



- Central Marin Ferry Connection Multi-use Pathway Project Area
- Creekside Park Project Area



**Vicinity Map**

**JE JACOBS**  
Carter Burgess

October 30, 2012

Source: Aerial-NAIP 2005 - Marin County; Topo-CASIL\_o\_sw0301.sld; Study Area - digitized Jacobs



LOCAL VICINITY MAP - LARKSPUR, CA



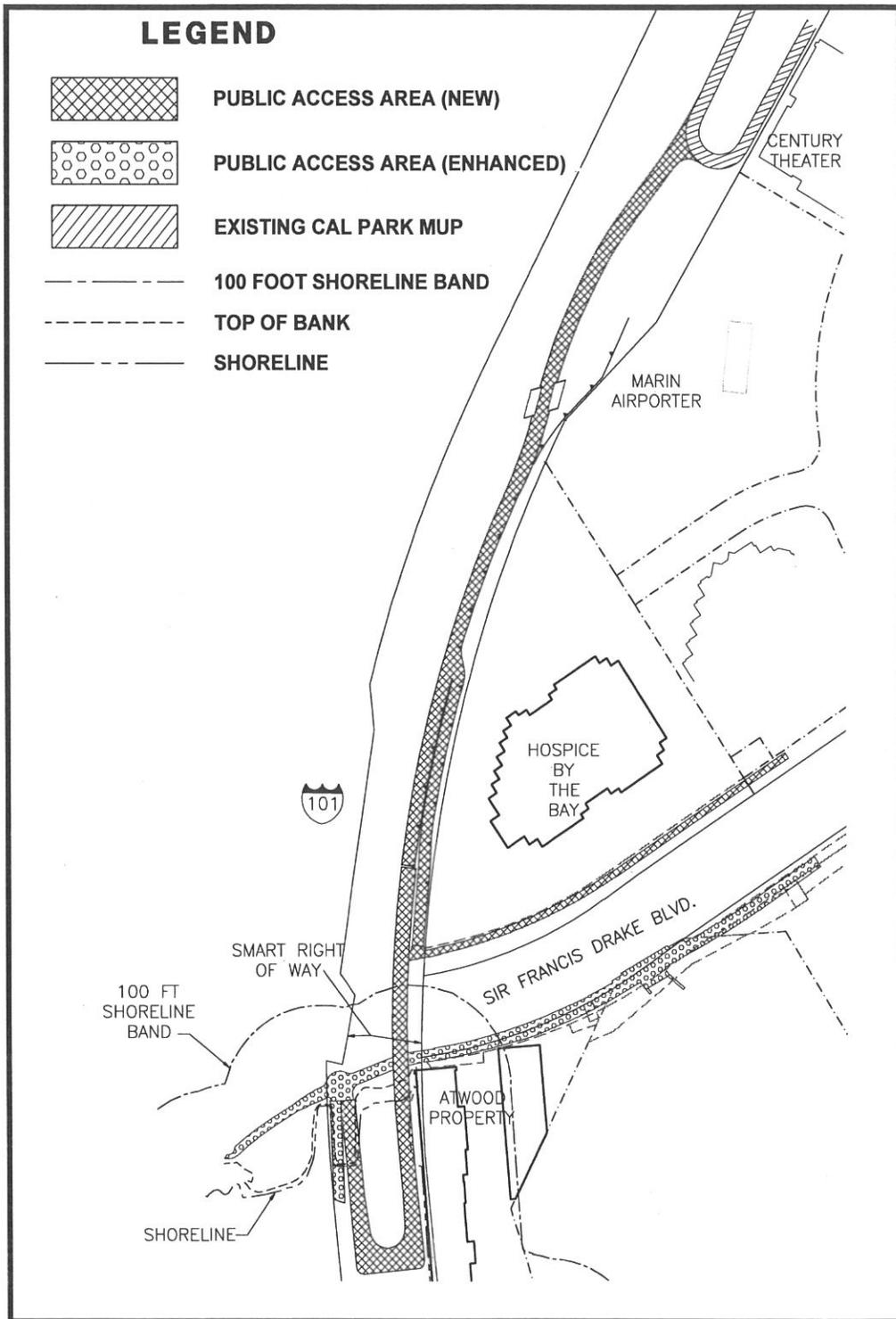
REGIONAL MAP

- EXISTING PATHWAY
- PROPOSED PATHWAY / PROJECT EXTENT
- BAY TRAIL ROUTE
- BAY PATH

LOCAL VICINITY MAP - LARKSPUR, CA  
**CENTRAL MARIN FERRY CONNECTION**  
 MULTI-USE PATHWAY PROJECT



# CENTRAL MARIN FERRY CONNECTION



## Multi-Use Pathway Project

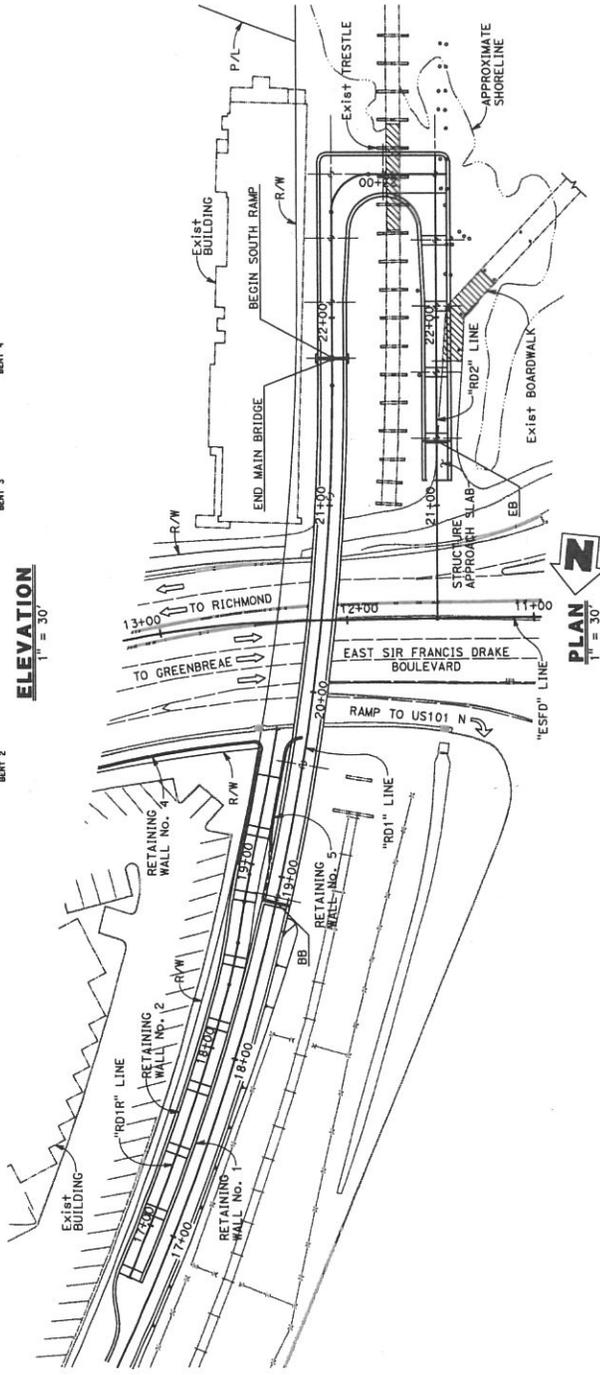
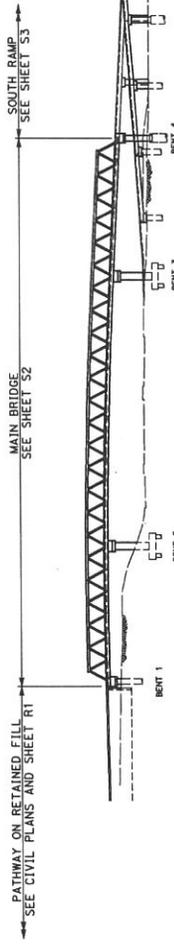


WEST ELEVATION OF PEDESTRIAN OVERCROSSING

EXHIBIT D

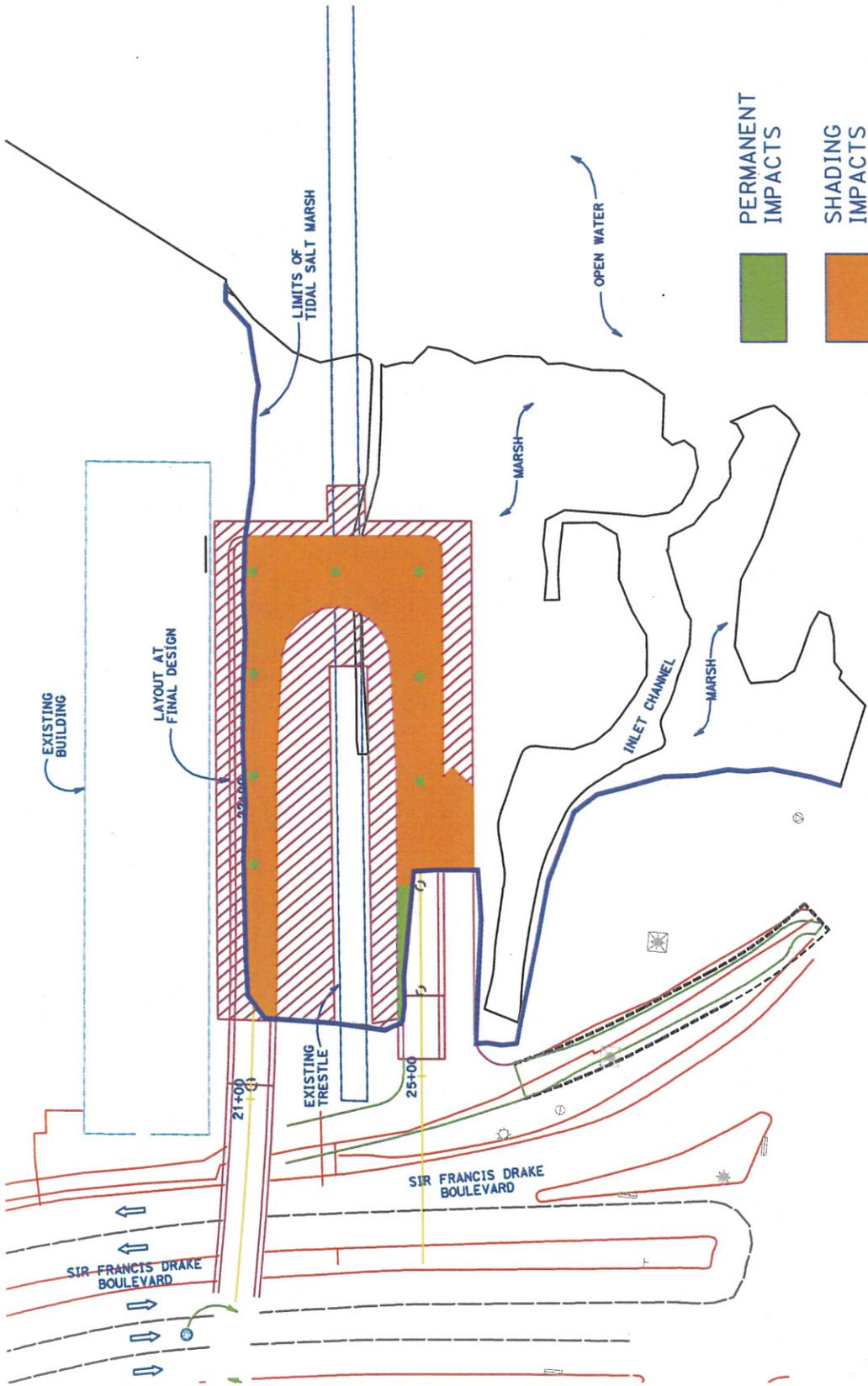


SITE SECTION & ELEVATION  
**CENTRAL MARIN FERRY CONNECTION**  
MULTI-USE PATHWAY PROJECT



PLAN CHECK SET/NOT FOR CONSTRUCTION (12/19/12)

<b>BEA</b> BIGGS CARROLLA INC. STRUCTURAL ENGINEERS 1111 ALABAMA STREET SUITE 200 GREENSBORO, NC 27409 TEL: 336-855-8811 FAX: 336-855-8811		County of Martin  co.martin.co.us	PROJECT <b>CENTRAL MAIN FERRY CONNECTION (CMFC)          MULTI-USE PATH WAY (MUP) PROJECT</b> E SIR FRANCIS DRAKE BLVD POC GENERAL PLAN	DRAWING NO. S1 REV. NO. AS SHOWN DATE 201111051 201116051 201116051
DESIGNED BY C. VASQUEZ	DRAWN BY	CHECKED BY	APPROVED BY	DATE
REV. DATE	BY	CHK	APP	DESCRIPTION
A	10/10/12	CV	MJM	70% DESIGN SUBMITTAL

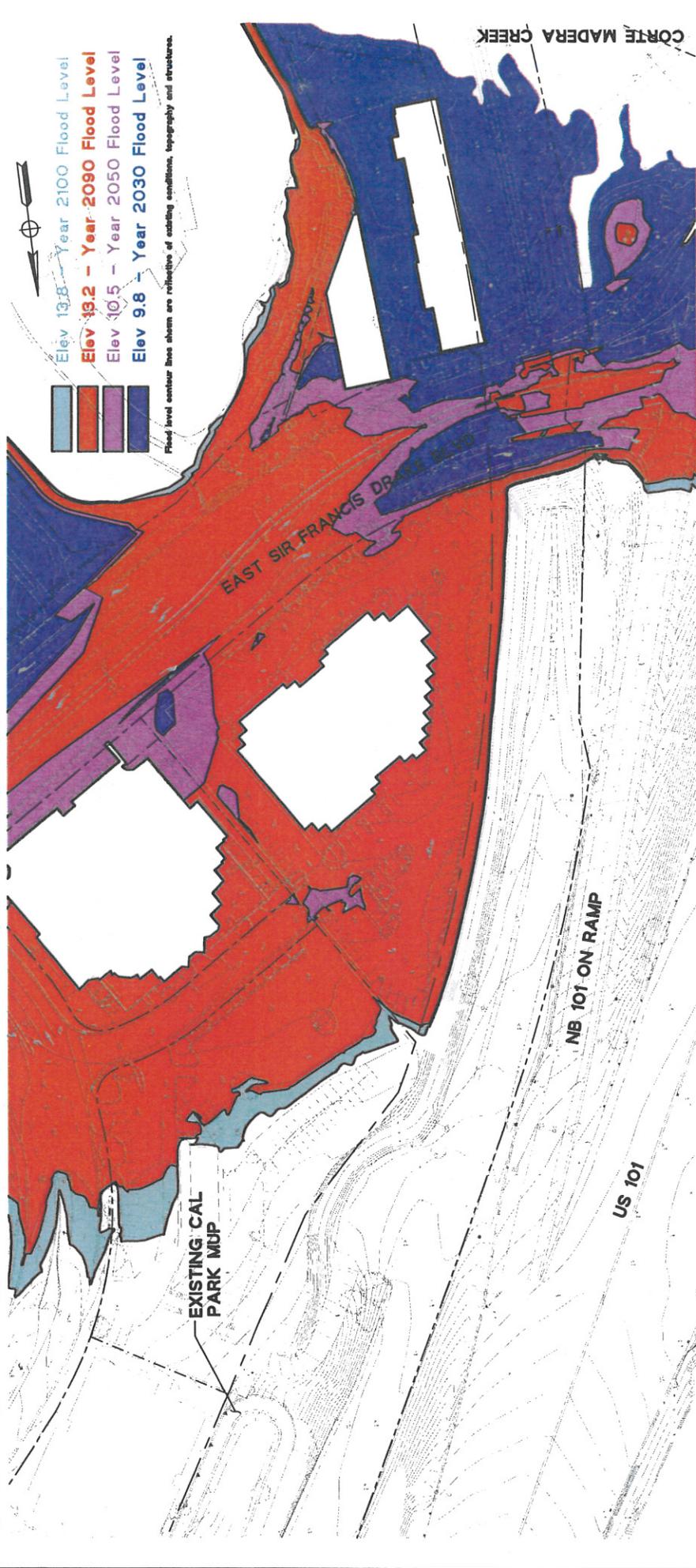


- PERMANENT IMPACTS
- SHADING IMPACTS
- TEMPORARY CONSTRUCTION ACCESS

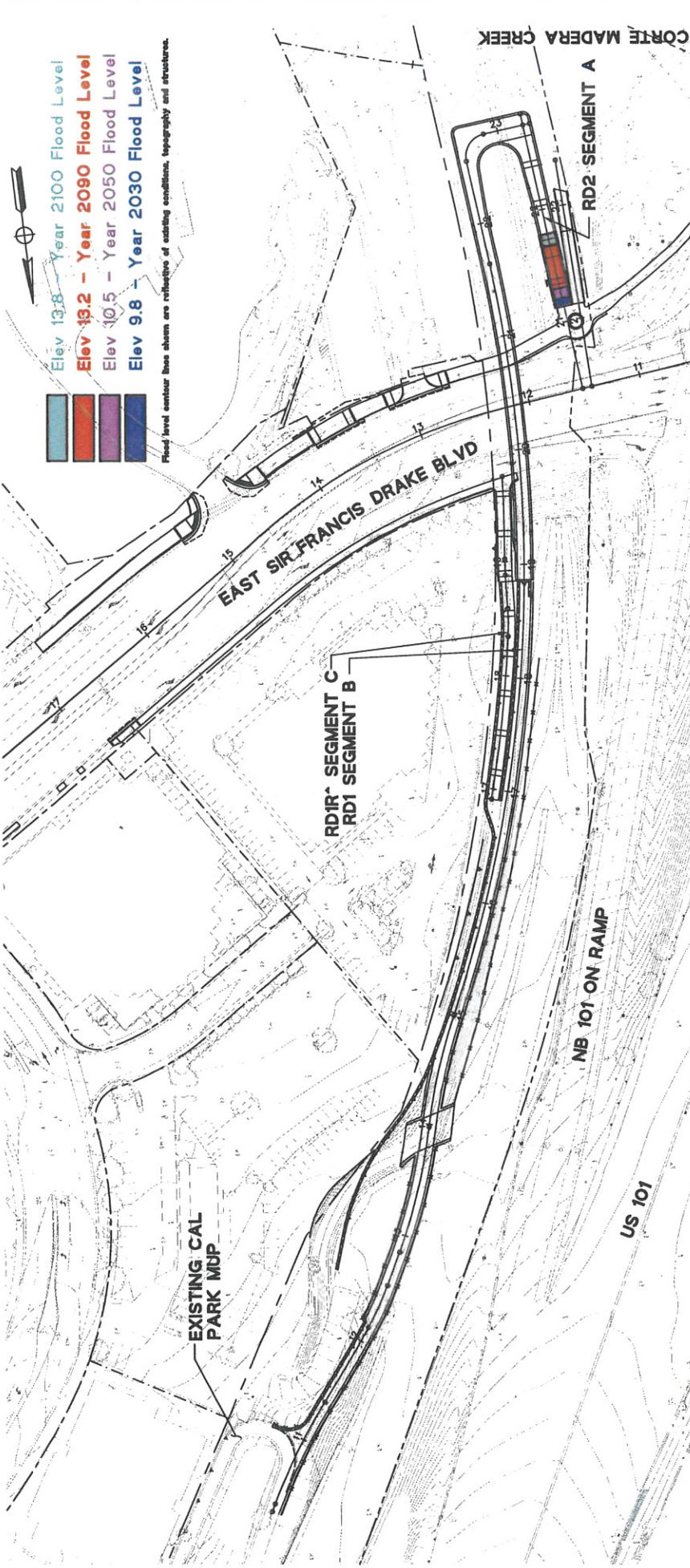


**PLAN**  
1" = 50'

# IMPACTS WITHIN JURISDICTIONAL WATERS (TIDAL SALT MARSH)

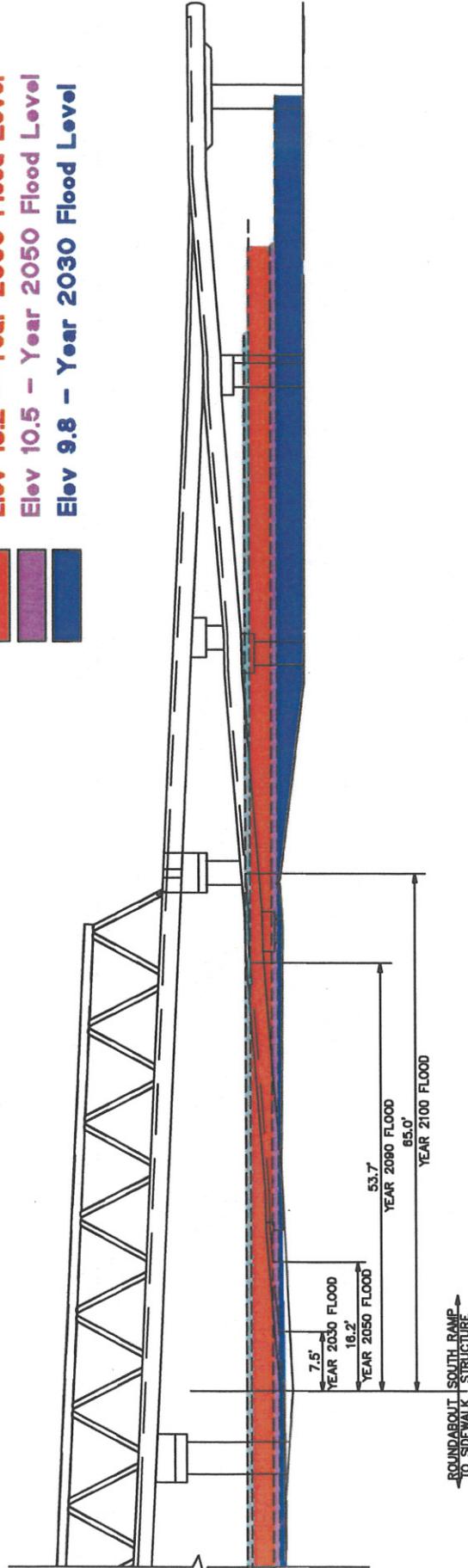


**EXHIBIT 1 - PREDICTED FLOODING IN PROJECT AREA AND ADJACENT PROPERTIES**  
**MAY 2013**



RD1 SEGMENT C REVISED TO REFLECT PROJECT UPDATES  
**EXHIBIT 1A - PREDICTED FLOODING TO CENTRAL MARIN FERRY PROJECT WITHIN BCDC LIMITS**  
 MAY 2013

-  Elev 13.8 - Year 2100 Flood Level
-  Elev 13.2 - Year 2090 Flood Level
-  Elev 10.5 - Year 2050 Flood Level
-  Elev 9.8 - Year 2030 Flood Level



## EXHIBIT 2: SEA LEVEL RISE FLOOD ELEVATIONS AT SOUTH RAMP



## F. DESCRIPTION OF PROJECT

The Transportation Authority of Marin (TAM) is proposing to construct a new multi-use pathway intended to further promote non-motorized commute alternatives and enhance recreational travel within the City of Larkspur in Marin County, California (Figure 1). The Central Marin Ferry Connection Multi-use Pathway project contains two phases (Phase I and II). Phase I would include a multi-use pathway from the future Cal Park Hill Tunnel Pathway and Sonoma Marin Area Rail Transit (SMART) Larkspur Station located east of U.S. Highway 101 and north of East Sir Francis Drake Boulevard to the existing multi-use pathway located south of East Sir Francis Drake Boulevard along the north bank of the Corte Madera Creek (postmile [PM] 14.3 to PM 14.7) (Figure 2). The proposed pathway would be located within the SMART, California Department of Transportation (Caltrans), and city of Larkspur rights-of-way. Phase II would include an extension of the Phase I multi-use pathway south over Corte Madera Creek to Wornum Drive. This Initial Study has been prepared as part of the environmental clearance process pursuant to the California Environmental Quality Act (CEQA) for the Central Marin Ferry Connection Multi-use Pathway Phase I project (proposed project). Phase II has not yet been planned or programmed and is not part this project's scope.

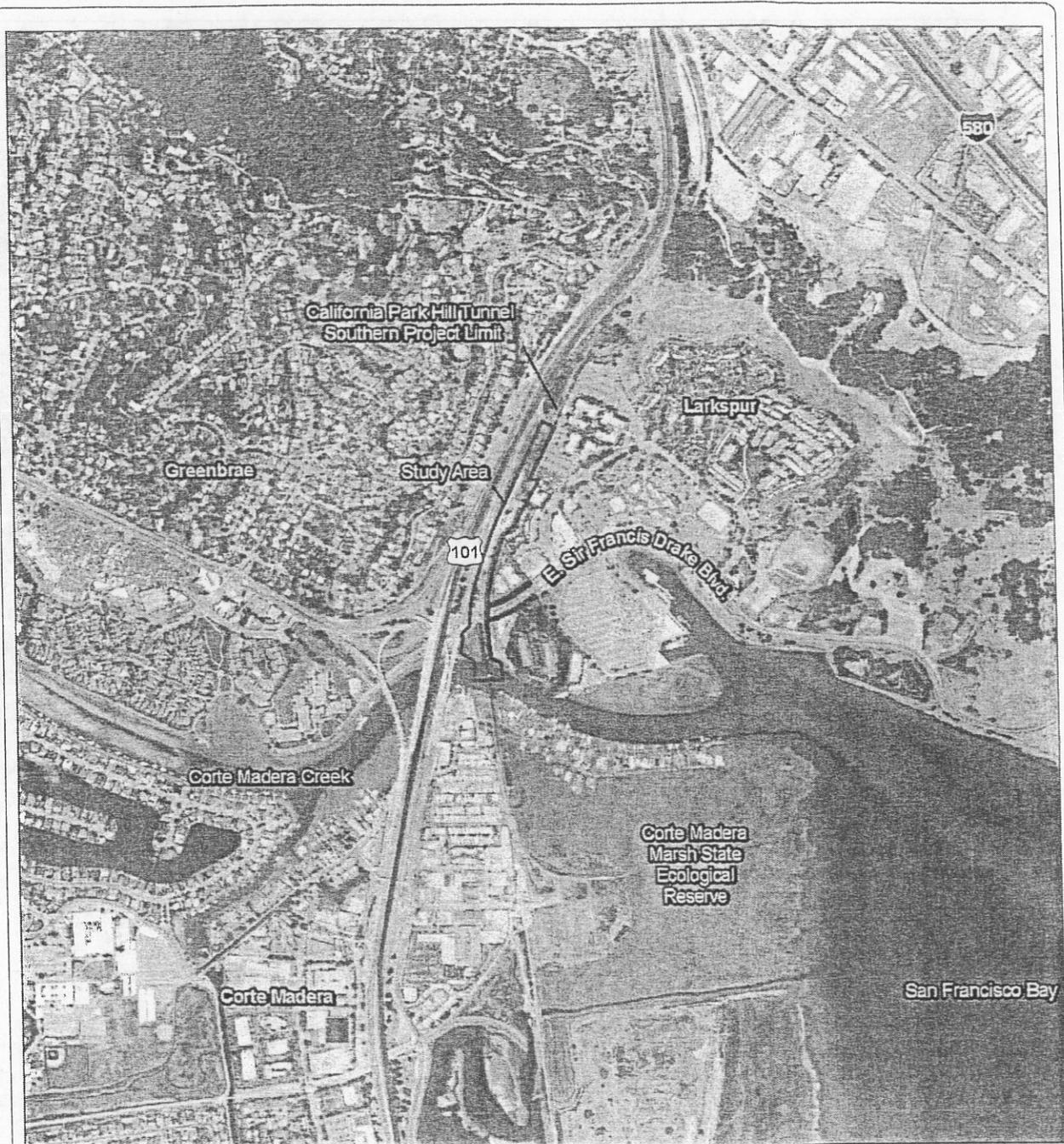
If future funding is identified, Phase II of the Central Marin Ferry Connection project would connect to the Phase I multi-use pathway at its southern limit along the east side of U.S. Highway 101 to Wornum Drive. This would include an overcrossing above Corte Madera Creek and provide access to the Greenbrae Boardwalk. Once completed, the entire Central Marin Ferry Connection project (i.e., Phases I and II) would provide a continuous multi-use pathway from the Cal Park Hill Tunnel Pathway and the future SMART Larkspur Station in the north to Wornum Drive in the south.

Phases I and II of the proposed project have independent utility with respect to each other, because each would serve their own purpose of providing non-motorized travel in the area and would occur regardless of whether the other phase was to occur. The independent utility analysis does not include the Cal Park Hill Tunnel Pathway since this is under construction and constitutes a baseline condition. If funding is secured for the Central Marin Ferry Connection Phase II project, a separate environmental review would be conducted in compliance with CEQA to assess this project's potential environmental impacts.

### **Project Background**

The County of Marin identified the need to improve the U.S. Highway 101 corridor from the Tamalpais Drive interchange in the Town of Corte Madera to the East Sir Francis Drake Boulevard interchange in the City of Larkspur (i.e., Greenbrae Corridor) in 1999. The need for improving the corridor was recognized as a high priority at the regional planning level. With the 2004 passage of Regional Measure 2, funds were identified to further develop improvements within the Greenbrae Corridor. In coordination with the Caltrans, TAM engaged the public in a series of public workshops (October 20, 2006; March 27, 2007; March 3, 2008; and September 27, 2008) designed to identify public concerns and develop several pathway alternatives using context sensitive design principles to integrate

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Central Marin Ferry Connection Study Area Multi-use Pathway

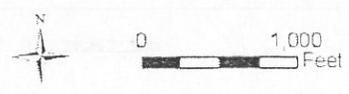
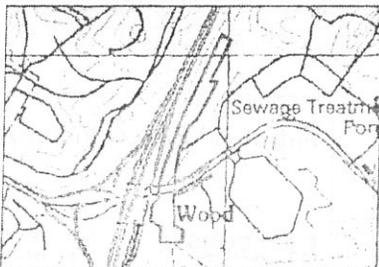
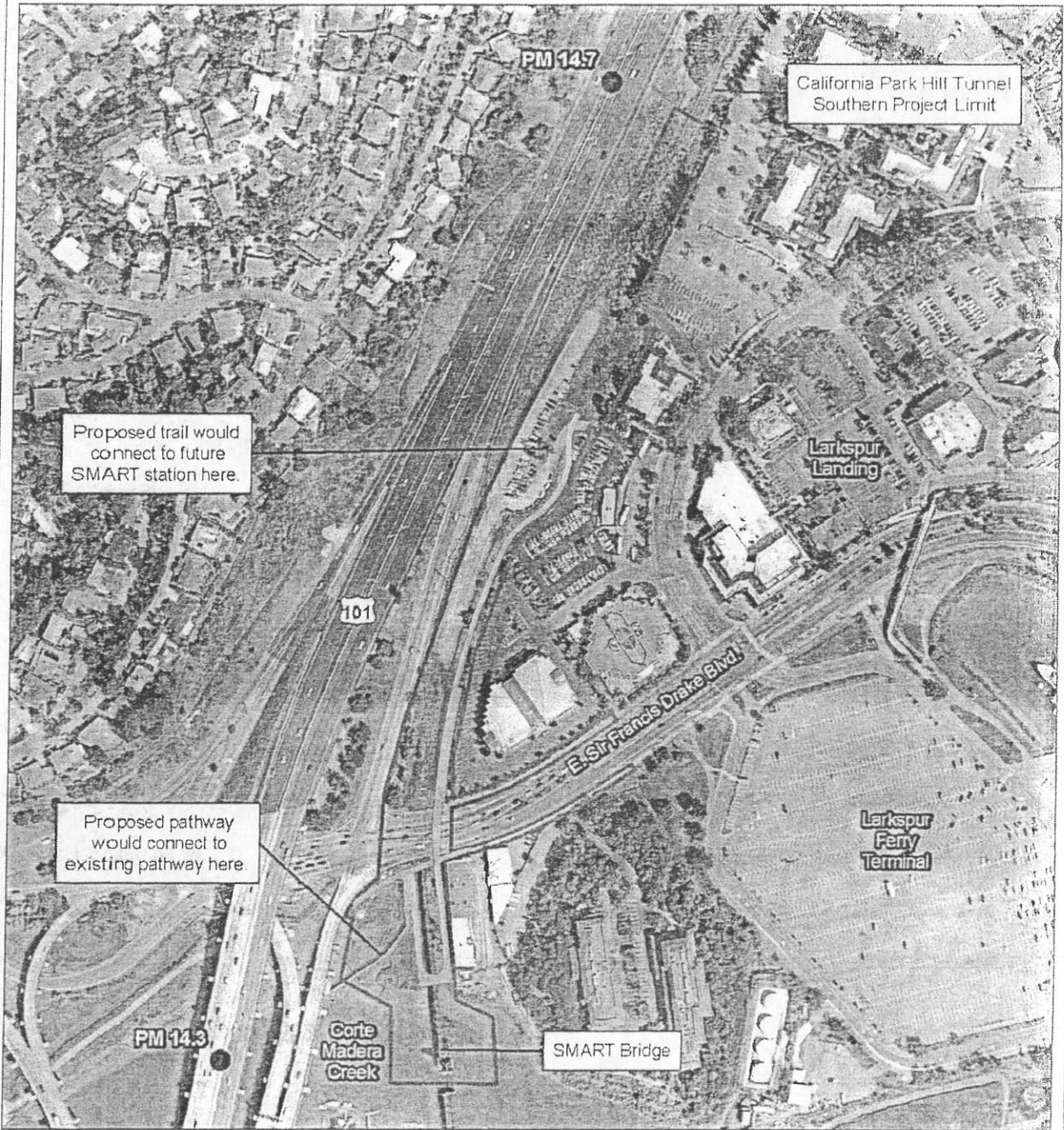


Figure 1. Project Vicinity Map

**JACOBS**  
Carter Burgess

February 27, 2010



- Post Mile
- ▨ Proposed Pathway Footprint
- ▭ Central Marin Ferry Connection Study Area Multi-use Pathway



Figure 2. Study Area Map



May 10, 2010

stakeholder input into the project development process. This included considering the physical setting and addressing community values as part of the public outreach process. In addition to identifying motorized transportation alternatives throughout the Greenbrae Corridor, non-motorized commute alternatives for the U.S. Highway 101/East Sir Francis Drake Boulevard interchange were developed. These non-motorized alternatives included the improvements described in this proposed project. As a result, this proposed project stems from the larger planning effort of the Greenbrae Corridor improvements to provide non-motorized commute alternatives.

### **Project Need**

Currently, north/south non-motorized travel is difficult at the U.S. Highway 101/East Sir Francis Drake Boulevard interchange. This is due to East Sir Francis Drake Boulevard serving as a physical barrier to non-motorized travel between the Cal Park Hill Tunnel Pathway (located north of the roadway) and the existing multi-use pathway (located south of the roadway). Access to the existing multi-use pathway from the north side of East Sir Francis Drake Boulevard requires travelers to cross the roadway at Larkspur Landing Circle, which is located approximately 800 feet east of the pathway. Also, Corte Madera Creek and the adjacent salt marsh provide a unique habitat viewing area with views of the San Francisco Bay. Currently, access to view points is limited.

### **Project Purpose**

The proposed project's purpose is to improve public access and connectivity for non-motorized travel by constructing a new East Sir Francis Drake Boulevard multi-use pathway overcrossing east of the U.S. Highway 101/East Sir Francis Drake Boulevard interchange. This proposed project would also improve access to the viewpoints for the public to view the Corte Madera Creek salt marsh area and San Francisco Bay by constructing an elevated path along the north bank of Corte Madera Creek. This proposed project is important to central Marin County, as it would provide safe and convenient non-motorized access between local transit facilities (i.e., future SMART Larkspur Station) and the existing Larkspur Ferry Terminal. The proposed project would also improve access to schools, business centers, and residential communities.

### **Project Description**

The proposed project would include the following construction activities:

#### Non-motorized Access Improvements

- Construct a new multi-use pathway that extends from the existing Cal Park Hill Tunnel Pathway to East Sir Francis Drake Boulevard.
- Construct a new multi-use pathway overcrossing structure and approach ramps at East Sir Francis Drake Boulevard.

- Construct a new access ramp from the sidewalk on the north side of East Sir Francis Drake Boulevard to the new overcrossing.
- Construct an approach ramp for the multi-use pathway south of East Sir Francis Drake Boulevard with viewing areas above the salt marsh area and Corte Madera Creek.
- Construct a new access ramp that conforms to the existing multi-use paths and repave the existing multi-use pathway south of East Sir Francis Drake Boulevard from the U.S. Highway 101 northbound off-ramp structure to the Larkspur Ferry Terminal entrance.

#### Other Construction Elements

- Conduct a geotechnical survey.
- Construct retaining walls at various locations along the multi-use pathway.
- Construct new sidewalks, curbs, and gutters along East Sir Francis Drake Boulevard.
- Install signage, striping, lighting, screening, handrails, fencing, landscaping, truncated domes, and/or bollards.
- Construct stormwater swales and detention basins.
- Remove or retrofit a portion of the existing railroad trestle.
- Relocate and protect existing utilities.
- Construct temporary construction access areas within the salt marsh and Corte Madera Creek.

As it relates to the other construction elements, a portion of the existing railroad trestle would be removed as a part of this project to accommodate the multi-use pathway. The remaining portions around the pathway will need to be structurally evaluated to determine if retrofitting will be required.

Additionally, constructing the new multi-use pathway, conducting preconstruction activities (e.g., geotechnical survey), and removing or retrofitting the existing railroad trestle would require the construction of temporary access area within the sensitive areas of the tidal salt marsh. No construction would occur within the open waters of Corte Madera Creek. However, a barge may be used during construction, which would be located within the creek.

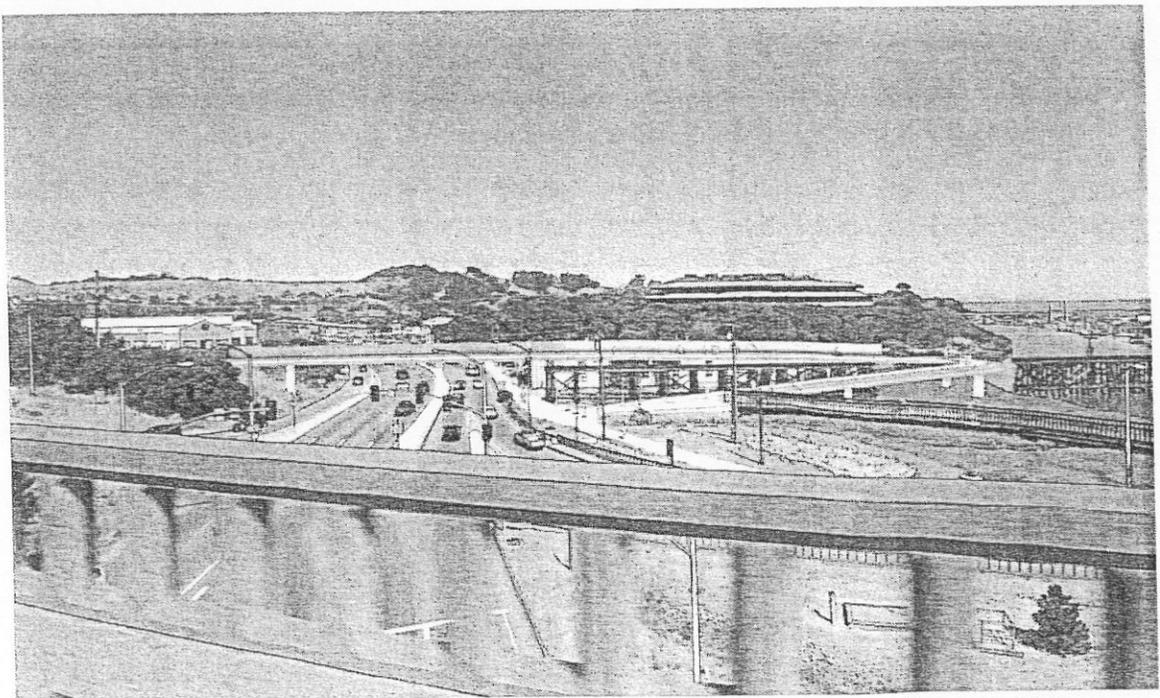
Refer to Figures 3 and 4 for photo simulations of the proposed multi-use pathway at the East Sir Francis Drake Boulevard (Appendix A: 13). Figure 5 shows a cross sectional view of the proposed pathway.

#### Environmental Setting

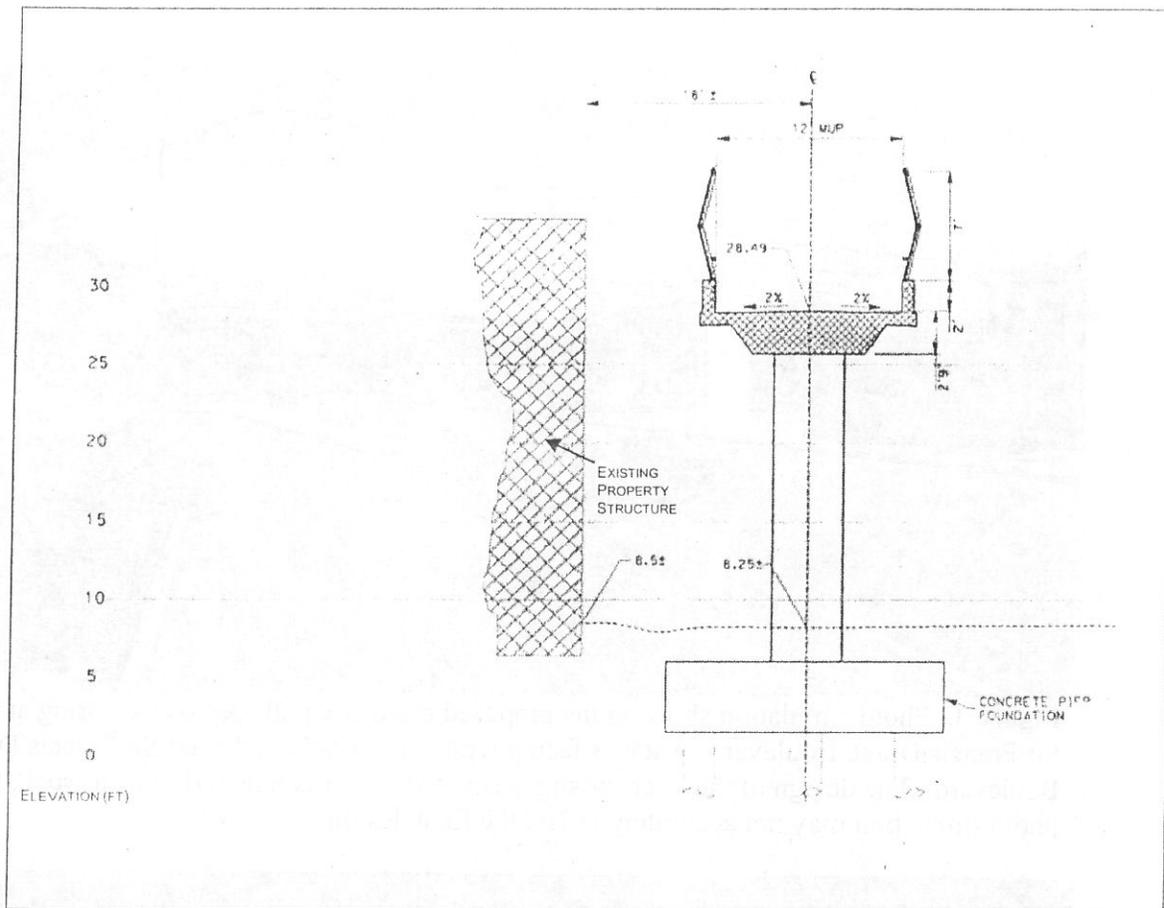
The proposed project is located within the San Francisco Bay region, specifically on the Marin Peninsula of the North Bay. The Study Area, which includes the project footprint 6.89 acres (2.79 hectares) and the immediately adjacent areas, is located in an urbanized setting with natural areas surrounded by transportation infrastructure as well as commercial and residential development.



**Figure 3.** Photo simulation showing the proposed multi-use pathway overcrossing at East Sir Francis Drake Boulevard. View is facing west from westbound East Sir Francis Drake Boulevard. The design of the overcrossing has not yet been completed, and, as such, this photo simulation may not accurately reflect the final design.



**Figure 4.** Photo simulation showing the proposed multi-use pathway from the U.S. Highway 101 roadway. View is facing east from northbound U.S. Highway 101 roadway. The design of the overcrossing has not yet been completed, and, as such, this photo simulation may not accurately reflect the final design.



**Figure 5.** Proposed multi-use pathway cross section view of pathway and pier. This pier would be located south of East Sir Francis Drake Boulevard.

A portion of the Sonoma Marin Area Rail Transit's (SMART) right-of-way (previously operated by the Northwestern Pacific Railroad), which includes railroad tracks and an unused trestle over Corte Madera Creek, runs north and south throughout the Study Area. The proposed project has been identified in the Marin Countywide Plan (CWP) as a proposed trail (Appendix A: 1).

The proposed project can generally be divided into two sections (north and south) that are separated by East Sir Francis Drake Boulevard. The northern section is bound by East Sir Francis Drake Boulevard to the south, U.S. Highway 101 to the west, the Cal Park Hill Tunnel Pathway to the north, and privately-owned land to the east. This section contains upland natural areas with surrounding adjacent transportation infrastructure, as well as residential and commercial developments. The southern section is bound by Corte Madera Creek to the south, U.S. Highway 101 to the west, East Sir Francis Drake Boulevard to the north, and privately-owned land to the east. This section contains wetland and upland habitat and Corte Madera Creek with surrounding adjacent transportation infrastructure, as well as residential and commercial developments.

### Geology

The proposed project is located within nine miles of the San Andreas Fault Zone. Review of the resource maps maintained by the Marin County Community Development Agency determined that that proposed project is not located within an Alquist Priolo Zone or other seismic hazard area. According to the "Liquefaction Susceptibility Hazard" Map (2-11) in the Marin CWP (Appendix A: 1), the Study Area is located within areas considered to be of very high and high potential for liquefaction. The subsurface condition was evaluated as part of an initial geotechnical investigation, and it was determined that overall liquefaction potential is relatively low. The area has also not been identified by the California Geologic Survey as a hazard zone for liquefaction of landslides. However, the San Francisco Bay Area is considered a seismically active region (Appendix A: 4).

### Hydrology

The proposed project is located within the San Francisco Bay Regional Water Quality Control Board (RWQCB) jurisdiction in the Bay Bridges Hydrologic Unit within the San Rafael Hydrologic Area. There is one direct receiving water body: Corte Madera Creek, which is located at the southern portion of the Study Area. The Corte Madera Marsh State Ecological Reserve is located south of the creek and is an indirect receiving water body, which drains to Central San Francisco Bay approximately 0.4 mile downstream of the proposed pathway. Corte Madera Creek is tidally influenced and considered a navigable water of the United States. The proposed pathway would not be constructed within Corte Madera Creek. However, it would be constructed within the tidal salt marsh. Corte Madera Creek and San Francisco Bay are included on the California Water Act (CWA) 303(d) List of Water Quality Limited Segments and therefore do not meet water quality standards (Appendix A: 8, 9).

## Greenhouse Gas Emissions

The natural process through which heat is retained in the earth's atmosphere is called the "greenhouse effect." Greenhouse Gases (GHGs) absorb long-wave (thermal) radiation and trap it in the bottom layer of the atmosphere. Without this natural "greenhouse effect," temperatures would be about 60°F lower than they are now, and life as we know it today would not be possible. However during the past century, humans have substantially added to the amount of greenhouse gases in the atmosphere by burning fossil fuels such as coal, natural gas, oil, and gasoline to power cars, factories, utilities, and appliances. The added gases, primarily that of carbon dioxide and methane, are enhancing the natural greenhouse effect and contributing to an increase in global average temperature and related climate changes. To gauge the potency of individual GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long-wave radiation. The GWP of a gas is determined using carbon dioxide as the reference gas with a GWP of 1.

Greenhouse gases include, but are not limited to, the following:

- Carbon dioxide (CO<sub>2</sub>). Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWP for other GHGs.
- Methane (CH<sub>4</sub>). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.
- Nitrous oxide (N<sub>2</sub>O). Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.
- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The GWP of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.
- Perfluorocarbons (PFCs). PFCs are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 5,700 to 11,900.
- Sulfur hexafluoride. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high-voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change (IPCC) with a GWP of 23,900.

- Water vapor (H<sub>2</sub>O). Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Water vapor and clouds contribute 66 to 85 percent of the greenhouse effect (water vapor alone contributes 36 to 66 percent) (Schmidt 2005<sup>1</sup>). The IPCC has not determined a GWP for water vapor.

Human activities (such as motor vehicle use, energy production, and land development) also result in both direct and indirect emissions that have contributed to highly elevated concentrations of GHGs in the atmosphere. According to the California Air Resources Board, transportation alone accounts for nearly 40 percent (estimated) of California's GHG emissions. Emissions attributable to transportation are largely a result of the majority of California's urban growth that is characterized by travel-inducing features such as: low density, unbalanced land uses separating jobs and housing, and a focus on single-occupancy vehicle travel. With a growing population and economy, California's total GHG emissions continue to increase. This rapid rate of increase in GHG emissions causes a change in the composition of atmospheric gases that may cause life threatening and adverse environmental consequences. Some of the potential impacts of global warming may include loss in snow pack, rise of sea levels, changes in weather (including heat waves), an increase in the number of ozone days, erosion of California's Coastline, increased number and size of large forest fires, and increased number of drought years.

#### Marin County Greenhouse Gas Reduction Plan

In October of 2006, the Marin County Board of Supervisors adopted the Marin County Greenhouse Gas Reduction Plan (Plan). The Plan sets a target to reduce GHG emissions 15-20 percent below year 1990 levels by the year 2020 for internal government emissions, as well as a reduction target of 15 percent below 1990 Countywide levels for the entire County. Currently, the Plan identifies resources and programs to reduce GHG emissions in concert with internal measures in place through the Department of Public Works adopted Countywide Plan Update (adopted November 2007). The emissions reduction measures identified in the Plan include building energy use, transportation, waste management, and land use planning.

#### Biological Resources

##### Vegetation and Wildlife Habitat

Historically, the Study Area was dominated by tidal salt marshes and upland habitats. Currently, the natural areas generally consist of disturbed terrestrial and aquatic areas. The terrestrial areas, which are located in the upland portion of the Study Area, include the following land cover types: ruderal vegetation, non-native grassland, northern coastal salt marsh wetlands (tidal salt marsh), native trees, and landscaped areas. The aquatic areas include Corte Madera Creek and tidal channels.

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<sup>1</sup> Real Climate. "Water Vapour: Feedback or Forcing?" <http://www.realclimate.org/index.php/archives/2005/04/water-vapour-feedback-or-forcing/#more-142>. April 6, 2005.

### Terrestrial areas

Ruderal vegetation is the term used to describe roadside vegetation composed of primarily upland weedy, non-native grasses and forbs. It is the predominant vegetation type in the Study Area. Exotic and highly invasive species are common and include the following species: French broom (*Genista monspessulana*), sweet fennel (*Foeniculum vulgare*), Himalayan blackberry (*Rubus discolor*), and pampas grass (*Cortaderia selloana*). Vegetation within the wetland consists mainly of pickleweed (*Sarcocornia pacifica*) and saltgrass (*Distichlis spicata*). The Study Area contains two native species of trees, redwood (*Sequoia sempervirens*) and coast live oak (*Quercus agrifolia*), as well as additional non-native trees (e.g. *Eucalyptus* sp. and *Acacia* sp.).

### Aquatic Areas

Corte Madera Creek is the main perennial watercourse within the Study Area, which originates in the foothills of Mount Tamalpais and joins the San Francisco Bay in the Town of Larkspur (east of the Study Area). Tidal channels are also located within the Study Area along the northern bank of the Corte Madera Creek. Annual precipitation for the area is 31 inches, and the mean high water elevation is 2.5 feet above mean sea level.

### Special-status Species

The Study Area is located in the San Rafael U.S. Geological Survey (USGS) 7.5-minute quadrangle. A list of federally endangered and threatened species that may occur within the San Rafael and seven surrounding USGS 7.5-minute quadrangles was obtained online from the U.S. Fish and Wildlife Service (USFWS) website on May 6, 2008, and updated on February 4, 2010. The USFWS, California Department of Fish and Game (CDFG), and California Native Plant Society (CNPS) electronic inventories were queried for the quadrangle in which the Study Area occurs as well as for the seven adjacent quadrangles. The following federally listed threatened or endangered species were identified as having the potential to occur in the Study Area: California clapper rail (*Rallus longirostris obsoletus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), tidewater goby, Central California Coast steelhead (*Oncorhynchus mykiss*), and Central California Coast coho salmon (*Oncorhynchus kisutch*). Additionally, Corte Madera Creek has been designated as critical habitat for Central California Coast steelhead and Central California Coast coho salmon, as well as designated as essential fish habitat for Central California Coast coho salmon. One state listed-only threatened or endangered species was identified as having potential to occur: the California black rail (*Laterallus jamaicensis coturniculus*). Although it was determined that special-status plant species have the potential to occur within the Study Area, botanical surveys conducted during the spring and summer of 2008 determined that none were present.

The tidal salt marsh wetland, open waters of Corte Madera Creek, and the tidal channels are the habitat types that may provide potentially suitable habitat for sensitive species. The wetland habitat provides suitable habitat for the California clapper rail, California black rail, and the salt marsh harvest mouse.

Corte Madera Creek and tidal channels provide suitable habitat for tidewater goby, Central California Coast steelhead, and Central California Coast coho salmon.

The remaining portion of the project area north of East Sir Francis Drake Boulevard is upland habitat composed mainly of ruderal, native trees, and landscaped areas. The native trees may be potentially suitable habitat for sensitive species, specifically birds protected by the Migratory Bird Treaty Act. These trees may be used by birds for nesting and foraging (Appendix A: 10).

### **Hazardous Materials**

A Phase I Environmental Site Assessment (Phase I ESA) was conducted to determine whether recognized environmental conditions are present at the proposed project site. A Federal, State, and Local agency database search indicated that two hazardous materials release sites were identified within one-quarter mile of the project site. The two hazardous materials release sites have been closed, indicating that regulatory agency oversight of remedial and/or monitoring activities have been completed. A geological map of the project area does not indicate any naturally-occurring asbestos rock (ultramafic) at the project site. The proposed project site was developed for railroad services, parking, and roads. The Phase I ESA identified the following contaminants of potential concern:

- Pesticides, herbicides, creosote, and metals in shallow soils adjacent to railroad tracks.
- Petroleum hydrocarbons and associated compounds in shallow soils associated with the use of an unpaved parking lot.
- Creosote and metals in abandoned railroad ties and existing boardwalk beams and planks.
- Aerially-deposited lead in shallow soils within approximately 30 feet of East Sir Francis Drake Boulevard and the northbound on- and off- ramps for U.S. Highway 101.

It was determined that aerially-deposited lead in undisturbed soils near the intersection of East Sir Francis Drake Boulevard and U.S. Highway 101 was the only contaminant of potential concern that may affect the proposed project. The Phase II Soil Investigation determined that the soil did not contain total lead above residential environmental screening levels (Appendix A: 11, 12).

### **Aesthetic/Visual Resources**

Generally, the proposed project setting focuses on the crossroads of two regional travel ways (U.S. Highway 101 and East Sir Francis Drake Boulevard) and a navigable stream (Corte Madera Creek). The majority of the Study Area is made-up of roadway, landscaped highway vegetation, railroad, and natural creek shoreline. U.S. Highway 101 and the railroad embankment within a wooden trestle run south and north in this highly urbanized area of Larkspur. East Sir Francis Drake Boulevard and Corte Madera Creek bisect the Study Area in an east-west direction. Corte Madera Creek is a large perennial creek,

which is open to boating, that flows into the San Francisco Bay just east of the Study Area. The banks of Corte Madera Creek provide the only salt marsh habitat in the Study Area, and the creek is open to the public. The Corte Madera Creek path and East Sir Francis Drake Boulevard multi-use path link the east and west sides of U.S. Highway 101 for pedestrians and cyclists.

U.S. Highway 101 provides a north-south connection to the cities of San Francisco and Santa Rosa. Within the Study Area, U.S. Highway 101 is not designated as a state scenic highway. East Sir Francis Drake Boulevard provides an eastward route to Interstate 580 and the San Rafael-Richmond Bay Bridge. To the west, East Sir Francis Drake Boulevard serves as gateway to the Greenbrae community, the town of San Anselmo, and State Highway 1, all leading to the Point Reyes National Seashore.

There are three landscape units within the Study Area that are defined by natural topographic features and the two transportation corridors. The landscape units include: 1) the natural resources and highway bridge undersides along the Corte Madera Creek corridor, 2) the highway corridor of U.S. Highway 101, and 3) the urban street corridor of East Sir Francis Drake Boulevard with its mixed-use commercial land uses facing the street.

The viewing audience includes two groups that are categorized by what they can see as they move through the project Study Area. The first group includes motorists that could view the proposed project from U.S. Highway 101 or East Sir Francis Drake Boulevard. The second group includes commuters, residents, employees, or owners of commercial business and recreational viewers who pass through the area on foot, by bicycle or boat, or as visitors to viewpoints such as Mt. Tamalpais or Corte Madera Creek (Appendix A: 13).

### **Cultural Resources**

The project area of potential effect (APE) consists almost entirely of a narrow north-south trending corridor in an urbanized setting and runs along the abandoned Northwestern Pacific Railroad line. A record search around the proposed project corridor identified two pre-historic and one historic cultural resource. The two pre-historic resources lie north of Corte Madera Creek. However, neither falls within the project APE. The historic resource is the 0.5-mile segment of the Northwestern Pacific railroad's main line, which includes a trestle over Corte Madera Creek. This section of railroad extends from approximately PM 14.7 at Corte Madera Creek northward to approximately PM 15.3. It follows a southeasterly path that generally parallels U.S. Highway 101 on the east side until East Sir Francis Drake Boulevard, where it then takes to a more southern course to Corte Madera Creek. The segment includes a portion of a wood trestle constructed 1924, which connects to the bascule bridge over the creek. The railroad segment north of East Sir Francis Drake Boulevard is no longer in service, and vegetation and earth cover the tracks and ballast (Appendix A: 14, 15, 16).

## Regulatory Setting and Permit Requirements

The proposed project would require permits and/or approvals from Federal, State, and local agencies, which would be secured during final design and prior to construction. These permits include:

- U.S. Army Corps of Engineers (USACOE) (CWA Section 404 Permit)
- USFWS, National Marine Fisheries Service (Biological Opinion/Incidental Take Permit)
- CDFG (Section 1602 Lake and Streambed Alteration Agreement)
- San Francisco Bay RWQCB (CWA Section 401 Permit)
- San Francisco Bay Conservation and Development Commission (BCDC) (Administrative Permit)
- County of Marin Department of Public Works (Creek Permit)
- Sonoma Marin Area Rail Transit (Encroachment Permit)
- City of Larkspur (Heritage Tree Ordinance Permit)
- City of Larkspur (Encroachment Permit)
- Caltrans (Encroachment Permit)

### III. CIRCULATION AND REVIEW

This Initial Study is being circulated to all agencies that have jurisdiction over the subject property or natural resources affected by the project to attest to the completeness and adequacy of the information contained in the Initial Study as it relates to the concerns, which are germane to the agency's jurisdictional authority. In addition, the document was made available for public review for a period of 30 days (June 3, 2010 to July 2, 2010).

### IV. EVALUATION OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to Section 15063 of the State CEQA Guidelines and the County Environmental Impact Report (EIR) Guidelines, Marin County would prepare an Initial Study for all projects not categorically exempt from the requirements of CEQA. The Initial Study evaluation is a preliminary analysis of a project that provides the County with information to use as the basis for deciding whether to prepare an EIR or Negative Declaration. The points enumerated below describe the primary procedural steps undertaken by the County in completing an Initial Study checklist evaluation, and, in particular, the manner in which significant environmental effects of the project are made and recorded.

- A. The determination of significant environmental effect is to be based on substantial evidence contained in the administrative record and the County's environmental database consisting of factual information regarding environmental resources and environmental goals and policies relevant to Marin County. As a procedural device for reducing the size of the Initial Study document, relevant information sources cited and discussed in topical sections of the checklist evaluation are incorporated by reference into the checklist (e.g., general plans, zoning ordinances). Each of these information sources has been assigned a number which is shown in parenthesis following each topical question and which corresponds to a number on the database source list provided herein as Appendix A. Other sources used or individuals contacted may also be cited in the discussion of topical issues where appropriate.
- B. In general, a Negative Declaration shall be prepared for a project subject to CEQA when either the Initial Study demonstrates that there is no substantial evidence that the project may have one or more significant effects on the environment. A Negative Declaration shall also be prepared if the Initial Study identifies potentially significant effects, but revisions to the project made by or agreed to by the applicant prior to release of the Negative Declaration for public review would avoid or reduce such effects to a level of less than significant, and there is no substantial evidence that the project as revised would have a significant effect on the environment. A signature block is provided in Section VII of this Initial Study to verify that the project sponsor has agreed to incorporate mitigation measures into the project in conformance with this requirement.
- C. All answers to the topical questions must take into account the whole of the action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct.

and construction as well as operational impacts. Significant unavoidable cumulative impacts shall be identified in Section VI of this Initial Study (Mandatory Findings of Significance).

- D. A brief explanation shall be given for all answers except "Not Applicable." Answers are adequately supported by the information sources cited in the parenthesis following each question. A "Not Applicable" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "Not Applicable" answer shall be discussed where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants based on a project-specific screening analysis).
- E. "Less Than Significant Impact" is appropriate if an effect is found to be less than significant based on the project as proposed and without the incorporation of mitigation measures recommended in the Initial Study.
- F. "Potentially Significant Unless Mitigated" applies where the incorporation of recommended mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The project sponsor must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section V, "Earlier Analyses", may be cross-referenced).
- G. "Significant Impact" is appropriate if an effect is significant or potentially significant, or if the project sponsor lacks information to make a finding that the effect is less than significant. If there are one or more effects that have been determined to be significant and unavoidable, an EIR shall be required for the project.
- H. The answers in this checklist have also considered the current CEQA Guidelines and the Initial Study Checklist contained in those Guidelines.

V. ISSUES (and Supporting Information Sources):

1. LAND USE AND PLANNING. *Would the proposal:*

a) Conflict with applicable Countywide Plan designation or zoning standards? (source #(s): 1, 2, 3)	Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact	Not Applicable
	[ ]	[X]	[ ]	[ ]

The determination of policy consistency as discussed in this Initial Study section represents TAM’s interpretation of current local plans, policies, and regulations. However, this Initial Study does not determine policy consistency.

Policy inconsistencies may not necessarily indicate significant environmental effects. Section 15358(b) of the CEQA Guidelines states that “effects analyzed under CEQA must be related to a physical change in the environment.” Therefore, only those policy inconsistencies that would lead to a significant effect on the physical environment are considered significant impacts pursuant to CEQA. Where potentially significant environmental impacts are raised in the discussion below, they have been mitigated to a less-than-significant level. Therefore, project activities are determined to be consistent with the relevant policies cited. Mitigation measures are addressed further in the topical impact sections following plan policy analysis.

Land use designations, and consequently the development of the project site, are governed by the objectives of the Marin CWP, the City of Larkspur General Plan, and Title 22 of the Marin County Code. The proposed project is located within the City Centered Corridor as defined by the Marin CWP and is located in an undesignated area identified by *Map 5.2: Lucky Drive Area/Greenbrae Boardwalk Land Use Policy Map* in Planning Area 5 (Lower Ross Valley) (Appendix A: 1).

**Marin Countywide Plan**

Consistent: The proposed project would not require any land use designation amendments. Further, the proposed Land Division Precise Development Plan, Master Plan Waiver, and future use would be consistent with the Marin CWP Land Use Designation.

APPENDIX B

MITIGATION AND MONITORING REPORT PLAN

13. Visual Resource Impact Assessment Report – Jacobs (2010)
14. Historic Resources Evaluation Report – JRP (2010)
15. Archaeological Survey Report – Far Western (2009)
16. Subsurface Geoarchaeological Investigations Report – Far Western (2009)
17. Community Impacts Assessment – Jacobs (2010)

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Section V.5(a) Air Quality/Greenhouse Gas Emissions</b></p> <p><b>Mitigation Measure 1: Dust Control</b></p> <p>During all phases of construction, the following dust control procedures shall be implemented:</p> <ul style="list-style-type: none"> <li>• Water all active construction areas as needed.</li> <li>• Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).</li> <li>• Sweep paved access roads, parking areas and staging areas at construction sites daily (with water sweepers).</li> <li>• Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.</li> </ul>	During Construction	Contractor	TAM
<p><b>Section V.7(a) Biological Resources</b></p> <p><b>Mitigation Measure 2: Wetland Habitat Restoration</b></p> <p>The lead agency shall coordinate with USACE, USFWS, and CDFG to establish mitigation measures to offset impacts to the tidal salt marsh in accordance with Section 404 of the Clean Water Act, FESA, and CESA. Impacts to the tidal salt marsh shall be mitigated through the restoration or creation of wetland habitat. The portion of tidal salt marsh subject to mitigation through the creation or restoration of wetland habitat would include only the area of permanent impact associated with the multi-use pathway (i.e., columns, footings, and piers placed within the tidal salt marsh) (0.03 acre [0.01 hectare]). For this area, habitat shall be created, restored, or set aside in perpetuity suitable in a 2:1 ratio for on-site and 3:1 ratio for off-site mitigation. This is in compliance with the County of Marin Communitywide Plan wetland restoration policy (BIO 3.2). Alternately, mitigation credits may be purchased through an approved mitigation bank, if available. If no mitigation bank is available, mitigation may be accomplished through support of existing or planned conservation projects. Because California clapper rail, California black rail, and salt marsh harvest mouse all share this type of habitat, the proposed mitigation would also offset impacts to these species. This mitigation measure shall be implemented through coordination with regulatory agencies and is subject to review and approval. The area associated with the temporary construction access (0.38 acre [0.15 hectare]) would not be included in the mitigation associated with the permanent impacts as described above. However, mitigation for temporary impacts to this area shall be accomplished through replanting/reseeding as described in Mitigation Measure 6.</p>	After construction activities are completed	TAM	TAM

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 3: Establish Boundary for Work Area within Sensitive Habitat</b>  Barrier fencing shall be established within the salt marsh habitat to delineate the boundary between where construction activities are allowed and prohibited. The fencing would prevent construction encroachment into the surrounding prohibited areas of the salt marsh and creek habitats. The construction specifications shall contain clear language that restricts construction-related activities, as well as prohibits vehicle operation, material and equipment storage, and other surface-disturbing activities within the prohibited areas. In addition, hydrologic features (i.e., topographic depressions, roadside ditches, culverts, etc.) outside the Study Area shall not be manipulated (i.e., re-routed, dredged, filled, graded, etc.). This would reduce potential impacts to wetlands outside of the Study Area that may be hydrologically connected to wetlands within the Study Area.</p>	<p>Prior to initiating and maintain throughout construction</p>	<p>Contractor</p>	<p>TAM</p>
<p><b>Mitigation Measure 4: Implement Erosion Control Measures and Storm Water Pollution Prevention Plans</b>  A Stormwater Pollution Prevention Plan (SWPPP) and erosion control BMPs shall be developed to minimize wind or water-related erosion. A SWPPP shall be developed for the project as is required by the RWQCB for all projects that have at least one acre of soil disturbance. The project shall be constructed in a manner that avoids erosion on the project and prevents accumulation of silt in drainage ways. This may be done through the use of erosion dams, temporary ground covers, and detention or settling structures. This mitigation plan shall be implemented through development of an erosion control plan subject to review and approval.</p> <p>The following protective measures shall be included in the SWPPP:</p> <ul style="list-style-type: none"> <li>• No discharge of pollutants from vehicle and equipment cleaning shall be allowed into the storm drain or water courses.</li> <li>• Vehicle and equipment fueling and maintenance operations must be at least 100 feet (30 meters) away from water courses, unless separated by a topographic or drainage barrier.</li> <li>• Concrete waste shall not be allowed into water courses and shall be collected in washouts. Water from curing operations will be properly disposed of off-site.</li> <li>• Dust control measures shall be implemented, including using water trucks and the application of tackifiers to control dust in excavation and fill areas, rocking temporary access road entrances and exits, and covering temporary stockpiles when required.</li> <li>• Coir rolls shall be installed along or at the base of slopes during construction to capture sediment.</li> <li>• Protection of graded areas from erosion shall occur using a combination of silt fences, fiber rolls along toe of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas.</li> <li>• Use of bio-filtration strips and swales to receive stormwater discharges from the adjacent roadway, or other impervious surfaces shall be incorporated</li> </ul>	<p>Complete SWPPP prior to construction and implement throughout construction</p>	<p>Contractor</p>	<p>TAM</p>

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 5: Replant/Re-Seed to Stabilize Disturbed Area</b> The applicant shall plant or re-seed all slopes affected by the proposed project with native grasses and shrubs to stabilize the slopes against erosion as part of the construction activities. This shall occur after ground disturbing construction activities associated with the multi-use pathway are completed. The applicant shall install native plant species appropriate for the location of the disturbed area.</p>	During Construction	Contractor	TAM
<p><b>Mitigation Measure 6: Replant/Re-Seed Salt Marsh Habitat</b> The applicant shall plant or re-seed the salt marsh habitat along the north bank of Corte Madera Creek affected by the proposed project to revegetate the disturbed habitat as part of the construction activities. This may include hydro seeding and would occur after ground disturbing construction activities associated with the multi-use pathway are completed. The applicant shall install native salt marsh plant species. Examples include saltgrass (<i>Distichlis spicata</i>), dwarf spikerush (<i>Eleocharis parvula</i>), alkali heath (<i>Frankenia grandifolia</i>), marsh gumplant (<i>Grindelia stricta</i>), and pickleweed (<i>Sarcocornia pacifica</i>) as appropriate for the location of the disturbed area and per an agency-approved Mitigation and Monitoring Plan.</p>	During Construction	Contractor	TAM
<p><b>Mitigation Measure 7: Provide Environmental Awareness Training</b> Before the onset of construction activities, a qualified biologist would conduct an education program for all construction personnel. At a minimum the training shall include:</p> <ul style="list-style-type: none"> <li>• A description of California clapper rail, salt marsh harvest mouse, tidewater goby, Central California Coast steelhead, and Central California Coast coho salmon and their habitats.</li> <li>• The occurrence of these species within the Study Area, an explanation of the status of these species and protection under the FESA and CESA.</li> <li>• The measures that are being implemented to conserve the species and their habitats as they relate to the work site, and the work site boundaries within which construction may occur.</li> <li>• A fact sheet conveying this information shall be distributed to the construction personnel and other project personnel who may enter the site.</li> <li>• Upon completion of the program, personnel shall sign a form stating that they attended the program and understand all the mitigation measures and implications of the FESA and CESA</li> </ul>	Prior to commencement of construction activities	TAM	TAM

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 8: Restrictions on Construction Activities</b></p> <p>The following restrictions on construction activities shall be imposed:</p> <ul style="list-style-type: none"> <li>• A speed limit of 15 miles per hour in unpaved areas of the Study Area shall be enforced to reduce dust and excessive soil disturbance.</li> <li>• Construction staging, storage, and parking areas shall be located within the SMART right-of-way and outside of any prohibited work areas (or if owner concurs on adjacent private property such as the Attwood Property). Access routes and the number and size of staging and work areas shall be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork shall be clearly marked prior to initiating construction or grading.</li> <li>• All food and food-related trash items shall be enclosed in sealed trash containers and removed completely from the site at the end of each day.</li> <li>• No pets from construction and project personnel shall be allowed anywhere in the proposed project work area during construction.</li> <li>• No firearms shall be allowed on the project site except for those carried by authorized security personnel or local, State, or Federal law enforcement officials.</li> <li>• All equipment shall be maintained in order to prevent leaks of automotive fluids such as gasoline, oils, or solvents. A Spill Response Plan would be prepared. Hazardous materials such as fuels, oils, solvents, etc. shall be stored in sealable containers and designated locations at least 100 feet (30 meters) from wetlands and aquatic habitats.</li> <li>• Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at least 100 feet (30 meters) from any aquatic habitat unless they are separated by topographic or drainage barrier or unless they are located at an already existing gas station. Staging areas may occur closer to the project activities as required.</li> <li>• Construction in inundated drainage shall be conducted with coffer dams to isolate dewatered areas from active channel habitats.</li> <li>• Use of herbicides shall be restricted in the prohibited areas (i.e., tidal salt marsh habitat).</li> </ul>	<p>Prior to and during construction</p>	<p>Contractor</p>	<p>TAM</p>

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 9: USFWS-Approved Biologist</b>  The lead agency shall consult with the USFWS to designate an approved biologist that would be on-call during all construction activities that occur within the Study Area. Qualifications of the biologist(s) must be presented to the USFWS for review and written approval prior to groundbreaking at the project site. The biologist shall perform preconstruction surveys. The biologist's findings shall be presented to the lead agency for any necessary consultation and compliance with USFWS (or other agencies) requirements. The lead agency shall consult with Federal and/or State agencies as necessary.</p>	<p>Prior to and during construction</p>	<p>TAM</p>	<p>TAM</p>
<p><b>Mitigation Measure 10: Post-construction Compliance Form</b>  A post-construction compliance report shall be prepared by the on-call biologist, which shall be provided to the USFWS within forty (40) working days following project completion or within sixty (60) calendar days of any break in construction activity lasting more than forty (40) working days. Any compliance forms prepared by the biologist shall be provided to the lead agency for consultation with the USFWS as necessary for compliance with Federal requirements.</p>	<p>After construction activities are completed</p>	<p>TAM</p>	<p>TAM</p>
<p><b>Mitigation Measure 11: Special-status Species Construction Avoidance Timeline</b>  <i>California Clapper Rail</i>  Construction activities within permitted work areas shall occur between September 1 and January 31 to reduce potential impacts to California clapper rail breeding/nesting season. If construction must occur during the period from February 1 to August 31, a qualified wildlife biologist shall conduct preconstruction surveys for nesting birds. If an active nest is found, the bird shall be identified to species, and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than 300 feet from the nearest work site. If active nests are closer than 300 feet to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to construction activities, a plan to monitor nesting birds during construction shall be prepared and submitted to the USFWS and CDFG for review and approval. Disturbance of active nests shall be avoided until it is determined that nesting is complete and the young have fledged.</p>	<p>During construction</p>	<p>Contractor</p>	<p>TAM</p>
<p><i>California Black Rail</i>  Construction activities within permitted work areas shall occur between July 1 and January 31 to reduce potential impacts to California black rail breeding/nesting season. If construction must occur during the period from February 1 to June 30, a qualified wildlife biologist shall conduct preconstruction surveys for nesting birds. If an active nest is found, the bird shall be identified to species, and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than 300 feet from the nearest work site. If active nests are closer than 300 feet to the nearest work site and there is</p>			

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p>the potential for destruction of a nest or substantial disturbance to nesting birds due to construction activities, a plan to monitor nesting birds during construction shall be prepared and submitted to the USFWS and CDFG for review and approval. Disturbance of active nests shall be avoided until it is determined that nesting is complete and the young have fledged.</p>			
<p><i>Salt Marsh Harvest Mouse</i> Construction activities within permitted work areas shall occur between December 1 and February 28 to reduce potential impacts to salt marsh harvest mouse breeding/nesting season. If construction must occur during the period from March 1 to November 30, a qualified wildlife biologist shall conduct preconstruction surveys for salt marsh harvest mouse.</p>			
<p>If a monitoring plan is required, it will be submitted to the lead agency for consultation with the USFWS and/or CDFG, as necessary.</p>			
<p><b>Mitigation Measure 12: Halt Work if Special-status Species are observed in Work Area</b> The resident engineer shall halt work and immediately contact the lead agency, approved on-call biologist, USFWS, and CDFG in the event that a California clapper rail, California black rail, or salt marsh harvest mouse enter the construction zone. The resident engineer shall suspend all construction activities in the immediate construction zone until the animal leaves the site voluntarily, or is removed by the biologist to a release site using USFWS-approved transportation techniques.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 13: Care for Injured Special-status Species</b> Injured special-status species shall be cared for by a licensed veterinarian or other qualified person, such as the on-site biologist. Dead individuals shall be preserved according to standard museum techniques and held in a secure location. The USFWS and the CDFG shall be notified within one working day of the discovery of death or injury to special-status species.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 14: Install an Exclusion Fence for Salt Marsh Harvest Mouse</b> A temporary exclusionary fence shall be installed to prevent salt marsh harvest mice from entering the permitted work area within the salt marsh. The fence shall be maintained and kept in proper working condition for the duration of the construction activities that occur within the salt marsh.</p>	During construction	Contractor	TAM

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 15: Work in Live Streams Shall be Minimized</b>            If it is necessary to conduct work in a live stream, the workspace shall be isolated to avoid construction activities in flowing water. The proposed project shall allow fish passage past the project area. Adequate water depth and channel width must be maintained at all times for fish passage. Prior to construction activities, the workspace would be isolated from flowing water to prevent sedimentation and turbidity and avoid impacts to fish. The diversion shall remain in place during the project and be removed immediately after work is completed in a manner that would allow flow to resume with the least disturbance to the substrate.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 16: Dewatering</b>            If dewatering within the open waters of Corte Madera Creek is required, either a pump shall remove water to an upland disposal site, or a filtering system shall be used to collect the water and return clear water to the creek. The pump intake shall be fitted with a fish exclusion device that meets the National Marine Fisheries Service (NMFS) fish screening criteria. This includes openings that are no bigger than either 3/32 inch or 1/4 inch depending on the presence of fry or fingerling salmonid juveniles.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 17: Presence of Biologist During Dewatering</b>            During dewatering activities, a fisheries biologist shall be present to salvage individuals should they be present. Fish shall be netted, placed in a bucket of water, and immediately moved to a downstream portion of the creek. Records of species, relative size, and number of individuals shall be kept. Periodic checks of the work area shall occur to ensure that fish have not re-entered the work area.</p>	During construction	TAM	TAM
<p><b>Mitigation Measure 18: Placement of Non-toxic Structures in Streams</b>            All materials placed in the stream, such as pilings and retaining walls, shall be non-toxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures shall not contain coatings, treatments, or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 19: Minimize Disturbance from Construction Access</b>            Disturbance to existing grades and vegetation shall be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities shall avoid and limit disturbance to streambank or stream channel habitat to the minimum area necessary to complete the work. When possible, existing ingress or egress points shall be used and/or work performed from the top of the creek banks. Obvious barriers to fish passage shall be removed to facilitate upstream movement.</p>	During construction	Contractor	TAM

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 20: Erosion Control</b>  Erosion control and sediment detention devices (e.g., well-anchored sandbag coffer dams, straw bales, "Aqua Dam," or silt fences) shall be incorporated into the project design and implemented at the time of construction. These devices shall be in place during construction activities. If necessary, these devices shall be in place after construction for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water and for detaining sediment laden water on-site. These devices shall be placed at all locations where the likelihood of sediment input exists. A supply of erosion control materials shall be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 21: Comply with Local Tree Removal Ordinances</b>  Work shall conform to local tree ordinances for construction projects. The City of Larkspur Heritage tree ordinance stipulates that the removal of trees with a 50 inches circumference or greater, measured at 2 feet above grade, requires a permit. Replacement of removed trees shall occur at 2:1 ratio for heritage trees 15-24 inches in diameter and 4:1 ratio for trees greater than 24 inches in diameter. The specific replacement shall be determined during the permit review process.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 22: Minimize Dispersal of Noxious Weeds into Un-infested Areas</b>  Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weeds. Identify areas with populations of high priority noxious weed infestations and flag areas for easy identification by construction crews. Clean construction equipment after leaving areas with high priority noxious weeds.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 23: Construction Activities Conducted Outside of Migratory Bird Nesting Season</b>  Shrub and tree trimming and/or removal activities associated with the proposed project shall be conducted outside the nesting season (generally between February 1 and August 31). If shrub and tree removal is scheduled to occur during the nesting season, a qualified wildlife biologist, familiar with the species and habitats in the Study Area, shall conduct preconstruction surveys for nesting birds with suitable nesting habitat in the Study Area as described in Mitigation Measure 24.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 24: Conduct Pre-construction Surveys for Nesting Birds</b>  The nesting bird surveys shall be conducted within one week before initiation of construction activities within those habitats. If no active nests are detected during surveys, construction may proceed. If active nests are detected then Mitigation Measure 25 shall be implemented.</p>	During construction	Contractor	TAM

Mitigation Measure	Timing	Implementing Entity	Monitoring Entity
<p><b>Mitigation Measure 25: Install Exclusionary Fencing for Migratory Birds</b>            A no-disturbance buffer shall be established around nests identified during preconstruction surveys. The extent of the no-disturbance buffers shall be determined by a wildlife biologist in consultation with CDFG and shall depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographic or artificial barriers. The purpose of the buffer is to avoid disturbance or destruction of the nest until after the breeding season, or until a wildlife biologist determines that the young have fledged (usually late-June to mid-July). Within this buffer, all non-essential construction activities (e.g., equipment storage, meetings) shall be avoided. However, construction activities can proceed if the biological monitor determines that the individual is not likely to abandon the nest during construction.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 26: Conduct In-water Work Outside of Northern California Rainy Season</b>            Work within an inundated drainage or channel, or in-water work, shall be conducted outside the Central and Northern California rainy season of October 15 through April 15. Work within upland areas (i.e., not in-water work) that is conducted during the rainy season shall require the implementation of BMPs described in Mitigation Measure 4.</p>	During construction	Contractor	TAM
<p><b>Mitigation Measure 27: Restore Flows Following the Completion of Construction</b>            Following completion of the project, all materials used to maintain flow and divert water from the Study Area during the construction period, including, but not limited to, coffer dams, pipes, filter fabric, fill material, and gravel, shall be removed. All excess soil shall be disposed at an approved upland site.</p>	During construction	Contractor	TAM

Section V.10(a) Noise

**Mitigation Measure 28: Construction Noise Control Measures**

- A construction noise reduction plan shall be adopted by the construction management team for this project that designates a noise disturbance coordinator at the construction site to implement the provisions of the plan.
- With the exception of pile driving, construction activity shall be allowed only between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturday. Given the very loud nature of pile driving, pile driving shall be limited from the hours of 8:00 a.m. to 6:00 p.m. on Monday through Friday. Pile driving shall end by 4:30 p.m. each day.
- All powered construction equipment shall be equipped with intake and exhaust mufflers recommended by the manufacturers. Pavement breakers, pile drives, and jackhammers shall be equipped with acoustical attenuating shields or shrouds recommended by the manufacturers.
- Construction equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an un-muffled exhaust.

During construction

Contractor

TAM