect this species; however, it is very unlikely for this species to occur within the BSA.	May affect, not likely to adversely affect.
	Bank swallow (*Riparia riparia*)	-/ST/-	Occurs in open areas near flowing water, nests in steep banks along inland water or coast; state-wide.	Absent	None. No suitable habitat is present in the BSA.	N/A
	California least tern *(Sterna* [*Sternula*] *antillarum browni*)	FE/SE/FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Absent	None. No suitable habitat is present in the BSA.	No effect
	Northern spotted owl (*Strix occidentalis caurina*)	FT/ST/-	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	Absent	None. No suitable habitat is present in the BSA.	No effect
Mammals	Pallid bat (*Antrozous pallidus*)	-/-/SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Present	Moderate. Suitable day and night roost habitat is present throughout and adjacent to the BSA in the form of foliage, cavity, and crevice roost habitat within the Tamalpais Drive Bridge, pedestrian walkways, on- and off-ramps, and trees located within the BSA.	N/A
	Point Reyes mountain beaver (*Aplodontia rufa phaea*)	-/-/SSC	Coastal area of Point Reyes in areas of springs or seepages. North-facing slopes of hills and gullies in areas overgrown with sword ferns and thimbleberries.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the species range.	N/A
	Townsend's big-eared bat (*Corynorhinus townsendii*)	-/-/SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting distribution. Extremely sensitive to human disturbance.	Present	Moderate. Suitable day and night roost habitat is present throughout and adjacent to the BSA in the form of foliage, cavity, and crevice roost habitat within the Tamalpais Drive Bridge, pedestrian walkways, on- and off-ramps, and trees located within the BSA.	N/A
	Southern sea otter (*Enhydra lutris nereis*)	FT/-/FP	Nearshore marine environments from about Ano Nuevo, San Mateo County to Point Sal, Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the species range.	No effect
	Western red bat (*Lasiurus blossevillii*)	-/-/SSC	Roosts primarily in trees, 2 to 40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Present	Moderate. Suitable day and night roost habitat is present throughout and adjacent to the BSA in the form of foliage, cavity, and crevice roost habitat within the Tamalpais Drive Bridge, pedestrian walkways, on- and off-ramps, and trees located within the BSA.	N/A

	Common Name (Scientific name)	Federal/ State/ CDFW	General Habitat and Microhabitat Combined	Suitable Habitat Present or Absent in the BSA/Salt Marsh Study Area?	Potential to Occur within the BSA	Effect Finding for Federally Listed Species
	San Pablo vole (*Microtus californicus sanpabloensis*)	-/-/SSC	Salt marshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges, and herbs. Forms a network of runways leading from the burrow.	Absent	None. No suitable habitat is present in the BSA.	N/A
	Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE/SE/FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	Present	Low. Suitable habitat is present in the Corte Madera Marsh, approximately 400 feet east of the BSA, where there are known CNDDB occurrences of this species. Therefore, there is potential for this species to occur near the BSA; however, there is no potential for this species to occur within the BSA.	No effect
	Suisun shrew (*Sorex ornatus sinuosus*)	-/-/SSC	Tidal marshes of the northern shores of San Pablo and Suisun Bays. Require dense low-lying cover and drift weed and other litter above the mean hightide line for nesting and foraging.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the species range.	N/A
	Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	-/-/SSC	Salt marshes of the southern arm of San Francisco Bay. Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among *Salicornia*.	Absent	None. No suitable habitat is present in the BSA, and it is outside of the species range.	N/A
	American badger (*Taxidea taxus*)	-/-/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open uncultivated ground. Preys on burrowing rodents. Digs burrows.	Absent	None. No suitable habitat is present in the BSA.	N/A
	Point Reyes jumping mouse (*Zapus trinotatus orarius*)	-/-/SSC	Primarily in bunch grass marshes on the uplands of Point Reyes. Also present in coastal scrub, grassland, and meadows. Eats mainly grass seeds with some insects and fruit taken. Builds grassy nests on ground under vegetation, burrows in winter.	Absent	None. No suitable habitat is present in the BSA, and the BSA is outside of the species range.	N/A

Appendix D List of Acronyms

Acronym	Definition
AC	asphalt concrete
ADA	Americans with Disabilities Act
AMM	avoidance and minimization measure
BMP	best management practice
BSA	biological study area
Caltrans	California Department of Transportation
CAPM	Capital Preventative Maintenance
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	*Code of Federal Regulations*
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DI	drainage inlet
DPS	distinct population segment
DSA	disturbed soil area
EFH	essential fish habitat
ESA	environmentally sensitive area

FHWA	Federal Highway Administration
GHG	greenhouse gas
HPSR	Historic Property Survey Report
MBGR	metal beam guardrail
MGS	Midwest Guardrail System
MTC	Metropolitan Transportation Commission
NES	Natural Environment Study
OC	overcrossing
PA	programmatic agreement
PM	post mile
Project	U.S. Highway 101 Tamalpais Drive OC
SFB RWQCB	San Francisco Bay Regional Water Quality Control Board
SHOPP	State Route Operation and Protection Program
SR	State Route
SSC	species of special concern
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAM	Transportation Authority of Marin
TCE	temporary construction easement
TMP	Traffic Management Plan
TTY	text telephone
USACE	U.S. Army Corps of Engineers

USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VIA	visual impact assessment
WEF	wildlife exclusion fencing

Appendix E List of Technical Studies and References

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