Department of Conservation and Development

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Contra Costa County

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January 2016

NOTICE OF PUBLIC REVIEW AND INTENT TO ADOPT A PROPOSED MITIGATED NEGATIVE DECLARATION
County File No. CP 15-39

Pursuant to the State of California Public Resources Code and the "Guidelines for Implementation of the California Environmental Quality Act of 1970" as amended to date, this is to advise you that the Department of Conservation and Development of Contra Costa County has prepared an initial study for the following project:

PROJECT NAME: Marsh Creek Road Bridge Replacement (Bridge 28C-141)

LEAD AGENCY: Contra Costa County Department of Conservation and Development

APPLICANT: Contra Costa County Public Works Department

LOCATION: The Project is located two miles east of Morgan Territory Road, located in the eastern area of Contra Costa County in the community of Clayton

DESCRIPTION: The purpose of this Project is to replace an existing bridge along Marsh Creek Road that carries traffic over Marsh Creek. The Project consists of bridge replacement; The proposed bridge would be an approximately 90-foot-long, single-span bridge. The bridge deck would be widened to provide a width of approximately 43 feet, with 12-foot-wide travel lanes, 8-foot-wide shoulders, and an approximately 1.5-foot-wide concrete barrier on each side of the new bridge. The proposed bridge would be constructed of reinforced concrete on pre-cast and pre-stressed I-girders. The reinforced concrete bridge abutments would be supported by spread footings. The existing structure includes tall, reinforced concrete walls that restrict the flows of Marsh Creek under the bridge. These existing walls would be removed as part of the project to open up the channel where Marsh Creek flows under the bridge. The channel work would require that Marsh Creek be dewatered in accordance with regulatory permits. Dewatering would likely be accomplished using coffer dams according to methods acceptable to the California Department of Fish and Wildlife (CDFW). Water would be

routed around the work area to maintain downstream flows. Dewatering would occur in the work area extending approximately 150 feet upstream and 200 feet downstream of the existing bridge. Along with replacing the bridge, the horizontal alignment of Marsh Creek Road would be shifted north on a parallel alignment to accommodate the wider bridge structure, and earthwork would be required along both sides of the existing roadway. In order to meet the hydraulic design standards, the vertical profile of the bridge would be slightly raised. The changes in both the horizontal and vertical alignments require reconstruction of Marsh Creek Road on both sides of the bridge (900 feet total). Two retaining walls may also be necessary: the first retaining wall would be along the north side of the roadway (west of the bridge), would have an average approximate height of 10 feet, and would be 183 feet long; the second smaller retaining wall would be set back from the roadway on the north side of the road (west of the bridge) and would be approximately 7 feet high and 90 feet long. The final design of these walls will be determined prior to construction. The widening and realignment of Marsh Creek Road to construct the new bridge may require right-of-way or temporary easements from several adjacent parcels. Staging of construction materials and equipment would occur in two potential locations north and south of the road in the center of the project site (Figure 2). The northern staging area would occur within an undeveloped vegetated area, and the southern staging would occur entirely within paved parking areas. Standard construction equipment would be used for constructing the proposed project, including but not limited to: excavators, graders, scrapers, loaders, sweepers/scrubbers, plate compactors, rollers, backhoes, and pavers. The proposed project has been designed so that existing traffic can be accommodated during construction, while minimizing impacts to the surrounding right-of-way, including existing buildings. Construction would be sequenced in a manner to minimize traffic impacts during construction. Two phases of bridge construction are expected: The first phase would partially construct the new bridge with traffic using the existing bridge; The second phase shifts both directions of traffic onto the new bridge so the existing bridge can be demolished and the new bridge can be built to full width. During construction, the project is expected to accommodate one 12-foot-wide travel lane in each direction on Marsh Creek Road through the project site throughout construction, with short, infrequent periods of one lane traffic controls. Construction would take up to two seasons, likely starting in the summer of 2017 and finishing by the fall of 2018, pending Caltrans and Federal approvals. Utility relocation and right-of-way transaction will be necessary in support of the project. Tree and shrubbery removal and trimming will be necessary, in order to minimize damage to trees, any roots exposed during construction activities will be clean cut and tree branches will be trimmed. A copy of the Initial Study Mitigated Negative Declaration (IS/MND) may be reviewed at the Contra Costa County Public Works Department, 255 Glacier Drive, Martinez, during normal business hours. All documents referenced in the IS/MND are available on request. You may also view the IS/MND on the County's webpage: http://www.co.contra-costa.ca.us. (Go to the Department of Conservation and Development and click on Public Input or go to the Public Works Department and click on Public Notices). Si desea hablar con alguien en Español sobre este aviso, llame al (925) 313-2022.

PUBLIC COMMENT PERIOD: The period for accepting comments on the adequacy of the environmental document is from **January 27, 2016** to **February 26, 2016, at 5:00 P.M**. Any comments should be in writing and submitted to the following address and/or email address:

Hillary Heard, Planner II
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94553
hillary.heard@pw.cccounty.us

Any questions regarding the Project itself should be directed to:

Neil Leary
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94553
(925) 313-2278

The environmental document is expected to go before the County Board of Supervisors on March 15, 2016. To confirm the Board date, please contact Hillary Heard at (925) 313-2022.

Contra Costa County

PUBLIC WORKS DEPARTMENT
INITIAL STUDY OF ENVIRONMENTAL SIGNIFICANCE

PROJECT NUMBER: 0662-6R4079

CP# **15-39**

PROJECT NAME: Marsh Creek Road Bridge Replacement (Bridge 28C-0141)

PREPARED BY: Hillary Heard, Planner II DATE: January 5, 2016

APPROVED BY: _____ DATE: 1-11-16

RECOMMENDATIONS:

☐ **Categorical Exemption [Class X]**
☐ Environmental Impact Report Required
☒ Mitigated Negative Declaration
☐ Conditional Negative Declaration

The project will not have a significant effect on the environment. The recommendation is based on the following: There is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, pursuant to 15063 (b) (2) of the CEQA Guidelines.

What changes to the project would mitigate the identified impacts: N/A

USGS Quad Sheet: Antioch South	Base Map Sheet #: P-20, P-21	Parcel #: N/A

GENERAL CONSIDERATIONS:

1. **Location:** The project is located two miles east of Morgan Territory Road, located in the eastern area of Contra Costa County in the community of Clayton [Figures 1-2].

2. **Project Description:** The purpose of this project is to replace an existing bridge along Marsh Creek Road that carries traffic over Marsh Creek. The Project consists of bridge replacement; The proposed bridge would be an approximately 90-foot-long, single-span bridge. The bridge deck would be widened to provide a width of approximately 43 feet, with 12-foot-wide travel lanes, 8-foot-wide shoulders, and an approximately 1.5-foot-wide concrete barrier on each side of the new bridge. The proposed bridge would be constructed of reinforced concrete on pre-cast and pre-stressed I-girders. The reinforced concrete bridge abutments would be supported by spread footings. The existing structure includes tall, reinforced concrete walls that restrict the flows of Marsh Creek under the bridge. These existing walls would be removed as part of the project to open up the channel where Marsh Creek flows under the bridge. The channel work would require that Marsh Creek be dewatered in accordance with regulatory permits. Dewatering would likely be accomplished using coffer dams according to methods acceptable to the California Department of Fish and Wildlife (CDFW). Water would be routed around the work area to maintain downstream flows. Dewatering would occur in the work area extending approximately 150 feet upstream and 200 feet downstream of the existing bridge. Along with replacing the bridge, the horizontal alignment of Marsh Creek Road would be shifted north on a parallel alignment to accommodate the wider bridge structure, and earthwork would be required along both sides of the existing roadway. In order to meet the hydraulic design standards, the vertical profile of the bridge would be slightly raised. The changes in both the horizontal and vertical alignments require reconstruction of Marsh Creek Road on both sides of the bridge (900 feet total). Two retaining walls may also be necessary: the first retaining wall would be along the north side of the roadway (west of the bridge), would have an average approximate height of 10 feet, and would be 183 feet long; the second smaller retaining wall would be set back from the roadway on the north side of the road (west of the bridge) and would be approximately 7 feet high and 90 feet long. The final design of these walls will be determined prior to construction. The widening and realignment of Marsh Creek Road to construct the new bridge may require right-of-way or temporary easements from several adjacent parcels. Staging of construction materials and equipment would occur in two potential locations north and south of the road in the center of the project site (Figure 2). The northern staging area would occur within an undeveloped vegetated area, and the southern staging would occur entirely within paved parking areas. Standard construction equipment would be used for constructing the proposed project, including but not limited to: excavators, graders, scrapers, loaders, sweepers/scrubbers, plate compactors, rollers, backhoes, and pavers. The

proposed project has been designed so that existing traffic can be accommodated during construction, while minimizing impacts to the surrounding right-of-way, including existing buildings. Construction would be sequenced in a manner to minimize traffic impacts during construction. Two phases of bridge construction are expected: The first phase would partially construct the new bridge with traffic using the existing bridge; The second phase shifts both directions of traffic onto the new bridge so the existing bridge can be demolished and the new bridge can be built to full width. During construction, the project is expected to accommodate one 12-foot-wide travel lane in each direction on Marsh Creek Road through the project site throughout construction, with short, infrequent periods of one lane traffic controls. Construction would take up to two seasons, likely starting in the summer of 2017 and finishing by the fall of 2018, pending Caltrans and Federal approvals. Utility relocation and right-of-way transaction will be necessary in support of the project. Tree and shrubbery removal and trimming will be necessary, in order to minimize damage to trees, any roots exposed during construction activities will be clean cut and tree branches will be trimmed.

3. **Does it appear that any feature of the project will generate significant public concern?**

   ☐ Yes ☒ **No** ☐ maybe (Nature of concern):

4. **Will the project require approval or permits by other than a County agency?**

   ☒ Yes ☐ **No** U.S. Army Corps of Engineers, Regional Water Quality Control Board – Central Valley Region, California Department of Fish and Wildlife, State Water Resources Control Board.

5. **Is the project within the Sphere of Influence of any city?** No

Environmental Checklist

1.	**Project Title:**	Marsh Creek Road Bridge Replacement (Bridge 28C-0141)
2.	**Lead Agency Name and Address:**	Contra Costa County Community Development Department 30 Muir Road, Martinez, CA 94553
3.	**Contact Person and Phone Number:**	Hillary Heard, Planner Environmental Services Division Contra Costa County Public Works Department 255 Glacier Drive, Martinez, CA 94553 (925) 313-2022
4.	**Project Location:**	Two miles East of Morgan Territory Road Clayton, Contra Costa County, California
5.	**Project Sponsor's Name and Address:**	Contra Costa County Public Works Department 255 Glacier Drive, Martinez, CA 94553
6.	**General Plan Designation:**	Agricultural Lands (AL)
7.	**Zoning:**	A-2 (General Agriculture) and F-R (Forestry-Recreation)

8. Description of Project:

Contra Costa County Public Works (CCCPWD), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing Marsh Creek Road Bridge (Bridge No. 28C-0141) in Contra Costa County, California (hereafter referred to as the proposed project). Marsh Creek Road is a narrow, two-lane rural major collector road that is widely used by commuters as an alternate to the heavily congested State Route 4. The road winds through a series of tight turns in rolling terrain, serving as a vital transportation link between Central and East Contra Costa County for passenger vehicles, heavy trucks, and vehicles with trailers (Contra Costa County 2013). The proposed project site is located approximately 2 miles east of Morgan Territory Road in the Clayton Area (Figures 1 and 2). The project site falls within the Antioch South 7.5-minute United States Geological Survey (USGS) quadrangle, within the Northwest quarter of Section 34, Township 01N, Range 01E of the Mount Diablo Base and Meridian, and is located at NAD 83 UTM 37.891635, -121.848997.

The existing bridge has been deemed structurally deficient and functionally obsolete in recent Caltrans bridge inspection reports. The purpose of the proposed project is to replace the existing single-span bridge with a new single-span bridge that meets current design standards. The new bridge would be designed to meet current design standards (i.e., CCCPWD, Caltrans, and American Association of State Highway and Transportation Officials) and would include wider shoulders and wider lanes.

The proposed bridge would be an approximately 90-foot-long, single-span bridge. The bridge deck would be widened to provide a width of approximately 43 feet, with 12-foot-wide travel lanes, 8-foot-wide shoulders, and an approximately 1.5-foot-wide concrete barrier on each

side of the new bridge. The proposed bridge would be constructed of reinforced concrete on pre-cast and pre-stressed I-girders. The reinforced concrete bridge abutments would be supported by spread footings.

The existing structure includes tall, reinforced concrete walls that restrict the flows of Marsh Creek under the bridge. These existing walls would be removed as part of the project to open up the channel where Marsh Creek flows under the bridge. The channel work would require that Marsh Creek be dewatered in accordance with regulatory permits. Dewatering would likely be accomplished using coffer dams according to methods acceptable to the California Department of Fish and Wildlife (CDFW). Water would be routed around the work area to maintain downstream flows. Dewatering would occur in the work area extending approximately 150 feet upstream and 200 feet downstream of the existing bridge.

Along with replacing the bridge, the horizontal alignment of Marsh Creek Road would be shifted north on a parallel alignment to accommodate the wider bridge structure, and earthwork would be required along both sides of the existing roadway. In order to meet the hydraulic design standards, the vertical profile of the bridge would be slightly raised. The changes in both the horizontal and vertical alignments require reconstruction of Marsh Creek Road on both sides of the bridge (900 feet total). Two retaining walls may also be necessary: the first retaining wall would be along the north side of the roadway (west of the bridge), would have an average approximate height of 10 feet, and would be 183 feet long; the second smaller retaining wall would be set back from the roadway on the north side of the road (west of the bridge) and would be approximately 7 feet high and 90 feet long. The final design of these walls will be determined prior to construction. The widening and realignment of Marsh Creek Road to construct the new bridge may require right-of-way or temporary easements from several adjacent parcels.

Overhead electric, phone, and cable lines cross the creek along the south side of the road. An underground water line is attached to the downstream (north) side of the bridge. The overhead electric line poles and the water line attached to the existing bridge will be relocated. Staging of construction materials and equipment would occur in two potential locations north and south of the road in the center of the project site (Figure 2). The northern staging area would occur within an undeveloped vegetated area, and the southern staging would occur entirely within paved parking areas. Standard construction equipment would be used for constructing the proposed project, including but not limited to: excavators, graders, scrapers, loaders, sweepers/scrubbers, plate compactors, rollers, backhoes, and pavers.

The proposed project has been designed so that existing traffic can be accommodated during construction, while minimizing impacts to the surrounding right-of-way, including existing buildings. Construction would be sequenced in a manner to minimize traffic impacts during construction. Two phases of bridge construction are expected:

- The first phase would partially construct the new bridge with traffic using the existing bridge.
- The second phase shifts both directions of traffic onto the new bridge so the existing bridge can be demolished and the new bridge can be built to full width.

During construction, the project is expected to accommodate one 12-foot-wide travel lane in each direction on Marsh Creek Road through the project site throughout construction, with

short, infrequent periods of one lane traffic controls. Construction would take up to two seasons, likely starting in the summer of 2017 and finishing by the fall of 2018, pending Caltrans and Federal approvals.

9. Surrounding Land Uses and Setting:

The proposed project location is approximately 6 miles east of the town of Clayton. The area surrounding the site is a mix of rural residential, recreation, and grazing lands. Throughout the project area, Marsh Creek Road is flanked on either side by rolling hills and ridgelines, providing a rural scenic backdrop from the town of Clayton to the town of Byron to the east.

10. Other Public Agencies Whose Approval is Required:

Federal Highway Administration, California Department of Transportation

The proposed project will be partially funded through the Federal Highway Bridge Program. Caltrans, on behalf of the Federal Highway Administration, is the lead agency for the National Environmental Policy Act. Therefore, the proposed project has been approved by Caltrans for National Environmental Policy Act compliance (September 2015).

East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

Federal Endangered Species Act, California Natural Community Conservation Planning Act

The proposed project is located within the Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) inventory area and is a covered activity (Bridge Replacement). The HCP/NCCP is intended to provide an effective framework to protect natural resources and special-status species recovery in eastern Contra Costa County while improving and streamlining the environmental permitting process for impacts on these species and associated habitats. The HCP/NCCP complies with Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) and California Natural Community Conservation Planning Act of 2003 and as such covered activities are authorized incidental take of HCP/NCCP-covered special status species subject to mitigation fees for both permanent and temporary impacts to species habitats and implementation of specific conditions and conservation measures to avoid or minimize potential effects to species and/or its habitats. The HCP/NCCP requires reporting and fee payment to the HCP/NCCP Implementing Entity, the East Contra Costa County Habitat Conservancy, a joint exercise of powers authority formed by the Cities of Brentwood, Clayton, Oakley, and Pittsburg and Contra Costa County (Jones & Stokes Associates 2006).

U.S. Army Corps of Engineers – Sacramento District

Clean Water Act, Section 404, Regional General Permit

Section 404 of the Clean Water Act (CWA) regulates discharges of dredged or fill material into jurisdictional waters of the U.S., including wetlands. A drainage ditch and a perennial stream channel are in the project area. There would be temporary and permanent impacts to these

resources during construction. This type of activity would be authorized under a Regional General Permit program for HCP/NCCP-covered projects (USACE 2015). Therefore, the U.S. Army Corps of Engineers (USACE) Sacramento District will be notified for authorization.

Regional Water Quality Control Board – Central Valley Region

Clean Water Act, Section 401, Water Quality Certification

Section 401 of CWA also regulates projects that discharge dredged or fill material into jurisdictional waters of the U.S., and waters of the state, including wetlands when a federal permit or license will be issued (RWQCB 2015). As noted above, a drainage ditch and seasonal wetland adjoin the project area, and would sustain minimal temporary impacts during construction. Therefore, a Water Quality Certification will be obtained from the RWQCB.

State Water Resources Control Board

National Pollution Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-0006-DWQ) (Construction General Permit)

Projects that disturb one or more acres of soil or disturbs less than one acre but are part of a larger development that in total disturbs one or more acres, are required to obtain coverage under this permit (SWRCB 2015). If the project disturbs less than 5 acres, the permit allows for a waiver certification if the project will occur when the rainfall erosivity factor value is less than five (i.e., typically occurring in dry seasons when rains are less frequent and less force). At this time, it is anticipated that the proposed project would disturb approximately 4.5 acres. Therefore, a waiver certification will be requested from the State Water Resources Control Board.

California Department of Fish and Wildlife

California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for enforcing the California Fish and Game Code, which contains several provisions potentially relevant to construction projects. Lake and Streambed Alteration Agreements are required whenever project activities will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as such by CDFW. Therefore, a Lake and Streambed Alteration Agreement will be obtained from CDFW for the proposed project.

The California Fish and Game Code also lists animal species designated as Fully Protected or Protected, which may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. These take permits do not allow "incidental take" and are more restrictive than the take allowed under Section 2081 of the California ESA. Fully Protected species are listed in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code, while Protected amphibians and reptiles are listed in Chapter 5, Sections 41 and 42.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the federal Migratory Bird Treaty Act, essentially serve to protect nesting native birds. Non-native species, including European starling, house sparrow, and rock pigeon, are not afforded any protection under the Migratory Bird Treaty Act or California Fish and Game Code. The proposed project will comply with all provisions of the California Fish and Game Code.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to 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 an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Hillary Heard — 1/27/16

NAME OF PREPARER Contra Costa County Public Works Department — Date

1/27/16

LEAD AGENCY Contra Costa County Community Development Department — Date

I. Aesthetics	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

Within its boundaries, Contra Costa County (County) identifies scenic ridges and waterways as the two main scenic resources, in addition to many localized scenic features. Scenic ridges include hillsides and rock outcroppings and scenic waterways include the San Francisco, San Pablo, and Suisun bays. Throughout much of the County, there are significant topographic variations in the landscape. The largest and most prominent of these are the hills that form the backdrop for much of the developed portions of the area. Views of these major ridgelines help to reinforce the rural feeling of the County's rapidly growing communities. These major ridges provide an important balance to current and planned development (Contra Costa County 2005).

The proposed project location is approximately 6 miles east of the town of Clayton. The area surrounding the site is a mix of sparse residential, recreation, and grazing lands. Throughout the project area, Marsh Creek Road is flanked on either side by rolling hills and ridgelines, providing a rural scenic backdrop from the town of Clayton to the town of Byron to the east. These features have led the County to designate Marsh Creek Road as a scenic route for providing high visual value of the rolling hills and ridgelines (Contra Costa County 2005). There are no designated or eligible cultural, historical, or natural resources that could be considered important visual resources within the project area as reported in the technical studies prepared for this project (LSA Associates 2015; Contra Costa County 2015a).

a) Would the project have a substantial adverse effect on a scenic vista?

The County has designated two main resources as exhibiting important scenic vistas: scenic ridges, hillsides, and rock outcroppings and the San Francisco Bay/Delta estuary system (Contra Costa County 2005a). The project area lies in a valley floor flanked by large rolling hills within a rural setting and therefore would not interfere with scenic vistas of scenic ridgelines, hillsides or rocking outcroppings. There are no scenic vistas of the San Francisco Bay/Delta estuary system within the project area. The new bridge would be located within the same general footprint as the existing bridge, but would be

wider. Approximately 36 trees would be removed as a result of the proposed project; however, these changes are not expected to affect the existing scenic vista of the site. The new bridge and bridge approaches would remain at existing elevations; therefore, existing views to and from the bridge would not be substantially altered. Therefore, the proposed project would have **a less than significant impact** to scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?

While Marsh Creek Road is listed as a scenic route, it is not designated or eligible as a State Scenic Highway (Caltrans 2015). In addition, the approximately 36 trees proposed for removal by the proposed project are not considered heritage trees or trees of local significance. There are also no designated or eligible cultural, historical, or natural resources that could be considered important scenic resources within the project area. Therefore, the proposed project would have **a less than significant impact** on scenic resources.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The proposed project would remove up to approximately 36 trees and expand the footprint of the new bridge. The amount of trees being removed is localized and considered relatively minor compared to the amount of remaining vegetation through the corridor. These effects are not expected to substantially degrade the existing visual character or quality. Therefore, the proposed project's impacts on the site's visual character would be **less than significant**.

d) Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project is not expected to provide a new substantial source for light and glare. The vertical alignment of the new bridge is not expected to change from that of the existing bridge, so the proposed project would not change the perspective of existing views. However, the width of the bridge would increase in size from 30.5 to 47 feet in width. This increase in square footage of concrete could potentially increase glare during certain times of the day depending upon the location of the sun, due to the light color of concrete when compared to the surrounding visual character. However, the increase is expected to be negligible. No new lighting is proposed as part of the proposed project. Therefore, the proposed project is expected to have a **less than significant impact** related to light and glare.

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

Regulatory Setting

Consistent with the state of California, the County has seen a significant decrease in the amount of acreage in farm production. The majority of the decline has been attributed to urbanization of the region, which over time gradually converts agricultural lands to other uses. Within the County, this has resulted in a reduction in both crop and grazing lands (Contra Costa County 2005).

A project that would convert prime agricultural land to non-agricultural use or impair the agricultural productivity would normally have a significant effect on the environment. No set acreage of prime farmland conversion has been determined by case law or regulatory framework which would constitute a significant impact (California Department of Conservation 2015).

Several programs and regulations have been established to better minimize and manage the conversion of farmland. Programs and policies applicable to the proposed project are described in the following paragraphs.

California Environmental Quality Act (CEQA) Guidelines. The CEQA Guidelines require a project to address potential impacts to both farmland conversion and the cancellation of Williamson Act contracts for parcels exceeding 100 acres. The cancellation of a Williamson Act contract is an action considered to be of statewide, regional, or area-wide significance, and thus is subject to CEQA review (CEQA Guidelines Section 15206(b)(3)).

California's Farm Mapping and Monitoring Program (FMMP). The FMMP was established in 1982 in response to a critical need for assessing the location, quality, and quantity of farmlands and conversion of these lands over time. FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California. Creation of the FMMP was supported by the Legislature and a broad coalition of building, business, government, and conservation interests (California Department of Conservation 2015).

California Land Conservation Act of 1965**.** This act is commonly referred to as the Williamson Act, and it enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive a reduced property tax assessments based on open space use, versus highest and best use value (California Department of Conservation 2015).

Contra Costa County General Plan. The County has identified agricultural resources as very valuable and important. The County has established goals and policies in their General Plan (2005) to enhance and protect farmlands and minimize conflicts with other land uses.

a) Would the project 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?

The project area is located in the foothills near Mt. Diablo. The topography is not conducive for commercial farming practices and no active farming has been observed. There are two soil units within the project area: Los Oso clay loam, which is not considered to support prime farmland, and Zamora silty clay loam, which could be classified as prime farmland if irrigated (NRCS 2015). Based on review of the Contra Costa County Important Farmland Map (2012) and visual observations, no irrigation for crop production has been documented nearby; therefore, the lands within the project area are not considered prime, unique, or of statewide significance (Anchor QEA 2015).

There are no lands within the project area that are designated as prime or unique farmland or farmlands of statewide significance. Therefore, the project would have **no impact** on these regulated types of farmlands.

b) Would the project conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

Under the Williamson Act, land may be enrolled under the "Prime Agricultural Land" designation if it meets economic or production criteria. A review of the FMMP as well as County zoning information indicates that there are two parcels (parcel number 078130008 and 078130020) to the east of the proposed project boundary that are currently enrolled in the Williamson Act program (Figure 3): parcel 078130008 (approximately 318 acres) and parcel 078130020 (approximately 100 acres). Because each parcel is larger than 100 acres, they are both precluded from being converted to non-eligible uses. Both parcels are zoned A4, which is classified as "Agricultural Preserve" (Contra Costa County 2015a).

The proposed project would not extend into these parcels and would therefore not convert any of these lands into non-farmland use. Therefore, the project would have **no impact** on Williamson Act-contracted lands.

c and d) Would the project 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))? Result in the loss of forest land or conversion of forest land to non-forest use?

The proposed project does not involve activities within areas that are zoned as forest land. Therefore, the proposed project would have **no impact** on timberlands.

e) Would the project involve other changes in the existing environment that, 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?

The project area is within three classified farmland categories: farmland of local importance, grazing land, and other land. Technical soil ratings and current land use are used as the basis for determining the classification within the Important Farmland Maps of these lands. The minimum land use mapping unit is 10 acres unless specified. Smaller units of land are incorporated into the surrounding map classifications. In order to most accurately represent the Natural Resources Conservation Service digital soil survey, soil units of one acre or larger are depicted in Important Farmland Maps (California Department of Conservancy 2015).

Farmland of Local Importance. This classification includes land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of local importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Grazing Land. This classification is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. (California Department of Conservancy 2015).

Other Land. This includes land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as “other land.”

A portion of the site has been designated as farmland of local importance due to the band of Zamora silty clay loam that traverses the project area. This band ranges from approximately 200 to 400 feet wide within the project area. The proposed project may permanently affect a small portion of this soil type just east of where the roadway crosses the stream. However, this area has already been converted to residential use and is not irrigated; therefore, the proposed project would have only minor effects on farmland of local importance and is not expected to impact the overall potential agricultural production as none exists today on that land.

The proposed project may also result in the need for CCCPWD to acquire a small portion of grazing land along the north side of the roadway just west of the bridge crossing for staging and permanent right-of-way acquisition. The staging would be temporary and the land would be reverted back to its pre-project condition after construction. The right-of-way acquisition would be needed in order to straighten out the existing curve that is considered a safety hazard. The land acquisition is not expected to affect the

overall ability for the parcel to be grazed nor significantly reduce the overall production of the grazing land. Therefore, the proposed project's impacts on farmland of local importance and grazing land would be **less than significant**.

III. Air Quality	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Regulatory Setting

The U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) currently focus much of their air pollutant control efforts on five major air pollutants: ozone, NO2, CO, SO2, PM10, and PM2.5. These are the most prevalent air pollutants emitted nationwide and statewide, and they are known to be harmful to human health when their ambient levels exceed certain concentrations. Consequently, federal and state ambient air quality standards have been set for each of these pollutants (known as "criteria" air pollutants") at levels protective of human health, with an added margin of safety to afford additional protection to the young, the old and the infirm (i.e., sensitive receptors), who are more susceptible to their adverse health effects.

Toxic air contaminants (TACs) emitted into the air are also regulated as such to limit their adverse impacts to human health and welfare. In the State and in the Bay Area, the majority of the estimated carcinogenic/chronic health risks from TAC exposures have been attributed to relatively few TACs, the most important being particulate matter from diesel-fueled engines (DPM), which is responsible for about 80% of the cumulative cancer risk from all airborne TAC exposures.

Following the identification of DPM as a TAC in 1998, CARB developed the *Diesel Risk Reduction Plan* as a comprehensive strategy to control DPM emissions. The overall goal of the Plan is to reduce DPM emissions by 75% by 2010 and 85% by 2020. Such reductions were to be achieved by a combination of approaches including more stringent emission regulations for new diesel engines, a low-sulfur fuel program, and control measures for various categories of in-use on- and off-road diesel engines.

The recommended in-use control strategies are generally based on the following types of controls:

- Retrofitting engines with emission control systems, such as diesel particulate filters or oxidation catalysts
- Replacement of existing engines with new-technology diesel engines or natural gas engines
- Restrictions placed on the operation of existing equipment

In July 2007, CARB approved the *In-Use Off-Road Diesel Vehicle Regulatio*n (as part of the *Diesel Risk Reduction Plan* cited above), which applies the following controls to in-use off-road diesel engines used in construction equipment:

- Imposes limits on construction equipment idling, requires a written idling policy from the fleet owner, and requires a disclosure of its emission potential when selling equipment
- Requires all construction equipment to be reported to CARB using the Diesel Off-Road Online Reporting System (DOORS) and for each piece of equipment to be labeled as to its emission potential as listed in DOORS
- Restricts the adding of older equipment into construction fleets
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS; i.e., exhaust retrofits)

The air quality analysis in this document was performed using the methodologies recommended by the Bay Area Air Quality Management District (BAAQMD) in their *CEQA Air Quality Guidelines*[1] (BAAQMD 2012). The criteria air pollutants evaluated in this analysis include: carbon monoxide (CO), reactive organic compounds (ROG) and nitrogen dioxide (NO2) (both being precursors to ozone formation), inhalable particulates (PM10), and fine particulates (PM2.5). Health risks associated with project-specific and cumulative exposures to DPM are also evaluated. The following thresholds were considered in this analysis:

- According to the *CEQA Air Quality Guidelines*, any project would have a significant potential for causing/contributing to a local air quality standard violation or making a cumulatively considerable contribution to a regional air quality problem if its criteria pollutant emissions during construction or operations would exceed any the thresholds presented in Table 1.
- Also, there would be significant operational CO impacts if CO emissions from motor vehicle traffic or from cumulative traffic congestion resulting from a project would exceed the Ambient Air Quality Standard (AAQS) of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average).
- Finally, the *CEQA Air Quality Guidelines* establish a relevant zone of influence for an assessment of project-level and cumulative health risk from TAC exposure to an area within 1,000 feet of a

[1] The BAAQMD's June 2010 adopted thresholds of significance were challenged in a lawsuit. Although the BAAQMD's adoption of significance thresholds for air quality analysis has been subject to judicial actions, the County of Contra Costa has determined that BAAQMD's *Revised Draft Options and Justification Report* (October 2009) provide substantial evidence to support the BAAQMD recommended thresholds. Therefore, the County of Contra Costa has determined the BAAQMD 2010 thresholds are appropriate for use in this analysis.

project site. Project construction-related or operational TAC impacts to sensitive receptors within the zone that exceed any of the following thresholds are considered significant

- An excess cancer risk level of more than 10 in one million
- A non-cancer hazard index greater than 1.0
- An incremental increase of 0.3 micrograms per cubic meter ($\mu g/m^3$) or greater to annual average PM2.5 concentrations

Cumulative impacts from TACs emitted from freeways, state highways, or high volume roadways (i.e., the latter defined as having traffic volumes of 10,000 vehicles or more per day or 1,000 trucks per day), and from all BAAQMD-permitted stationary sources within the zone to sensitive receptors within the zone that exceed any of the following thresholds are considered cumulatively significant:

- A combined excess cancer risk levels of more than 100 in one million
- A combined non-cancer hazard index greater than 10.0
- A combined incremental increase in annual average PM2.5 concentrations of 0.8 micrograms per cubic meter air ($\mu g/m^3$) or greater

Table 1
CEQA Air Quality Significance Thresholds for Criteria Air Pollutant Emissions

Pollutant	Construction Average Daily (lb/day)	Operational	
		Average Daily (lb/day)	Maximum Annual (tons/year)
Reactive Organic Gases (ROG)	54	54	10
Oxides of Nitrogen (NO_x)	54	54	10
Inhalable Particulate Matter (PM_{10})	82 (exhaust)	82	15
Fine Inhalable Particulate Matter ($PM_{2.5}$)	54 (exhaust)	54	10
$PM_{10}/PM_{2.5}$ (Fugitive Dust)	BMPs[a]	N/A	N/A

Notes:
a. If BAAQMD Best Management Practices (BMPs) for fugitive dust control are implemented during construction, the impacts of such residual emissions are considered to be less than significant.
BMPs = Best Management Practices
lb/day = pounds per day
N/A = Not Applicable
Source: Bay Area Air Quality Management District, *2011 May (Revised), California Environmental Quality Act Air Quality Guidelines*.

Environmental Setting

The project site is located in a transitional area between the Diablo Valley and Livermore Valley climatological sub-regions of the Bay Area (as identified by the BAAQMD in their *CEQA Guidelines*, Appendix C). The air pollution potential is high in both sub-regions, especially in the summer and fall

when high temperatures increase the potential for ozone build up. The valleys not only trap locally generated pollutants, but can receive ozone and ozone precursor intrusions from surrounding areas. During the winter, strong surface-based temperature inversions often occur. When this happens, pollutants such as carbon monoxide and particulate matter, generated by motor vehicles, fireplaces/woodstoves and agricultural burning, can become concentrated.

The San Francisco Bay Area is currently designated "nonattainment" for state and national (1-hour and 8-hour) ozone standards, for the state PM10 standards, for state and national (annual average and 24-hour) PM2.5 standards. It is "attainment" or "unclassifiable" with respect to AAQS for other criteria pollutants. The BAAQMD maintains a number of air quality monitoring stations, which continually measure the ambient concentrations of major air pollutants throughout the Bay Area. Data from the monitoring station in Livermore, about 15 miles south of the project site shows that violations of both the ozone and particulate standards have been recorded on a few days in each year over the last three years.

Contra Costa County contains a great number of stationary industrial/commercial air pollution sources that have air pollutant emissions substantial enough to require that they operate under BAAQMD air permits (i.e., their locations, types and TAC health risks can be displayed using the BAAQMD's Stationary Source Screening Analysis Tool in Google Earth), but none of these are located closer than 1,000 feet from the project site. Traffic volumes on Marsh Creek Road are not high enough to put this roadway in the class of substantial roadway TAC emitters, and no other roadways in that class pass closer than 1,000 feet from the project site.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The BAAQMD adopted its 2010 *Bay Area Clean Air Plan* (CAP) in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, and TACs in a single, integrated plan; and establish emission control measures to be adopted or implemented. The primary goals of the CAP are to attain/maintain AAQS, and to reduce population exposure to air pollutants and protect public health in the Bay Area.

Compliance with BAAQMD-approved CEQA thresholds of significance are the conditions for determining that a project would be consistent with all adopted CAP control measures and would not substantially interfere with the attainment of CAP goals. Also, the proposed project would replace an existing bridge that does not meet current Caltrans traffic and seismic safety standards with a new bridge that would have the same traffic carrying capacity. Thus, it does not have the potential to substantially affect housing, employment, transportation, and/or population projections within the Bay Area Air Basin. As the following analysis demonstrates, the proposed project would not have significant and unavoidable air quality impacts because it meets all BAAQMD CEQA thresholds with the exception of the PM2.5 emissions threshold. As is described further under checklist item d, the proposed project's annual PM2.5 concentration from construction would be 0.65 $\mu g/m^3$, which exceeds the project-level CEQA significance threshold.

Mitigation Measure AIR-1 would be implemented to reduce the proposed project's maximum annual PM2.5 emissions.

Mitigation Measure AIR-1: Enhanced Exhaust Emissions Reduction Measures

The construction contractor will implement the following BAAQMD Enhanced Exhaust Emissions Reduction Measures for Project Construction Equipment measures to further reduce construction-related exhaust emissions:

- All off-road construction equipment will meet the following requirements:
  - All engines will meet or exceed USEPA/CARB Tier 3 off-road emission standards; or
  - All engines will be retrofitted with a CARB Level 2 VDECS device.

Implementation of Mitigation Measure AIR-1 would reduce the proposed project's maximum annual PM2.5 concentration increment to 0.28 $\mu g/m^3$, which is below the threshold. Thus, impacts would be **less than significant with mitigation incorporated**.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction-Related Impacts

The proposed project would replace an existing substandard bridge with a new bridge with the same carrying capacity that meets all Caltrans traffic and seismic safety standards. Project construction, expected to take about seven months, would generate temporary emissions of criteria pollutants and TACs in equipment exhaust, and fugitive dust from equipment and material movement. The *CEQA Air Quality Guidelines* recommend quantification of construction-related exhaust emissions and comparison of those emissions to the CEQA significance thresholds. Thus, the CalEEMod (California Emissions Estimator Model, Version 2013.2.2) was used to quantify construction-related emissions of criteria pollutants.

The *CEQA Air Quality Guidelines* require a number of construction Best Management Practices (BMPs) to control fugitive dust, and the use of paints and coatings compliant with BAAQMD volatile organic compounds (VOC) control regulations. Thus, the following basic fugitive dust control measures must be implemented by the construction contractor:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved surfaces shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publically visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action with 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Table 2 provides the estimated short-term emissions from construction equipment, truck, and worker vehicle commute resulting from the proposed project. The maximum daily construction period emissions were compared to the CEQA significance thresholds. All construction-related emissions would be well below the thresholds; therefore, impacts would be **less than significant**.

Table 2
Project Construction Criteria Pollutant Emissions (Pounds per Day)

Construction Period	ROG	NOx	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Year 2017	1.2	13.6	0.7	0.6
Significance Thresholds	54	54	82	54
Significant Impact?	No	No	No	No

Notes:
ROG = reactive organic compounds
NOx = Nitrogen oxide

Operational Impacts

The BAAQMD has identified the following screening criteria for determining whether project-related motor vehicle CO emissions would likely cause CO AAQS to be exceeded:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans; or
- The project traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per day; or
- The project traffic would increase traffic volumes at affected intersections to more than 24,000 vehicles per day where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Since the proposed project would replace an existing substandard bridge with a new one with the same carrying capacity and meeting all current safety standards, it would not directly or indirectly increase traffic volumes to Marsh Creek Road and would have a less than significant effect on traffic flow locally and regionally. Thus, the proposed project's operational ambient CO impacts would be **less than significant**.

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

As discussed previously, proposed project-related construction and operational emissions would be below the BAAQMD significance thresholds. Therefore, the proposed project would not make cumulatively considerable contributions to the Bay Area's regional problems with ozone or particulate matter. Thus, cumulative emission impacts would be **less than significant**.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Ambient TAC concentrations produced by the proposed project and other significant local TAC sources within 1,000 feet of a project site are considered substantial if they exceed the CEQA health risk thresholds at sensitive receptors within this zone. The nearest existing residential land use is north of Marsh Creek Road about 200 feet from east end of the existing bridge.

Construction-Related TAC Impacts

Cancer risk is the lifetime probability of developing cancer from exposure to carcinogenic substances. Following health risk assessment guidelines established by California Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD in *Recommended Methods for Screening and Modeling Local Risks and Hazards*, incremental cancer risks were estimated by applying established toxicity factors to modeled TAC concentrations. The maximum cancer risk from DPM generated from construction of the proposed project for the closest residential receptor would be 2.8 per million. Thus, the cancer risk due to proposed project construction activities would be below the BAAQMD threshold of ten per million and less than significant.

Adverse health impacts unrelated to cancer are measured using a hazard index (HI), which is defined as the ratio of the proposed project's incremental TAC exposure concentration to a published reference exposure level as determined by OEHHA. If the HI is greater than 1.0, then the impact is considered to be significant. The non-cancer reference exposure level for DPM as determined by OEHHA is 5 µg/m^3. The non-cancer HI from construction of the proposed project would be 0.1, well below the BAAQMD threshold of one and less than significant.

The modeled maximum annual PM2.5 concentration from construction of the proposed project would be 0.65 µg/m^3, which exceeds the project-level CEQA significance threshold of 0.3 µg/m3 for PM2.5 (Table 3).

Table 3
Construction Criteria Related Toxic Air Contaminant Impacts Prior to Mitigation

Construction Period	Hazard Index	PM 2.5 (µg/m^3)
Year 2017	0.1	0.65
Significance Thresholds	1	0.3
Significant Impact?	No	Yes

Note: µg/m^3 = micrograms per cubic meters air

Implementation of Mitigation Measure AIR-1 would be implemented to reduce the proposed project's maximum annual PM2.5 emissions:

> *Mitigation Measure AIR-1: Enhanced Exhaust Emissions Reduction Measures*
>
> The construction contractor will implement the following BAAQMD *Enhanced Exhaust Emissions Reduction Measures for Project Construction Equipment* measures to further reduce construction-related exhaust emissions:
>
> - All off-road construction equipment will meet the following requirements:

- All engines will meet or exceed USEPA/CARB Tier 3 off-road emission standards; or
- All engines will be retrofitted with a CARB Level 2 VDECS device.

Implementation of Mitigation Measure AIR-1 would reduce the proposed project's maximum annual PM2.5 concentration increment to 0.28 µg/m^3, which is below the threshold (Table 4). Thus, impacts would be **less than significant with mitigation incorporated**.

Table 4
Construction Criteria Related Toxic Air Contaminant Impacts after Mitigation

Construction Period	Hazard Index	PM 2.5 (µg/m^3)
Year 2017	0.1	0.28
Significance Thresholds	1	0.3
Significant Impact?	No	No

Note: µg/m^3 = micrograms per cubic meters air

The Mitigation and Monitoring Reporting Plan (MMRP; included as Appendix A) prepared for the proposed project identifies when mitigation measures will be implemented, the parties that will be responsible for ensuring implementation of these measures, and implementation of the measures will be verified.

Operational TAC Impacts

The proposed project would not add any motor vehicle traffic to Marsh Creek Road. Thus, the incremental cancer risk, non-cancer hazard, and PM2.5 from operations would be zero and **less than significant**.

Cumulative TAC Impacts

The *CEQA Air Quality Guidelines* method for determining cumulative TAC health risk requires the tallying of risk from project sources and all permitted stationary sources and major roadways within a 1,000 feet of a project site and adding them for comparison with the cumulative health risk thresholds.

A database of permitted stationary emissions sources, major roadways, and their associated health risks is available online from the BAAQMD through the Stationary Source and Highway Screening Analysis Tools. There are no such listed sources within 1,000 feet of the Project site. Thus, cumulative TAC impacts would be **less than significant**.

e) Would the project create objectionable odors affecting a substantial number of people?

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose substantial sensitive receptors to objectionable odors to cause a significant impact. With respect to the proposed project, diesel-fueled construction equipment exhaust would be odorous in close proximity to the source. However, these emissions typically dissipate quickly with distance. With only one existing residential receptor within 200 feet of the bridge site, substantial on-going odor

impacts of the 7-month construction period would be unlikely. Therefore, odor impacts associated with the proposed project would be **less than significant**.

IV. Biological Resources	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

This section evaluates both the direct and indirect impacts of the proposed project on biological resources. Identification of species with the potential to occur in or adjacent to the project area was based on field surveys conducted by qualified biologists from LSA Associates, Inc. (LSA) during summer of 2013 and spring 2014. Biologists also conducted a review of existing biological resource evaluations for projects in the region; a review of the California Natural Diversity Data Base (CNDDB; CDFW 2013); a review of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2013); a review of the online database maintained by the Sacramento USFWS office (USFWS 2013) for the Antioch South, Clayton, Diablo, Tassajara, Byron Hot Springs, and Brentwood USGS 7.5-minute quadrangles; and review of *Special-Status Species Proposed for Coverage in the ECCC HCP/NCCP*, Vol. 1/Table 3-8 and Vol. 2/Appendix D (Jones & Stokes Associates 2006).

Regulatory Setting

The proposed project is located within the East Contra Costa County HCP/NCCP inventory area and is a covered activity as described in Section 2.3 of the HCP/NCCP: Transportation Projects – Bridge Replacement, Repair or Retrofit (Rural infrastructure Projects). The HCP/NCCP is intended to provide an effective framework to protect natural resources and special-status species recovery in eastern Contra Costa County while improving and streamlining the environmental permitting process for impacts on these species and associated habitats. The HCP/NCCP complies with Section 10(a)(1)(B) of ESA, and California Natural Community Conservation Planning Act of 2003 and as such covered activities are authorized incidental take of HCP/NCCP-covered special-status species subject to mitigation fees for both permanent and temporary impacts to species habitats and implementation of specific conditions and conservation measures to avoid or minimize potential effects to species and/or its habitats. The HCP/NCCP requires reporting and fee payment to the HCP/NCCP Implementing Entity, the East Contra Costa County Habitat Conservancy (Habitat Conservancy), a joint exercise of powers authority formed by the Cities of Brentwood, Clayton, Oakley and Pittsburg and Contra Costa County (Jones & Stokes Associates 2006).

For the purposes of this evaluation, special-status plant and wildlife species are defined as those species listed as endangered, threatened, or proposed for listing under the ESA as amended (Code of Federal Regulations [CFR], Title 50, Section 17), and/or species protected under the Migratory Bird Treaty Act (16 U.S. Code [USC] 703-712); the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d; June 8, 1940) as amended; California Endangered Species Act (CESA; California Code of Regulations Title 14, Section 670.5); California Fish and Game Code (Sections 1901, 2062, 2067, 3511, 4700, 5050 and 5515); animal species designated as Species of Special Concern or Fully Protected by the CDFW; plant species assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, 3, and 4 in the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2013); and/or Native Plant Protection Act of 1977, and species covered under the HCP/NCCP.

Special-status species also include locally rare species defined by CEQA guidelines 15125(c) and 15380, which may include species that are designated as sensitive, declining, rare, locally endemic or as having limited or restricted distribution by various federal, state and local agencies, organizations and watch lists. Their status is based on their rarity and endangerment throughout all or portions of their range.

Environmental Setting

Qualified biologists conducted planning surveys and biological assessments to identify habitats within and around the project area to determine if sensitive habitats, natural communities, and jurisdictional wetlands and other waters of the U.S. occur as well as potential presence of special-status species. Natural communities and land cover types were classified in accordance with the HCP/NCCP (Chapter 3, Section 3.3.2), which describes land cover types based on literature by Jones & Stokes Associates (1996), Holland (1986), Mayer and Laudenslayer (1988; 1999), and the first edition of *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

A wetland delineation study was conducted within the Biological Study Area (BSA) on August 30, 2013, following the methods outlined in USACE's Wetlands Delineation Manual (Environmental Laboratory 1987) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Supplement, USACE 2006). The delineation included areas meeting USACE criteria for wetlands and other waters of the United States subject to regulation under Section 404 of the CWA, as well as potentially jurisdictional waters of the State of California under the Porter-Cologne

Water Quality Control Act. The findings and conclusions of the jurisdictional delineation were submitted to the USACE for verification on March 7, 2014. The HCP/NCCP bases creek impacts on the area of creek from top of bank to top of bank, excluding portions of the stream mapped as urban land cover (i.e., under the existing bridge).

In compliance with the HCP/NCCP, a Planning Survey Report (PSR) was completed by CCCPWD to identify potentially present special status species, potential project impacts on those species, and appropriate mitigation measures. In addition, a Natural Environment Study (NES) was prepared for Caltrans in support of this project. Based on results of the resource information search and field surveys, biologists determined the special-status species identified in Table 5 could potentially occur in BSA. The BSA is defined as the boundary surrounding the footprint of the proposed project, including right-of-way limits, areas potentially needed for driveway realignments, and potential staging areas. The entirety of the BSA is 6.333 acres. Natural communities (as defined in the HCP/NCCP) are described on the basis of vegetation characteristics, such as dominant species and vegetation structure (Figures 4a and 4b). Natural communities within the BSA are classified as oak savanna, oak woodland, riparian woodland, chaparral/scrub, and native grassland.

The potential for these species to occur within the BSA was assessed in the Biological Assessment (BA), PSR, and NES for the proposed project. These three documents considered impacts to special-status species based on the presence of suitable habitat (identified through site reconnaissance and species specific planning surveys), the proximity of known species occurrences, and knowledge of the species' range and/or mobility. Species that require habitats not present in the BSA and project vicinity (i.e., alkaline, saline, or serpentine soils, inland dunes, vernal pools, tidal salt marsh, brackish marsh, etc.) were eliminated from consideration in the BA, PSR, and the NES, and are not discussed further in this document.

Table 5
Potentially Occurring Special-Status Plant and Wildlife Species

Common Name (Species Name)	Listing Status*
PLANTS	
Large-flowered fiddleneck (*Amsinckia grandiflora*)	FE/SE/CNPS 1B.1
Slender silver moss (*Anomobryum julaceum*)	--/--/CNPS 4
Mt. Diablo manzanita (*Arctostaphylos auriculata*)	--/--/CNPS 1B, HCP/NCCP-covered
Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *Laevigata*)	--/--/CNPS 1B
Big tarplant (*Blepharizonia plumosa*)	--/--/CNPS 1B, HCP/NCCP-covered
Round-leaved filaree (*California macrophylla*)	--/--/CNPS 1B, HCP/NCCP-covered
Mt. Diablo fairy lantern (*Calochortus pulchellus*)	--/--/CNPS 1B, HCP/NCCP-covered
Hospital Canyon larkspur (*Delphinium californicum ssp. interius*)	--/--/CNPS 1B
Mt. Diablo buckwheat (*Eriogonum truncatum*)	--/FP/CNPS 1B, HCP/NCCP-covered
Diablo helianthella (*Helianthella castanea*)	--/--/1B, HCP/NCCP-covered
Showy madia (*Madia radiata*)	--/--/CNPS 1B, HCP/NCCP-covered
Adobe navarretia (*Navarretia nigelliformis ssp. nigelliformis*)	HCP/NCCP-covered
Coastal triquetrella (*Triquetrella californica*)	--/--/CNPS 1B
Oval-leaved viburnum (*Viburnum ellipticum*)	--/--/CNPS 2B

Common Name (Species Name)	Listing Status*
WILDLIFE	
California tiger salamander (*Ambystoma californiense*)	FT/ ST, HCP/NCCP-covered
California red-legged frog (*Rana draytonii*)	FT/CSC, HCP/NCCP-covered
Alameda whipsnake (*Masticophis lateralis euryxanthus*)	FT/ST
Western pond turtle (*Actinemys marmorata*)	--/CSC/ HCP/NCCP-covered
Coast horned lizard (*Phrynosoma coronatum*)	--/CSC
Golden Eagle (*Aquila chrysaetos*)	BGPA/FP, HCP/NCCP covered
White-tailed kite (*Elanus leucurus*)	--/FP, HCP/NCCP-covered, no-take
Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)	--/SLC, HCP/NCCP-covered
Pallid bat (*Antrozous pallidus*)	--/CSC, HCP/NCCP-covered
Ringtail (*Bassariscus astutus*)	--/FP, HCP/NCCP-covered; no-take
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST, HCP/NCCP-covered
American badger (*Taxidea taxus*)	--/CSC

Notes:

EXPLANATION OF STATE AND FEDERAL LISTING CODES

FEDERAL
FE = Federally listed as Endangered
FT = Federally listed as Threatened
BGPA = Bald and Golden Eagle Protection Act

STATE
SE = State listed as Endangered
ST = State listed as Threatened
CSC = California Species of Special Concern
FP = Fully Protected
SLC = State-listed candidate

COUNTY
HCP/NCCP-covered = species is covered by the HCP/NCCP
No-take = no-take species under the HCP/NCCP

CNPS
1B.1 = Plants rare, threatened or endangered in California and elsewhere. Seriously endangered in California.
1B.2 = Plants rare, threatened or endangered in California and elsewhere. Fairly endangered in California.
1B.3 = Plants rare, threatened or endangered in California and elsewhere. Not very endangered in California.
2.2 = Plants rare, threatened or endangered in California, but more common elsewhere-fairly threatened in California.
2.3 = Plants rare, threatened or endangered in California, but more common elsewhere-not very threatened in California.
3 = Plants about which we need more information – a review list.
3.2 = Plants about which we need more information – a review list-fairly endangered in California.
3.3 = Plants about which we need more information – not very endangered in California.
4 = Plants of limited distribution-a watch list – fairly threatened in California.

Special-Status Plant Species

Fourteen plant species were identified as potentially occurring within or adjacent to the BSA. The BSA provides suitable habitat for large-flowered fiddleneck (*Amsinckia grandiflora*), which is a HCP/NCCP no-take species that is federally- and state-listed as endangered. It also has a California Rare Plant Rank of 1B (rare, threatened, or endangered in California or elsewhere).

Several other special-status plant species could also potentially occur within or adjacent to the BSA. These other species are: slender silver moss (*Anomobryum julaceum*), Mt. Diablo manzanita (*Arctostaphylos auriculata*; HCP/NCCP-covered), Contra Costa manzanita (*Arctostaphylos manzanita ssp. laevigata*), big tarplant (*Blepharizonia plumosa*, HCP/NCCP-covered), round-leaved filaree (*California macrophylla*, HCP/NCCP-covered), Mt. Diablo fairy lantern (*Calochortus pulchellus*, HCP/NCCP-covered),

Hospital Canyon larkspur (*Delphinium californicum* ssp*. interius*), Mt. Diablo buckwheat (*Eriogonum truncatum*; HCP/NCCP-covered), Diablo helianthella (*Helianthella castanea*, HCP/NCCP-covered), showy madia (*Madia radiata*, HCP/NCCP-covered), adobe navarretia (*Navarretia nigelliformis ssp. nigelliformis*, HCP/NCCP-covered), coastal triquetrella (*Triquetrella californica*), and oval-leaved viburnum (*Viburnum ellipticum*).

Protocol-level surveys for these special-status plants were conducted during summer and fall of 2013 and in spring of 2014. No special-status plants were observed at the site.

Special-Status Wildlife Species

Special-status species that have the potential to occur in the BSA based on the presence of suitable habitat include: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), Alameda whipsnake (*Masticophis lateralis euryxanthus*, western pond turtle (*Actinemys marmorata*), golden eagle (*Aquila chrysaetos*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The remaining five special-status species that may occur in the BSA include coast horned lizard (*Phrynosoma coronatum*), white-tailed kite (*Elanus leucurus*), pallid bat (*Antrozous pallidus*), ringtail (*Bassariscus astutus*), and American badger (*Taxidea taxus*). These five species are not specifically covered by the HCP/NCCP, but are considered due to the identification of suitable habitat within the BSA. Ringtail, golden eagle and white-tailed kite are designated as Fully Protected under Section 3511 of the California Fish and Game Code. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research. The bald eagle and golden eagle (nesting and wintering) are also designated as a California Species of Special Concern and are protected under the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) as amended.

The 12 special-status wildlife species with the potential to occur in the BSA are discussed in more detail in the following paragraphs.

California tiger salamander. California tiger salamander is a federally and state-threatened species that is covered under the HCP/NCCP. The project area is located within the Central California distinct population segment for this species (CDFW 2013). There are 27 CNDDB occurrence records within 5 miles of the project site. The nearest record consists of one adult found along Marsh Creek Road 0.9 mile from the project site in 1982. The nearest breeding record is from a drainage pond located 1.3 miles from the project site where a single larva was found in 1999. There are numerous stock ponds within 5 miles of the project site that provide potential breeding habitat for this species, and the site is within modeled breeding, aestivation, and movement habitat for California tiger salamander under the HCP/NCCP.

Biological survey results indicated that the BSA does not provide suitable breeding habitat for California tiger salamander. However, potential upland aestivation, foraging, and movement habitat does occur within the BSA. Moreover, the potential breeding habitat and known occurrences documented above are within the known migration distance of the species (up to 1.4 miles). Overall, the BSA provides approximately 1.716 acres of marginally suitable California tiger salamander habitat, including native grassland, chaparral/scrub, and oak savanna. Based on survey results and background information, adult salamander could potentially occur within the BSA. However, the habitat is marginally suitable for two reasons: (1) no small mammal burrows were seen in the immediate vicinity of the BSA; and (2) the

distance to the nearest known breeding site is near the upper limit of documented salamander movement distances.

California red-legged frog. California red legged frog is a HCP/NCCP-covered species that is listed as federally threatened and is also a California Species of Special Concern. California red-legged frog is known to occur in the project vicinity (CDFW 2013). There are 30 documented CNDDB occurrences within 5 miles of the project site. The nearest record, prior to surveys conducted for this project, consists of one adult seen in Marsh Creek 0.51 mile from the project site in 1982. The nearest breeding record is from a stock pond located 1.2 miles from the project site that was found in 2006. The site is within the area of modeled migration and aestivation habitat for California red-legged frog under the HCP/NCCP (HCP/NCCP Chapter 4: Figure 4-3).

Alameda whipsnake. Alameda whipsnake is a HCP/NCCP-covered and federally- and state-listed threatened species. AWS is known to occur in the project vicinity (CDFW 2013). There are 43 known occurrences within 5 miles of the project site, and the BSA lies within the area of modeled movement habitat for whipsnake under the HCP/NCCP.

Western pond turtle. Western pond turtle is a HCP/NCCP-covered species and a California Species of Special Concern. This species is known to occur in the project vicinity (CDFW 2013). There are six CNDDB occurrence records within 5 miles of the project site. The nearest record is 1.39 miles from the project site. No pond turtles were observed during the survey. However, the BSA does provide suitable aquatic and upland habitat for western pond turtles. Overall, the BSA provides approximately 4.083 acres of suitable native grassland, oak savanna, oak woodland, riparian woodland, and stream habitat for this species.

Coast horned lizard. Coast horned lizard is a California Species of Special Concern. Within the BSA suitable habitat for this species is present in the chaparral, oak savanna, and grassland habitat types. Coast horned lizard is known to occur in the project vicinity (CDFW 2013), with one CNDDB occurrence within 5 miles of the project site. The occurrence was recorded in 2002, 4.71 miles away from the BSA. Biologists conducted a habitat assessment and planning survey for coast horned lizard within the BSA on August 30, 2013. Survey results verified that the BSA contains 1.716 acres of native grassland, oak savanna, and chaparral land cover types that provide potentially suitable foraging and movement habitat for this species.

Golden eagle. Golden eagle is protected under the Bald and Golden Eagle Protection Act, is fully protected under California Fish and Game Code and is a HCP/NCCP-covered species. There is one golden eagle nest confirmed within 5 miles of the project site, approximately 2.45 miles away (Terry Hunt, Contract Raptor Biologist, East Bay Regional Park District, pers. comm.). No nests were observed by biologists during planning surveys in the BSA, and large trees near the project site are unlikely to provide suitable nesting habitat due to human activity along Marsh Creek Road. The native grassland and oak savanna provide marginally suitable foraging habitat for this species.

White-tailed kite. White tailed kite is a no-take species that is fully-protected under California Fish and Game Code. They breed in a variety of habitats including grasslands, cultivated fields, oak woodlands and suburban areas where prey is abundant. Trees within the BSA provide marginal nesting habitat for this species, due proximity to Marsh Creek Road. The native grassland and oak savanna land cover types provide marginally suitable foraging habitat for this species.

Townsend's big-eared bat and pallid bat. Townsend's big-eared bat is a California State-listed Candidate and a HCP/NCCP-covered species. Pallid bat is a California Species of Special Concern. Neither bat

species has a federal listing status. Though not observed within the BSA, foraging habitat for pallid bat and Townsend's big-eared bat is present within the BSA within the site's native grasslands and at the edges of the oak savanna. Additionally, larger trees on the site could potentially provide suitable day and/or night roosting habitat for these species where hollowed trunks and branches have developed.

Ringtail. Ringtail is a fully protected species under the California Fish and Game Code, a HCP/NCCP-covered no-take species. Only two known records exist for ringtails in Contra Costa County, one of which is in the Los Vaqueros watershed. No evidence of their occurrence was observed during the planning survey. Nevertheless, potentially suitable habitat for ringtails occurs in the oak savanna, oak woodland, chaparral/scrub, and riparian woodland land cover types within and adjacent to the BSA. Additionally, large trees on the site could support hollowed recesses potentially large enough to provide cover for the ringtail.

San Joaquin kit fox. San Joaquin kit fox is an HCP/NCCP-covered species listed as federally endangered and state threatened. There are four records of San Joaquin kit fox occurrences within 5 miles of the BSA (CDFW 2013). An unverified occurrence is approximately 0.5 mile from the site. One adult was observed at this location by an "untrained observer" in 1989 (CDFW 2013). All other kit fox sightings occurred prior to 1993. The BSA lies within the known foraging range (1 to 12 miles) of recorded den sites (USFWS 1998), but is outside of modeled suitable habitat for kit fox under the HCP/NCCP.

Based on survey results, kit fox could potentially occur in the BSA. However, the potential for occurrence is low due to the marginal nature of the habitat for this species and the absence of observations in Contra Costa County since 1993. Although there have been occurrences of San Joaquin kit fox within the HCP/NCCP area, the most recent surveys have found no evidence of occupancy in the project vicinity.

American badger. American badger is a California Species of Special Concern; it has no federal listing status. American badgers occur in a wide variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub (Stephenson and Calcarone 1999). The principal habitat requirements for this species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground (Williams 1986). American badgers are primarily found in areas of low to moderate slope (Stephenson and Calcarone 1999). This species has not been documented from the BSA, yet marginally suitable badger habitat is present within open grasslands within the BSA. The nearest known occurrence is 4.21 miles from the BSA and was recorded in 2002 (CDFW 2013).

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

The HCP/NCCP complies with Section 10(a)(1)(B) of the ESA and California Natural Community Conservation Planning Act of 2003. As such, covered activities are authorized for incidental take of HCP/NCCP covered special-status species subject to mitigation fees for both permanent and temporary impacts to species and/or their habitats. In addition, project proponents are required to implement specific conditions and conservation measures to avoid or minimize potential effects to species and/or their habitats. These conservation measures are incorporated into the species mitigation provided in this impact analysis, to offset potential project impacts.

Impact BIO-1 – Disturbance to Sensitive Habitats and Trees

Project activities would result in limited permanent impacts to natural and non-natural land cover types located adjacent to the existing roadway and shoulders as follows: riparian woodland (0.091 acre) (including stream woodland from top-of-bank to top-of-bank [0.058 acre]), oak woodland (0.102 acre), oak savanna (0.150 acre), chaparral/scrub (0.128 acre), native grassland (0.046 acre), non-native woodland (0.021 acre), and urban (1.015 acres).

Temporary project impacts would occur to riparian woodland (0.306 acre), oak woodland (0.208 acre), oak savanna (0.184 acre), chaparral/scrub (0.083 acre), native grassland (0.008 acre), nonnative woodland (0.031 acre), and urban (0.417 acre).

The proposed project would also result in the removal of 36 trees that consist of gray pine (*Pinus sabiniana*), blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*), red willow (*Salix laevigata*), western sycamore (*Platanus racemosa*), California buckeye (*Aesculus californica*), California bay (*Umbelularia californica*), and cherry plum (*Prunus cerasifera*).

The following measures would be implemented to offset these impacts. The impacts of the proposed project would be **less than significant with mitigation incorporated.**

Mitigation Measure BIO-1 Sensitive Habitat and Tree Protective Measures

The proposed project has been designed to be consistent with HCP/NCCP Conservation Measure 1.14 Design Requirements for Covered Roads Outside the Urban Development Area. In compliance with that measure as well as additional considerations identified in the NES, the following general construction requirements would be used for protection of the biological resources within the BSA and project vicinity:

1. Equipment storage, fueling, and staging areas will be sited on disturbed areas or on ruderal or non-sensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types.
2. No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
3. All no-take species will be avoided.
4. Construction activities will comply with the Migratory Bird Treaty Act and will consider seasonal requirements for birds and migratory non-resident species, including covered species.
5. Temporary stream diversions, if required, will use sand bags or other approved methods that minimize in-stream impacts and effects on wildlife.
6. Silt fencing or other sediment trapping method will be installed down-gradient from construction activities to minimize the transport of sediment off site.
7. Barriers will be constructed to keep wildlife out of construction sites, as appropriate.
8. On-site monitoring will be conducted throughout the construction period to ensure that disturbance limits, best management practices (BMPs), and HCP restrictions are being implemented properly.

9. Active construction areas will be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted.

10. Vegetation and debris must be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and the passage through the culvert or under the bridge remains clear.

11. Cut-and-fill slopes will be revegetated with native, non-invasive nonnative, or nonreproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions.

12. Per the NES, tree protection fencing will be used during the construction process to prevent direct damage to trees and their growing environment located just outside of the construction site (avoided trees). The fencing will consist of blaze orange barrier fencing supported by metal "T rail" fence posts and will be placed at or outside of the driplines of avoided trees to the extent feasible based on the limits of the area to be graded. The fencing will be installed before site preparation, construction activities or tree removal/trimming begins, and will be installed under the supervision of a qualified arborist.

13. Per the NES, heavy machinery will not be allowed to operate or park within or around areas containing avoided trees. If it is necessary for heavy machinery to operate within the dripline of avoided trees, then a layer of mulch or pea gravel at least 4 inches deep will be placed on the ground beneath the dripline. A 0.75-inch sheet of plywood will be placed on top of the mulch. The plywood and mulch will reduce compaction of the soil within the dripline.

14. Per the NES, construction materials (e.g., gravel, aggregate, heavy equipment), project debris, and waste material will not be placed adjacent to or against the trunks of avoided trees.

15. Per the NES if the trimming of tree canopy is required to allow the movement of construction machinery, all branches to be removed will be pruned back to an appropriate sized lateral or to the trunk by following proper pruning guidelines. All trimming will be conducted under the supervision of a certified arborist.

Impact BIO-2 – Disturbance to Rare Plants

Based on the results of the preliminary surveys conducted in the spring and summer and the late summer protocol-level plant survey conducted in 2013 and a spring protocol-level plant survey conducted in 2014, no rare or special-status plant species occur within the BSA. As such, the preliminary conclusion is that the proposed project would have **no impact** on the special-status plant species.

Impact BIO-3 – Disturbance to Special-Status Birds During Construction

Construction of the proposed project would require removal of trees and shrubs located along the east side of Marsh Creek Road in the vicinity of the bridge crossing. The avian nesting season is February 15 to August 31. The proposed project may directly or indirectly impact listed, fully protected and/or Migratory Bird Treaty Act-protected nesting birds, if present. The proposed project is not anticipated to impact these species with implementation of Mitigation Measure BIO-3. Therefore, proposed project impacts to any listed, fully protected migratory birds would be **less than significant with mitigation incorporated**.

Mitigation Measure BIO-3 Migratory Bird Protective Measures

- To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 through August 31.
- If vegetation removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.
- Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31.
- If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 0.5-mile for golden eagle, 250 feet for raptors including white-tailed kite and 50 feet for other birds should suffice to prevent disturbance to birds nesting in an urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

Impact BIO-4 – Disturbance to California Red-legged Frog and Their Habitat

Implementation of proposed project activities would temporarily disturb aquatic and upland habitat known to support the federally threatened California red-legged frog. Compensatory mitigation for impacts to California red-legged frog habitat would be achieved through payment of a mitigation fee as stipulated in the PSR and the Biological Opinion for the proposed project. Compensatory mitigation for impacts to California red-legged frog (as well as other HCP/NCCP-covered species) would be achieved through payment by CCCPWD development fees and wetland mitigation fees for permanent and temporary impacts, totaling $83,217.82, as required under the HCP/NCCP. In addition to fees, potential impacts to this species during construction would be minimized through implementation of Mitigation Measure BIO-4. Therefore, the proposed project impacts to California red-legged frog would be **less than significant with mitigation incorporated**.

Mitigation Measure BIO-4 California Red-legged Frog Protective Measures

- A USFWS/CDFW–approved biologist will identify potential red-legged frog breeding habitat (Section 6.3.1 of the HCP/NCCP, Planning Surveys). If the project fills or surrounds suitable breeding habitat, the project proponent will notify USFWS, CDFW, and the Implementing Entity of the presence and condition of potential breeding habitat, as described below. No preconstruction surveys are required.
- Written notification to USFWS, CDFW, and the Implementing Entity, including photos and habitat assessment, is required prior to disturbance of any suitable breeding habitat. The project proponent will also notify these parties of the approximate date of removal of the breeding habitat at least 30 days prior to this removal to allow USFWS or CDFW staff to translocate individuals, if requested. USFWS or CDFW must notify the project proponent of their intent to translocate California red-legged frog within 14 days of receiving notice from the project proponent. The applicant must allow USFWS or CDFW access to the site prior to construction if they request it.

- There are no restrictions under the HCP/NCCP on the nature of the disturbance or the date of the disturbance unless CDFW or USFWS notify the project proponent of their intent to translocate individuals within the required time period. In this case, the project proponent must coordinate the timing of disturbance of the breeding habitat to allow USFWS or CDFW to translocate the individuals. USFWS and CDFW shall be allowed 45 days to translocate individuals from the date the first written notification was submitted by the project proponent (or a longer period agreed to by the project proponent, USFWS, and CDFW).

Impact BIO-5 – Disturbance to Western Pond Turtle and Their Habitat

Western pond turtle habitat includes ponds, marshes, rivers, streams, and irrigation canals. Nests are typically constructed in upland habitat within 0.25 mile of aquatic habitat. During construction, there is potential for injury or mortality of turtles moving through the site, due to being crushed by vehicles, humans, or construction equipment associated with proposed project activities. Per the NES, approximately 0.389 acre of native grassland, oak savanna, oak woodland, and riparian woodland that provide suitable foraging, dispersal, and/or breeding habitat for western pond turtle would be permanently impacted by construction activities. Approximately 0.706 acre of habitat would be temporarily impacted by the proposed project. In addition, 0.045 acre of stream would be permanently impacted and 0.182 acre would be temporarily impacted during the bridge replacement. Implementation of Mitigation Measure BIO-5 would reduce this potential impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-5: Payment of Development Fees

There are no species-specific avoidance and minimization measures required under the HCP/NCCP beyond the general landscape-level avoidance and minimization measures. Impacts to western pond turtle and their habitat would be mitigated through payment of applicable development fees and wetland mitigation fees for permanent and temporary impacts, totaling $83,217.82, as required under the HCP/NCCP (Sections 4.1.1.4 and 4.4.2).

Impact BIO-6 – Disturbance to Special-status Bats

Per the NES, project construction activities could impact suitable foraging habitat for special status bats, including pallid bat and Townsend's big-eared bat, if present. Implementation of Mitigation Measure BIO-6 would reduce this potential impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-6 Special-Status Bat Protective Measures

Project-related impacts to bat roosting habitat can be avoided or minimized by implementing the following measure as described in the NES:

- All potential roost trees within the project site will be surveyed for the presence of bat roosts by a qualified biologist. The survey may entail direct inspection of the trees or nocturnal surveys. The survey will be conducted no more than two weeks prior to the initiation of tree removal and ground disturbing activities. If no roosting sites are present, then trees will be removed within two weeks following the survey.

- If roosting habitat is present and occupied, then a qualified biologist will determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If it is determined that the bats are not a special-status species and that the roost is not being used as a

maternity roost, then the bats may be evicted from the roost using methods developed by a biologist experienced in developing and implementing bat mitigation and exclusion plans.

- If the bats are found to be pallid bats or the roost is being used as a maternity roost by any bat species, then a biologist experienced in bat mitigation and exclusion plans must prepare an eviction plan detailing the methods of excluding bats from the roost(s) and the methods to be used to secure the existing roost site(s) to prevent its reuse prior to removal. Removal of the roost(s) will only occur after the eviction plan has been approved by CDFW.
- Tree removal surrounding roost trees will be conducted without damaging the roost trees.
- No diesel or gas-powered equipment will be stored or operated directly beneath a roost site.
- All construction activity in the vicinity of an active roost will be limited to daylight hours.
- As an option, protocol-level surveys may be conducted the year prior to construction to rule out the presence of bat species in the project vicinity.

Impact BIO-7 – Disturbance to Ringtail

Potentially suitable habitat for ringtails occurs in the oak savanna, oak woodland, chaparral/scrub, and riparian woodland land cover types within and adjacent to the BSA. Additionally, large trees on the site could support hollowed recesses potentially large enough to provide cover for the ringtail. Permanent impacts to habitat could occur if unoccupied sites are damaged or removed. Implementation of Mitigation Measure BIO-7 would reduce the potential impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-7 Ringtail Protective Measures

To ensure the avoidance of ringtail, a preconstruction survey will be conducted by a qualified biologist of all potentially suitable den sites (i.e., tree hollows and logs) within the project site. Any occupied dens will be flagged, and the biologist will prepare a ringtail passive relocation plan subject to the approval of CDFW. The commencement of construction work will be delayed until one of the following has occurred:

- If the biologist has documented that ringtails have voluntarily vacated the den site, then construction may begin within 7 days following this observation.
- If the den is not vacated within 20 observation days, then the biologist may commence passive relocation in accordance with the CDFW-approved relocation plan. No relocation shall be conducted during the early pup-rearing season of May 1 to June 15.
- All activities that involve the ringtail shall be documented and reported to the CDFW within 30 days of the activity.

Impact BIO-8 – Disturbance to San Joaquin Kit Fox Habitat

Although the occurrence of San Joaquin kit fox within the BSA is unlikely, the site nevertheless supports marginally suitable foraging and movement habitat. Although suitable burrows large enough for breeding were not identified during the planning surveys, there is still the potential for burrows to be created prior to construction. Approximately 0.196 acre of native grassland and oak savanna that provide marginally suitable habitat for San Joaquin kit fox would be permanently affected by

construction activities. In addition, approximately 0.192 acre of habitat would be temporarily impacted. Implementation of Mitigation Measure BIO-8 would reduce this potential impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-8: San Joaquin Kit Fox Protective Measures

1. Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (USFWS 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities.

2. If a San Joaquin kit fox den is discovered in the development footprint, the den will be monitored for three days by a USFWS/CDFW-approved biologist using a tracking medium or an infrared beam camera to camera to determine if the den is currently being used.

3. Unoccupied dens will be destroyed immediately to prevent subsequent use.

4. If a natal or pupping den is found, USFWS and CDFW will be notified immediately. The den will not be destroyed until the pups and adults have vacated the den and then only after further consultation with USFWS and CDFW.

5. If San Joaquin kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied, it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).

6. If dens are identified in the survey area outside the disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

Impact BIO-9 – Disturbance to American Badger

Suitable habitat for American badger is present in the grassland and oak woodland areas within BSA. Noise disturbance from construction activities may result in direct impact (e.g., mortality or sett destruction) and/or indirect impacts (e.g., temporary changes in foraging patterns or territories, noise, or light disturbance, etc.) to these sensitive species. This potential impact would be minimized and/or avoided through establishment of no-disturbance buffers as described below. Implementation of Mitigation Measure BIO-9 would reduce this potential impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-9: Conduct Preconstruction Survey for American Badger

The following avoidance and minimization measures shall minimize potential impacts on American badger:

1. If grading or construction will begin during the breeding season (March through August), a qualified biologist will conduct a survey of the grassland habitat to identify any badger burrows on the site. The survey will be conducted no sooner than two weeks prior to the start of construction.

2. Impacts to active badger dens will be avoided by establishing exclusion zones around all active dens, within which construction-related activities will be prohibited until denning is complete or the den is abandoned.

3. A qualified biologist will monitor each active den once per week in order to track its status and inform the CCCPWD of when a den area has been cleared for construction.

The MMRP (included as Appendix A) prepared for the proposed project identifies when mitigation measures will be implemented, the parties that will be responsible for ensuring implementation of these measures, and implementation of the measures will be verified.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS?

The proposed project is located within the HCP/NCCP inventory area and is a covered activity. The proposed project would have a permanent and temporary impact to approximately 1.4 acres of undeveloped habitats and removal of approximately 36 trees. The grading footprint of the proposed project has been minimized to the maximum extent practicable in order to avoid jurisdictional features. Implementation of Mitigation Measure BIO-1 would minimize or avoid impacts to special-status species and their habitats, including trees.

Impact BIO-10 – Impacts to Sensitive Natural Communities

The proposed project would result in both temporary and permanent impacts to natural communities, sensitive habitats and undeveloped habitats regulated by USFWS and CDFW through the Lake and Streambed Alteration Agreement and by the Habitat Conservancy. The proposed project is located within the HCP/NCCP inventory area and would have permanent and temporary impacts to undeveloped habitats (approximately 1.4 acres). The proposed project would permanently impact 40 linear feet (0.058 acre) and temporarily impact 249 linear feet (0.289 acre) of stream from top of bank to top of bank. In addition to payment of development and wetland fees described in Mitigation

Measure BIO-10a, potential impacts to natural communities during construction would be minimized through implementation of Mitigation Measure BIO-10b. These measures would reduce proposed project impacts on sensitive natural communities to **less than significant with mitigation incorporated**.

Mitigation Measure BIO 10a: Payment of HCP Development and Wetland Fees

Compensatory mitigation for temporary and permanent impacts to habitats will be achieved through payment by CCCPWD of development fees and wetland mitigation fees. The proposed project would provide a development fee of $13,909.19 for permanent impacts and a development fee of $2,119.99 for temporary fees. A wetland mitigation fee of $41,659.62 for permanent impacts to stream and riparian woodland habitats, and a wetland mitigation fee of $25,529.02 for temporary impacts to stream and riparian woodland habitats. Specific to riparian habitat, fees will offset permanent impacts to 40 linear feet of stream and permanent impacts to riparian woodland as a result of the loss of 0.091 acre of riparian canopy. Additionally, the fee will offset temporary construction impacts to 249 linear feet of stream and 0.306 acre of riparian habitat. Therefore a total combined mitigation fee for the project will be $83,217.82.

Mitigation Measure BIO-10b: Wetland, Pond and Stream Protective Measures

In addition and consistent with HCP/NCCP Conservation Measure 2.12 *Wetland, Pond, and Stream Avoidance and Minimization*, the following applicable avoidance and minimization measures will be used to protect the stream occurring within and adjacent to the project site:

- Prior to the start of construction, all portions of the stream to be avoided by the project will be temporarily staked in the field by a qualified biologist.
- Prior to the start of construction, construction personnel will be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements.
- Trash generated by the project will be promptly and properly removed from the site.
- No construction or maintenance vehicles will be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill.
- Appropriate erosion-control measures (e.g., fiber rolls, filter fences) will be used on site to reduce siltation and runoff of contaminants into the stream. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control blankets shall be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians.
- Fiber rolls used for erosion control will be certified as free of noxious weed seed and will not contain plastics of any kind.
- Seed mixtures applied for erosion control will not contain invasive nonnative species, and will be composed of native species or sterile nonnative species.
- Herbicide will not be applied within 100 feet of wetlands, ponds, streams, or riparian woodland/scrub; however, where appropriate to control serious invasive plants, herbicides that have been approved for use by USEPA in or adjacent to aquatic habitats may be used as long as label instructions are followed and applications avoid or minimize impacts on covered species

and their habitats. In seasonal or intermittent stream or wetland environments, appropriate herbicides may be applied during the dry season to control nonnative invasive species (e.g., yellow star-thistle). Herbicide drift should be minimized by applying the herbicide as close to the target area as possible.

The MMRP (included as Appendix A) prepared for the proposed project identifies when mitigation measures will be implemented, the parties that will be responsible for ensuring implementation of these measures, and implementation of the measures will be verified.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

Stream habitat and riparian woodland impacts discussed under checklist item b) above may also affect federally protected wetlands and other waters of the United States subject to regulation under Section 404 of the CWA. Results of the wetland delineation survey determined that permanent impacts would occur to 40 linear feet (0.030 acre) of USACE jurisdictional stream and 425 linear feet (0.019 acre) of non-jurisdictional ditch. Temporary impacts would occur to 289 linear feet (0.169 acre) of jurisdictional stream. Impacts to jurisdictional waters include all waters to be impacted below Ordinary High Water. Implementation of Mitigation Measures 10a and 10b as described under checklist item b) above, would reduce impacts to wetlands to **less than significant with mitigation incorporated**.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The constructed project would not result in permanent disruption to movement of wildlife species in the area, as the proposed project is limited to road improvements and there are no permanent features that would pose a barrier to movement. However, temporary construction activities, especially noise may temporarily inhibit dispersal, migration, and daily movement of common wildlife but it is not anticipated considering its location within a heavily traveled road. This disruption would be localized and short term in nature. Therefore, impacts of the proposed project would be **less than significant**.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project would not conflict with any local policies or ordinances protecting biological resources. Potential project impacts would be avoided where feasible or mitigated through implementation of avoidance measures and best management practices outline in the PSR and identified in Mitigation Measures described previously. The PSR was completed in adherence with the HCP/NCCP which is consistent with the policies included in the Conservation Element section of the County General Plan. The proposed project is not subject to the County Tree Ordinance (Contra Costa County Code [CCCC] Title 8, Chapter 816-6.10(6). Therefore, the proposed project would have **no impact**.

f) Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The proposed project would include avoidance and mitigation measures identified in the PSR and provide mitigation fees to offset impacts in compliance with the HCP/NCCP. Therefore, the project would have **no impact.**

V. Cultural Resources	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☐	☒
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
e. Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Section 21074(a)?	☐	☐	☒	☐

Regulatory Background

CEQA requires lead agencies to determine if a project would have an adverse impact on a significant cultural resource (Public Resources Code Sections 21084, 21084.1, 21083.2). A resource can be a precontact or historic structure, object, site, or district, and is considered significant if:

- It is listed in or has been determined eligible for listing in the California Register of Historic Resources (CRHR);
- It is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k);
- It has been identified as a significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or
- It is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)].

The CRHR eligibility criteria are used to determine significance. A significant resource must meet one of the four criteria, as follows:

1. The resource is associated with events that have made a significant contribution to the broad patterns or California's history and cultural heritage;
2. The resource is associated with the lives of persons important in our past;
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual, or possesses high artistic values; or

4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

If a significant resource would be impacted, the lead agency must determine whether there is substantial evidence in the administrative record to support a finding of significant effect (Section 21080(e)). CEQA requires examination of mitigation measures or feasible project alternatives that would avoid or minimize any impacts or potential impacts.

Effective July 1, 2015, Assembly Bill 52 amended CEQA to mandate consultation with California Native American tribes during the CEQA process to determine whether or not the proposed project may have a significant impact on a Tribal Cultural Resource, and that this consideration be made separately from cultural and paleontological resources. Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes. Section 21074(a) of the Public Resource Code defines Tribal Cultural Resources for the purpose of CEQA as:

1. Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are any of the following:

    A. included or determined to be eligible for inclusion in the CRHR; and/or

    B. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

    C. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria A and B also meet the definition of a Historical Resource under CEQA, a Tribal Cultural Resource may also require additional consideration as a Historical Resource. Tribal Cultural Resources may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies carry out consultation with tribes at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a significant effect on a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Consultation is concluded when either the lead agency and tribes agree to appropriate mitigation measures to mitigate or avoid a significant effect, if a significant effect exists, or when a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (21080.3.2[b], whereby the lead agency uses its best judgement in requiring mitigation measures that avoid or minimize impact to the greatest extent feasible.

Cultural Resources Assessment

A cultural resources survey for the proposed project was conducted in accordance with federal laws and regulations, Section 106 of the National Historic Preservation Act and its implementing regulations at 36

Code of Federal Regulations (CFR) 800 (Caltrans 2014). Although the regulatory setting for this survey is focused on federal vs. state requirements, the project area and methods of analysis are equivalent; therefore, the results of the Caltrans survey are summarized in the following paragraphs.

Historic Overview and Results

The project area is in the Central California culture area. It is in the traditional territory of the Bay Miwok people, a Miwok-speaking group who were organized into tribelets. Miwok communities moved seasonally between permanent villages and temporary resource-gathering locations. Littoral and marine resources were a primary component of the diet, supplemented by plant resources such as acorns, terrestrial mammals, and birds. Technologies included fish nets and traps, tule mats, and the bow and arrow.

The oldest sites in the region, dating from before 10,000 years ago, are assigned to the Paleoindian period. Evidence from this period is scarce, but indicates that populations were small and moved frequently. In the subsequent Archaic period (about 10,000 to 1,000 years ago), cultural complexity intensified, and a wider variety of food resources were used. Sites from the Emergent period, from about 1,000 years ago to Euroamerican contact, are consistent with ethnographically described cultures.

The first Euroamerican contact in the region was by Spanish explorers in the late 1700s. In the project vicinity, these contacts were primarily military. After Mexican independence in 1821, much of California was granted to individuals as ranchos. However, the project area was not part of a rancho and was likely unoccupied. California seceded from Mexico in 1847, and the Gold Rush began in 1848, bringing many Americans to the region. As the Gold Rush wound down, many of them settled in the area and engaged in agriculture and other commercial activities. Viniculture and tourism both began in mid-nineteenth century in the region. The Marsh Creek Springs Resort, adjacent to the south side of the road, was constructed in 1927, but extensively damaged by floods in 1957 and 1962. The proposed project would not affect the resort. The Marsh Creek Bridge was built in 1948.

The Caltrans survey did not identify any archaeological resources in the project area. The project area has been extensively disturbed by road construction, and it is unlikely that any native sediments are present within the horizontal and vertical extent of ground disturbance. Tribal consultation by Caltrans did not identify any culturally significant or sacred lands. The Marsh Creek Bridge was determined not historically significant.

Paleontological Overview

The Bureau of Land Management has developed a classification system based on the potential for the occurrence of significant paleontological resources in a geologic unit and the associated risk for impacts to the resource (BLM 2008; 2007). Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. However, geological formations that have the potential to contain vertebrate fossils are more sensitive than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered unique resources, because the geological contexts in which they are encountered are widespread and fairly predictable. Invertebrate fossil species are usually abundant and well-preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a significant resource than are invertebrate fossils. As a result, geologic formations having the potential to contain vertebrate fossils are considered the most sensitive. Vertebrate fossil sites are usually found in non-marine, upland deposits (BLM 2007).

Soils in the project area where ground disturbance would occur are generally alluvially derived (Zamora silty clay loam, 2% to 5% slopes). Alluvial deposits typically contain only invertebrate fossils (if any), and those are out of original depositional context (BLM 2007).

a and b) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?

The proposed project would not cause a substantial adverse change to an historic or archaeological resource because it is unlikely that any such resources are present in the project area. Field survey did not identify archaeological materials or undisturbed native soils. Bridge 141 has been determined not eligible for listing on the CRHR or the National Register of Historic Places.

The County would stop construction if any archaeological or historical resources discovered during construction pursuant to our standard specifications. Therefore, proposed project impacts would be **less than significant**.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The proposed project would involve some clearing and grading as part of the bridge replacement and shoulder improvements. However, these project activities are not expected to impact any paleontological resource or site or unique geologic feature because they occur primarily in alluvially derived soils. Therefore the project would have **no impact** on paleontological resources or unique geological features.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

The proposed project would not disturb any human remains because it is unlikely that any such remains are present in the project area. The proposed project would occur in previously disturbed sediments.

Construction work would stop if human remains are encountered. Procedures for the discovery of human remains, in compliance with California Health and Safety Code (Health and Safety Code Section 7050.5[b]), will be included in the Inadvertent Discovery Plan described in checklist item c). Therefore, project impacts would be **less than significant**.

e) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Section 21074(a)?

Contra Costa County has communicated with the NAHC, and has sent a letter to a tribe that requested consultation in the area. No response has been received. No other historical or ethnographic sources suggest that a Tribal Cultural Resource may be present in the project vicinity. Therefore, project impacts would be **less than significant**.

VI. Geology and Soils	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	☐	☐	☒	☐
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Environmental Setting

Geology

The Quaternary Alluvium and Great Valley Sequence geological formations occurs beneath the project area. The Quaternary Alluvium formation consists of consolidated and unconsolidated sediments and can cause localized problems for building due to expansive clays, hillside earth flows and unstable cut slopes. The Great Valley Sequence formation consists of hard marine sandstone, shale and

conglomerate. Foundation and slope stability conditions are fair to good, subject to sliding where sheared, fractured, or contorted (Contra Costa County 2005d).

Soils

There are two soil types located within the project footprint and four adjacent. The soils types within the project footprint include Los Osos clay loam (50 to 75% slope) and Zamora silty clay loam (2 to 5% slope)). Los Osos clay loam is generally associated with upland slopes and consists of loam, clay loam and unweather rock and is considered well drained and high erosion. Zamora silty clay is usually associated with alluvial fans, terraces, valley floors such as those found along Marsh Creek and consists of silt clay loam. Other soil types adjacent to the project include Los Gatos loam (30 to 50% slope), Los Gatos loam 50 to 75%), Los Osos clay loam (15 to 30% slope), and Rock outcrop-Xerorthents association (NRCS 2015).

Seismic Hazard

Contra Costa County is subject to a high rate of seismic activity. The San Francisco Bay region has been affected by more than ten severe earthquakes during historic time. The proposed project location is approximately 0.5 mile from the Clayton section of the Greenville Fault Zone (California Department of Conservation 2010). The Clayton section is a slip-strike fault and generally is poorly defined, and fault-related topographic features are poorly developed. It is characterized by subdued saddles and subdued hill fronts. This dextral strike-slip fault zone borders the eastern side of Livermore Valley and is considered to be part of the larger San Andreas Fault system in the central Coast Ranges. The fault zone extends from northwest of Livermore Valley along the Marsh Creek and Clayton faults towards Clayton Valley (Bryant and Cluett 2002).

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

1) 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?

The project is not expected to expose people or structures to potential substantial adverse effects from a rupture of a known earthquake fault as the project area is not within a mapped Alquist-Priolo Fault Zone, and there are no known faults within the project area. While the Clayton section of the Greenville fault zone is located approximately 0.5 miles from the project area, there has been no documentation of damaging earthquakes, historic surface faulting, or known micro seismic activity (Contra Costa County 2005). The proposed project does not include features that would increase risk to people or structures as it is primarily limited to replacement of an existing bridge, and shoulder widening of an existing roadway. Nevertheless, the proposed project design and construction would incorporate measures that are in accordance with local design practice and guidelines to ensure the new bridge would withstand seismic activity as defined in the Caltrans Highway Design Manual. Therefore, proposed project impacts would be **less than significant**.

2) Strong seismic ground shaking?

As discussed previously, the project area is not located in a fault zone. The slip-strike fault located to its west is not considered to pose a risk of surface rupture, but is considered a potential seismic source.

The project area is located within hard bedrock, which is considered to have the lowest damage susceptibility (Contra Costa County 2005). The proposed project is not expected to expose people or structures to potential substantial adverse effects as the project does not include features that would increase risk to people or structures as it is primarily limited bridge replacement and shoulder widening of an existing roadway. Nevertheless, the project design and construction would incorporate measures that are in accordance with local design practice and guidelines to ensure that the project would withstand seismic activity as defined in the Caltrans Highway Design Manual. Therefore, proposed project impacts would be **less than significant**.

3) Seismic-related ground failure, including liquefaction?

The project area is primarily located within a generally moderate to high liquefaction potential due to the soil deposition related to Marsh Creek (Contra Costa County 2005). The project design would incorporate design measures in accordance with local design practice and guidelines as defined in the Caltrans Highway Design Manual which are intended to ensure that structures would withstand seismic activity and liquefaction. Therefore, proposed project impacts would be **less than significant**.

4) Landslides?

The project area is not located within a potential landslide area (Contra Costa County 2005). Therefore, the proposed project would have **no impact**.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Minor grading and excavation associated with the bridge replacement would result in a negligible change in topography. Construction of the proposed project would temporarily increase the exposure of soils to wind erosion from grading and excavation activities. However, standard erosion control BMPs would be implemented during construction to minimize potential impacts. Therefore, proposed project impacts associated with soil erosion would be **less than significant**.

c) Would the project 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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

The project area is not located in a geologic unit or soil that is considered unstable and likely to result in landslides. However, the project area is partially located within an area that could be susceptible to liquefaction. The project design and construction would incorporate recommended measures in accordance with local design practice and guidelines as defined in the Caltrans Highway Design Manual to ensure that the proposed project would withstand seismic activity and liquefaction. Therefore, proposed project impacts would be **less than significant**.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The project area is located on silty clay loam, which contains soils with expansive properties. The proposed project would be engineered according to standard industry practice, which includes design considerations for soil type. The project design would incorporate design measures in accordance with local design practice and guidelines as defined in the Caltrans Highway Design Manual which are intended to ensure that structures would withstand seismic activity and liquefaction. Therefore, proposed project impacts would have **no impact**.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed project would not require septic or other waste systems in the short or long terms. Therefore, the proposed project would have **no impact**.

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

Greenhouse gases (GHGs) are atmospheric gases that capture and retain a portion of the heat radiated from the earth after it has been heated by the sun. The primary GHGs are carbon dioxide (CO_2), methane (CH4), and nitrous oxide (N_2O), ozone, and water vapor. While GHGs are natural components of the atmosphere, CO_2, CH4, and N_2O, are also emitted from human activities and their accumulation in the atmosphere over the past 200 years has substantially increased their concentrations. This accumulation of GHGs has been implicated as the driving force behind global climate change.

Human emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH4 results from off-gassing associated with organic decay processes in agriculture, landfills, etc. Other GHGs, including hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, are generated by certain industrial processes. The global warming potential of GHGs are typically reported in comparison to that of CO_2, the most common and influential GHG, in units of "carbon dioxide-equivalents" (CO_2e).

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Regulatory Background

Assembly Bill 32 (AB 32 - Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act, requires CARB to lower State GHG emissions to 1990 levels by 2020—a 25% reduction statewide with mandatory caps for significant GHG emission sources. AB 32 directed CARB to develop discrete early actions to reduce GHG while preparing the Climate Change Scoping Plan in order to identify how best to reach the 2020 goal.

Statewide strategies to reduce GHG emissions to attain the 2020 goal include the Low Carbon Fuel Standard, the California Appliance Energy Efficiency regulations, the California Renewable Energy Portfolio standard, changes in the motor vehicle corporate average fuel economy standards, and other early action measures that would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32.

In an effort to make further progress in attaining the longer-range GHG emissions reductions required by AB 32, Governor Brown identified in his January 2015 inaugural address an additional goal (i.e., reducing GHG emissions to 40% below 1990 levels by 2030) to be attained by implementing several key

climate change strategy "pillars:" (1) reducing present petroleum use in cars and trucks by up to 50%; (2) increasing from one-third to 50% the share of California's electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived GHGs; (5) managing farm and rangelands, forests and wetlands to more efficiently store carbon; and (6) periodically updating the State's climate adaptation strategy.

Building on state and regional climate protection efforts, the BAAQMD has adopted a resolution (BAAQMD 2013) to reduce GHG emissions by:

- Setting a goal for the Bay Area region to reduce GHG emissions by 2050 to 80% below 1990 levels.
- Developing a Regional Climate Protection Strategy to make progress towards the 2050 goal, using the Air District's Clean Air Plan to initiate the process.
- Developing a 10-point work program to guide the Air District's climate protection activities in the near-term.

Environmental Setting

CARB estimated that in 2013, California produced 459 million gross metric tons of CO2e. CARB found that transportation is the source of 37% of the state's GHG emissions, followed by industrial sources at 23% and electricity generation (both in-state and out-of-state) at 18%. Agricultural uses contributed 8%, residential uses contributed 7% and commercial uses contributed 5% (CARB 2015).

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) and the industrial and commercial sectors are the two largest sources of GHG emissions, each accounting for approximately 40% of the Bay Area's 86.6 million metric tons of CO_2e emitted in 2011 (BAAQMD 2015). Industrial/commercial accounts for approximately 36% of the Bay Area's GHG emissions followed by electricity generation at 14%, residential at 8%, off-road equipment at 1.5%, and agriculture at 1.5%.

The BAAQMD is the primary agency responsible for air quality regulation in the nine-county San Francisco Bay Area Air Basin. As part of that role, the BAAQMD has prepared *CEQA Air Quality Guidelines* (BAAQMD 2012) that provide CEQA thresholds of significance for operational GHG emissions from land use projects (i.e., 1,100 metric tons of CO2e per year, which is also considered the definition of a cumulatively considerable contribution to the global GHG burden and, therefore, of a significant cumulative impact), but has not defined thresholds for project construction GHG emissions. The *CEQA Air Quality Guidelines* methodology and thresholds of significance have been used in this Initial Study's analysis of potential GHG impacts associated with the proposed project.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Although the BAAQMD has adopted 1,100 metric tons/year as a GHG operational emissions significance criterion for development projects, there is no similar adopted threshold for project construction emissions. Construction of the proposed project would generate a total of about 102 metric tons of GHG during its 7-month construction period. Because construction emissions would be short-term and would cease upon completion of construction, GHG from construction activities would not substantially

contribute to the global GHG emissions burden. Also, the proposed project is a routine transportation infrastructure upgrade that would not affect regional population, employment or transportation projections upon which regional GHG inventories are based, or conflict with any County or State policies to reduce GHG emissions. The proposed project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions and, thus, would have a **less than significant impact**.

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project would not conflict with AB 32 and the strategies being implemented to achieve its goals, or the BAAQMD's Resolution and, thus, would have a **less than significant impact**.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that 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?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Regulatory Background

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies. An Initial Site Assessment was prepared for the proposed project (BASELINE 2014) to identify potential sources of contamination along the site. The potential sources of

contamination were evaluated as Recognized Environmental Conditions in accordance with the American Society of Testing and Materials (ASTM) Method E1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process (BASELINE 2014).

a and b) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? 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?

The proposed project would not increase the capacity of Marsh Creek Road; therefore, no long-term increase in the routine transport, use, or disposal of hazardous materials is expected. However, during construction, there would be an increased potential for the accidental release of hazardous substances through the use of construction equipment, including refueling operations.

In addition, two sites were identified within a 1.5-mile radius of the project: the abandoned Mt. Diablo Mercury Mine Dump Site (approximately 1.5 miles away) and the Marsh Creek Ranch (approximately 0.5 mile away (Figure 5). Materials were stockpiled at Mt. Diablo Mine Dump Site during the acid mining process for mercury. Acid mine drainage has routinely overflowed three surface impoundments and made its way to Horse and Dunn Creeks and then into Marsh Creek. Based on available information, Marsh Creek sediments may contain mercury and other metals. These metals could be released to surface waters if those sediments were disturbed (BASELINE 2014). BMPs, including the preparation of a site water pollution control plan (WPCP) or stormwater pollution prevention plan (SWPPP) would be implemented to minimize the release of sediments and soils into surface waters during construction.

The Marsh Creek Ranch site is listed as having an inactive 1,000-gallon underground storage tank. Due to its distance from the project site and available information, this site would not have the potential to impact the project site (BASELINE 2014).

The project would require that the contractor prepare a WPCP or SWPPP to identify safety and BMPs (e.g., placement of drip pans under stationary equipment, routine equipment inspections, and on-site spill cleanup materials) to prevent accidental releases of hazardous substances and potential worker exposure. The proposed project would also require the contractor to contact Underground Service Alert (USA) prior to conducting any work that could potentially impact utilities (BASELINE 2014). For these reasons, project impacts would be **less than significant**.

c) Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing or proposed schools identified within 0.25 mile of the project area. The nearest school is Mt. Diablo Middle School, which is approximately 4.5 miles to the west in the City of Clayton. Therefore, the proposed project would have **no impact** to schools.

d) Would the project be located on a site that 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?

The proposed project is not located on a site that is included on a list of hazardous materials sites. As mentioned above, the nearest known hazardous sites are approximately 0.5 mile away. Therefore, the proposed project would have **no impact**.

e and f) Would the project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area? Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?

The nearest airport to the project area is Buchanan Air Field, which is operated by Contra Costa County and located over 12 miles to the northwest in the City of Concord. There are no known private airstrips within a 2-mile radius of the project area. Therefore, the proposed project would have **no impact.**

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan in the short or long terms. Access for emergency vehicles would be provided at all times during construction. Therefore, proposed project impacts would be **less than significant**.

h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The project area is located within high fire hazard severity zone (CalFire 2007). The project proposes to replace existing steel and concrete structures with a new steel and concrete structures. These materials are not considered flammable and would not contribute to an increased risk due to wildland fires. Therefore, the proposed project would have **no impact**.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

Hydrologic Resources

The Marsh Creek watershed drains the east side of Mount Diablo. The portion of the watershed that drains the project site is 23.1 square miles. One of Marsh Creek's larger tributaries is Curry Canyon Creek; its confluence is located approximately 3.5 miles upstream and southwest of the project site as described further in the Location Hydraulic Study prepared for the proposed Project (WRECO 2015). Downstream of the project site, Marsh Creek collects drainages from other tributaries such as Sycamore Creek and Briones Creek before reaching the Marsh Creek Reservoir, which is located approximately 11 miles downstream (east) of the project site. Downstream of Marsh Creek Reservoir, Marsh Creek continues flowing northerly through the cities of Brentwood and Oakley before discharging into the San Joaquin River (WRECO 2015).

Flood Hazard Areas

Marsh Creek is classified a Special Flood Hazard Area Zone A, which represent areas within the 100-year base floodplain where the base flood elevation has not been determined. The existing bridge structure constricts the Marsh Creek channel, resulting in flood waters backing up and inundating the underside of the bridge (WRECO 2015).

Water Quality

Marsh Creek is designated as an impaired waterbody under the Federal Clean Water Act due to releases of mercury and other metals from the abandoned Mt. Diablo Mercury Mine. The abandoned mercury mine is located southwest of the intersection of Marsh Creek Road and Morgan Territory Road, approximately 1.5 miles from the project area. The mine operated from 1863 to 1974. Mine waste was stockpiled during mining operations. Acid mine drainage has routinely overflowed three surface impoundments at the base of the mine waste, and into the Horse and Dunn Creeks, which then discharge to Marsh Creek and ultimately the Sacramento Delta. Investigation and cleanup of this site is taking place under the oversight of the Central Valley Regional Water Quality Control Board (RWQCB 2013; BASELINE 2015).

a) Would the project violate any water quality standards or waste discharge requirements?

The drainage area in the project area is expected to be subject to regulation by USACE and RWQCB. Impacts to the drainage area would require authorization from the USACE Regional General Permit for small activities in the HCP/NCCP service area and a Water Quality Certification from RWQCB for any discharges.

A National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. Municipal stormwater discharge in eastern Contra Costa County are regulated under the East Contra Costa County Municipal NPDES Permit, To obtain coverage under the Construction General Permit, the project applicant must provide via electronic submittal, a Notice of Intent, a WPCP or SWPPP, and other documents required by Attachment B of the Construction General Permit. The Municipal Permit is overseen by RWQCB (BASELINE 2015).

The proposed project would be required to implement BMPs to control sediment and erosion during construction activities, as well as to comply with the provisions of the NPDES Construction General Permit, which would include the preparation and implementation of an SWPPP. The proposed project would also need to comply with provision C.2.e of the Municipal Permit, which requires BMPs to control sediment and erosion during construction and maintenance of rural public works and requires bridge crossing design to include measures to reduce erosion and maintain natural stream geomorphology (BASELINE 2015). Therefore, proposed project impacts would be **less than significant**.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The proposed project would not affect groundwater supply; therefore, there would be **no impact**.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?

The proposed project would modify the existing Marsh Creek stream channel within the project area, including removal of the existing bridge abutments and construction of new abutments that are further apart to allow for a less constricted stream channel. The abutments would be designed following Caltrans standards to minimize the potential for erosion and minimize the potentials for siltation. The design would widen the currently incised channel around the existing bridge to allow for lower velocity flows during storm events. Therefore, the proposed project would have a **less than significant impact**.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

The existing bridge structure constricts the Marsh Creek channel, resulting in flood waters backing up and inundating the underside of the bridge. The new bridge structure would be constructed with a wider span between the abutments to allow more water to travel under the bridge during high flow events. The new bridge is expected to provide adequate freeboard between the bottom of the bridge and flood waters during a 100-year storm event (WRECO 2015). Therefore, the proposed project would have a **less than significant impact**.

e) Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The wider lanes and shoulders to be built as part of the proposed project would result in a minimal increase in impervious surface as compared to existing conditions. Following construction, use of the project site (as a bridge and roadway) would result in pollutant discharges from existing and new impervious surfaces similar to those under current conditions. Municipal Permit Provision C.2.e would require implementation of BMPs for erosion and sediment control during maintenance of the project,

and Provision C.2.e (2)(g) requires that the bridge design use measures to reduce erosion. The proposed project is not subject to C.3 requirements because it is a road project that does not create any additional traffic lanes. Therefore, the proposed project would have a **less than significant impact**.

f) Would the project otherwise substantially degrade water quality?

The proposed project would not increase the vehicle capacity of Bridge 141. Pollutants generated from the proposed project are expected to be similar to those under current conditions. Appropriate authorizations related to water quality would be obtained from regulatory agencies prior to construction. The bridge would be constructed to current design standards and project construction would implement BMPs during construction to avoid adverse impacts to the drainage area. Therefore, project impacts would be **less than significant**.

g) Would the project place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The proposed project would not construct any house within the 100-year floodplain; therefore, the proposed project would have **no impact**.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect floodflows?

The existing bridge structure constricts the Marsh Creek channel, resulting in flood waters backing up and inundating the underside of the bridge. The new bridge structure would be constructed with a wider span between the abutments to allow more water to travel under the bridge during high flow events. The new bridge is expected to provide adequate freeboard between the bottom of the bridge and flood waters during a 100-year storm event (WRECO 2015). Therefore, proposed project impacts would be **less than significant**.

i) Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The proposed project does not include the construction or modification of dams or levees; therefore, the proposed project would have **no impact**.

j) Would the project contribute to inundation by seiche, tsunami, or mudflow?

The proposed project is located in the east-central part of the County and is not subject to seiche, tsunami, or mudflow; therefore, the proposed project would have **no impact**.

X. Land Use and Planning		Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with any applicable land use plan, policy, or the regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

(a) Would the project physically divide an established community?

The proposed project would not physically divide an established community; on the contrary, it would likely result in improved commuter accessibility to areas on either side of the bridge. Therefore, the proposed project would have **no impact**.

(b) Would the project conflict with any applicable land use plan, policy, or the regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The Land Use Element of the County's General Plan has zoned the project area for agriculture, and the proposed project would not result in the alteration of this land use designation. The proposed project is also consistent with the General Plan's Transportation Circulation Element's policies, including the following:

- Policy #5-A: To provide a safe, efficient, and balanced transportation system
- Policy #5-9: Existing circulation facilities shall be improved and maintained by eliminating structural and geometric design deficiencies
- Policy #5-17: The design and scheduling of improvements to arterials and collectors shall give priority to safety over other factors including capacity

Therefore, the proposed project would have **no impact**.

(c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The project area is located within the East Contra Costa County HCP/NCCP inventory area and is a covered activity. Compliance with the HCP/NCCP is covered under the Biological Resources section. Because the project complies with the HCP/NCCP, the proposed project would have **no impact**.

XI. Mineral Resources	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Environmental Setting

Mineral resources such as crushed rock and sand, among other resources, are important to the County because these resources support the construction of homes and a mix of other industries. The mineral industry and associated services provide significant employment in the County. The County has identified three distinct mineral resources areas: a clay deposit near the town of Port Costa, Domengine Sandstone in the eastern part of the County near Byron; and a Diabase gravel deposit north of Mt. Diablo near Clayton. Gravels from the Diabase deposits are used in road base as well as riprap for streambank protection. There are two active gravel mines within the Diabase gravel deposit approximately 5.5 miles to the west towards the town of Clayton (Contra Costa County 2005).

a) Would the project 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?

There are no mapped mineral resources or active mineral extractions activities within the project area. Therefore, the proposed project would have **no impact.**

b) Would the project 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?

There are no mapped mineral resources or active mineral extractions activities within the project area. Therefore, the proposed project would have **no impact.**

XII. Noise	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?	☐	☐	☐	☒
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☐	☒
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒	☐
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 expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒
f. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Regulatory Background

The effects of noise on humans is subjective but often includes annoyance, nuisance, and dissatisfaction. Persistent and escalating noise levels can affect a person's overall health and increase the chance for stress-related illnesses, high blood pressure, hearing loss, speech interference, sleep disruption, and lost productivity (USEPA 2010). The main contributors to a community noise problem are often transportation sources such as highways and railroads because they are the most pervasive and continual. Temporary noise sources such as a jackhammer or bulldozer at a construction site can also contribute to the noise problem. The severity of a noise problem can be analyzed based on the relationship between the noise source and the person or place exposed to the noise (sensitive receptor), as well as the distance and path the noise would travel from the noise source to the sensitive receptor. Because the human ear is not equally sensitive to certain frequencies and sound pressure levels, several methods of expressing average noise levels over a period of time have been developed.

Sound intensity (loudness) perceived by the human ear is typically measured in A-weighted decibels (dBA) with a range of 0 (threshold of hearing) to 140 (threshold of pain); the higher the decibels, the greater the intensity. Exposure to high noise levels affects the human body, with prolonged exposure to 75 decibels (dB) or above increasing tension and thereby affecting blood pressure, heart function, and the nervous system; 85 dB or above resulting in physical damage to hearing; and 90 dB or above resulting in permanent cell damage. Prolonged exposure to 140 dB or above may cause a feeling of pain

in the ear, and 190 dB or above would likely rupture the eardrum and permanently damage the inner ear.

Human sound perception, in general, is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise from existing conditions; in practice, for example, this means that the volume of traffic on a roadway typically needs to double to result in a noticeable increase in noise (ICF International 2014).

When distance is the only factor considered, sound levels from isolated point sources of noise typically decrease by about 6 dB for every doubling of distance from the noise source. When the noise source is a continuous line, such as vehicle traffic on a highway, sound levels decrease by about 3 dB for every doubling of distance. Sound attenuation can also be affected by topographic features and structural barriers that absorb, reflect, or scatter sound waves, as well as atmospheric conditions (i.e., wind speed and direction, humidity levels, and temperatures) and the presence of dense vegetation.

Sound from multiple sources operating in the same area (i.e., pieces of equipment operating on a construction site) would result in a combined sound level that is greater than any individual source. The combined noise level produced by multiple noise sources is calculated using logarithmic summation. For example, if one bulldozer produces a noise level of 80 dBA, then two bulldozers operating side by side would generate a combined noise level of 83 dBA.

Section 65302(f) of the California Government Code requires that all city and county general plans include a noise element that identifies and provides mitigation for any existing and perceivable noise problems. The Noise Element of Contra Costa County's General Plan follows the California Department of Health Services' *Guidelines for the Preparation and Content of the Noise Element of the General Plan,* which defines noise metrics, discusses the process of noise element development, and presents land use compatibility guidelines based on various noise levels. Contra Costa County, however, does not have a noise ordinance and therefore does not specify construction or operational noise level limits.

The General Plan's standard for outdoor noise levels in residential areas is 60 dBA. However, based on the traffic noise contours depicted in the Noise Element, outdoor noise levels at existing residences along Marsh Creek Road were estimated to be greater than 60 dBA. Because the General Plan does not establish an allowable project-related operational noise increase for existing residences with ambient noise levels greater than 60 dB, this CEQA analysis will consider the project to have a significant operational noise impact if it would create a traffic noise increase of greater than 3 dBA over existing ambient noise levels because the threshold of perceptible change is generally considered to be 3 dBA (ICF International 2014).

The Noise Element of the County's General Plan specifies that construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses, and should be commissioned to occur during normal work hours. This CEQA analysis will consider the project to have a significant construction noise impact if it would create a temporary noise increase of greater than 10 dB over the existing ambient noise level due to construction-related activities following the implementation of the above noise control and administrative measures. An increase of 10 dB is generally perceived as doubling the sound level.

Environmental Setting

Noise-sensitive receptors nearest to the project site include two residences and one commercial facility commonly used for weddings. Locations and distances from these receptors to the project site are provided in Table 6.

Table 6
Nearby Receptors Sensitive to Noise

Receptor	Address	Approximate Distance between Receptor and Existing Roadway Centerline/Potential Staging Area[2]	Shielding	Existing condition between Receptor and Roadway
Residence 1	12801Marsh Creek Road	199 feet (295 feet from northern staging area and 498 feet from southern staging area)	Landscape trees and native trees	Landscape trees and native trees
Residence 2	12807 Marsh Creek Road	428 feet (540 feet from northern staging area and 737 feet from southern staging area)	Landscape trees and native trees	Landscape trees and native trees
Commercial Facility	12510 Marsh Creek Road	550 feet (488 feet from northern staging area and 368 feet from southern staging area)	Landscape trees and native trees	Landscape trees, native trees, and a paved parking lot

The proposed project is located in a rural, predominantly agricultural (grazing) area. As such, ambient noise levels are less than in a more urban environment, and primarily stem from vehicular traffic along Marsh Creek Road. Based on the traffic noise contours provided in the Noise Element of the County's General Plan, the traffic noise level of Marsh Creek Road between Clayton and Deer Valley Road is estimated to be 65 dBA, which is within the typical hourly noise level range (60 to 65 dBA) for suburban arterial roadways (ICF International 2014).

a) Would the project cause exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

It is anticipated that the proposed project would use standard construction equipment, which includes but is not limited to: large rotary drilling machine, crane, excavator, tractor, backhoe, grader, dump truck, water trailer, compactor, skid steer, pick-up trucks, paver, hopper, and generator, no pile driving will occur. Table 7 summarizes the typical noise levels produced by construction equipment commonly used on road construction projects.

[2] Distances reflect the increase in proximity from Residences 1 and 2 resulting from the bridge replacement and road realignment.

Table 7
Typical Noise Levels of Road Construction Equipment

Equipment	Typical Noise Level (dBA at 50 feet from source)
Paver	89
Jackhammer	88
Truck	88
Concrete Mixer	85
Grader	85
Loader	85
Mobile Crane	83
Compactor	82
Excavator	81
Generator	81
Backhoe	80

Source: Federal Transit Administration 2006.

A reasonable worst-case construction noise level assumes that the two loudest pieces of equipment (paver and jackhammer) would operate concurrently throughout the day, which would result in a maximum value of 91.5 dBA.

The project would remove approximately 6 riparian trees and 3 non-native woodland trees to the east of the bridge on the north side of the roadway. These trees provide some screening from noise due to their location near the stream. However, both residences are set back from the roadway approximately 90 to 120 feet and would retain landscape trees. The project would remove 2 non-native woodland trees to the south, but the majority of native and landscape trees would remain and continue to shield the commercial facility from noise.

Construction activities are anticipated to be conducted in phases over the course of approximately two years, with construction work occurring between 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 5:00 p.m. on weekends. Compared to existing conditions, construction activities would not increase noise levels at the Commercial Facility (550 feet away) and would minimally increase noise levels at Residence 2 (from 65 dBA to 66 dBA, 428 feet away). Construction activities could substantially increase noise levels at Residence 1 (199 feet away) from 65 dBA to 84 dBA which would be considered a significant construction impact; however, due to the intermittent nature of construction, construction noise would likely remain considerably lower at Residence 1 most of the time. Additionally, implementation of the following equipment noise controls and administrative measures, as outlined in the project's Noise Technical Memorandum, (Contra Costa County 2014) would reduce this impact to a less than significant level:

1. Use newer equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise

control devices (e.g., mufflers and shrouding, etc.). Stationary noise generating equipment would be located as far as possible from sensitive receptors.

2. Turn off idling equipment.
3. The County would notify residents adjacent to the project site by letter prior to construction. The letter will include the hours of construction and the name and telephone number of the Resident Engineer who will be on-site and available to address residents' concerns
4. The County would maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity updates of all construction activities.
5. The County would limit construction to the hours between 7:00 a.m. and 7:00 p.m. No night work is anticipated for this project and work may be scheduled during weekends (with prior County approval). Weekend work as needed would be limited from 9:00 a.m. to 5:00 p.m.

The bridge will not move closer in proximity to the commercial facility, potential project operational noise impacts could stem from moving the bridge and roadway alignment closer to Residences 1 and 2. Specifically, the bridge would move approximately 30 feet closer to Residence 1 and the roadway would move approximately 10 feet closer to Residence 2. However, due to the following considerations, operational noise impacts would be negligible:

- No increase in vehicular traffic is anticipated to occur as a result of the proposed project.
- The slightly closer proximity of the bridge or roadway to the residences would not result in a significant permanent increase in noise levels at the residences. Based on the Noise Element of the County's General Plan, the current day-night average sound level 100 feet from the project site is estimated to be 65 dBA. Relocation of Residence 1 approximately 30 feet closer to the project site would result in a 2.82 dBA increase in noise, while relocation of Residence 2 approximately 10 feet closer would result in a 1.02 increase in noise. These increases are below the 3 dB fluctuation required to be perceived by the human ear, as well as the 3 dB increase assumed to result in a significant operational noise impact.

For the above-noted reasons, the proposed project would result in a **less than significant impact**.

(b) Would the project cause exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Traffic traveling on roadways is rarely the source of perceptible ground borne vibration. Exceptions to this occur when there is a significant discontinuity in the roadway surface which can impart energy into the ground that can be perceived as ground-borne vibration. Because the proposed project is not anticipated to increase vehicular use of the bridge or corresponding roadway, and the road pavement would be smoother following construction, the proposed project would result in **no impact** on ground borne noise levels.

Construction activities, on the other hand, may generate localized ground borne vibration at sensitive receptors, especially during the operation of high-impact equipment. Table 8 depicts vibration levels of proposed construction equipment.

Table 8
Typical Vibration Levels of Proposed Construction Equipment

Equipment	Vibration Level (VdB) at 25 feet[3]
Small Bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large Bulldozer	87

Note: VdB = vibration level

The proposed project would not use any pile driving equipment (which is a change from what was originally analyzed in the Noise Technical Memorandum; Contra Costa County 2014). Operation of the equipment listed above could result in nearby sensitive receptors experiencing vibration levels as high as 60 VdB at 199 feet (Residence 1), 50 VdB at 428 feet (Residence 2), and 47 VdB at 550 feet (Commercial Facility).[4,5] As indicated by the FTA, "human response to vibration is not usually significant unless the vibration exceeds 70 VdB" (FTA 2006). As such, it is likely that the nearby sensitive receptors would not perceive increased vibration levels during construction. Additionally, because construction would be temporary and localized, and would adhere to the equipment noise controls and administrative measures outlined in the project's Noise Technical Memorandum (Contra Costa County 2014), the proposed project would result in **no impact**.

(c) Would the project cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

As discussed in checklist item a), the location of the replacement bridge and road realignment could increase noise levels at nearby residences. However, these increases would be below the 3 dBA fluctuation required to be perceived by the human ear, as well as the 3 dBA increase assumed to result in a significant operational noise impact. Therefore, the proposed project would result in a **less than significant impact**.

(d) Would the project cause a substantial temporary increase in ambient noise levels in the Project vicinity above levels existing without the Project?

As discussed in checklist item a), compared to existing conditions, construction activities would not increase noise levels at the Commercial Facility (550 feet away) and would minimally increase (less than 10 dBA) noise levels at Residence 2 (from 65 dBA to 66 dBA, 428 feet away). However, construction activities could substantially increase (more than 10 dBA) noise levels at Residence 1 (199 feet away)

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[3] The typical vibration levels of construction equipment at 25 feet are based on data provided in Table 12-2 of the FTA's 2006 Transit Noise and Vibration Impact Assessment and then converted to VdB using the FTA's calculation of: $VdB = 20 \times \log_{10}(PPV/PPV_{ref})$, where $PPV_{ref} = 1 \times 10^{-6}$ inches per second.

[4] Per FTA guidance, the vibration levels of proposed construction equipment at other distances were calculated using the following equation: PPV at Distance D = PPV (at 25 feet) x $([25/D]^{1.5})$ and then converted to VdB using the FTA's calculation of: $VdB = 20 \times \log_{10}(PPV/PPV_{ref})$, where $PPV_{ref} = 1 \times 10^{-6}$ inches per second.

[5] Distances reflect the increase in proximity from Residences 1 and 2 resulting from the bridge replacement and road realignment.

from 65 dBA (existing ambient noise level) to 84 dBA. Due to the intermittent nature of construction, construction noise would likely remain considerably lower than this value at Residence 1 most of the time, and implementation of the equipment noise controls and administrative measures outlined in the project's Noise Technical Memorandum (Contra Costa County 2014) would reduce impacts at Residence 1 to a less than significant level. Therefore, the proposed project would result in a **less than significant impact**.

(e) For a Project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the Project area to excessive noise levels?

There is no public airport located within two miles of the project area. The nearest airports are located 13 miles from the project site: Buchanan Airport approximately 13 miles northwest, and Byron Airport approximately 13 miles southwest. Therefore, the proposed project would have **no impact**.

(f) For a Project located within the vicinity of a private airstrip, would the project expose people residing or working in the Project area to excessive noise levels?

The project area is not located in the vicinity of a private airstrip; therefore, the proposed project would have **no impact**.

XIII. Population and Housing	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

Section 15126.2(d) of the CEQA Guidelines states that agencies should discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The discussion should also include the ways the project would remove obstacles to population growth. Increases in the population may put additional burden on community service facilities, requiring construction of new facilities that could cause significant environmental effects.

a) Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The proposed project does not propose new housing or businesses, but would improve the structurally deficient bridge that is a part of Marsh Creek Road. The proposed project would not increase the vehicle capacity of the bridge. Therefore, the proposed project would have **no impact**.

b) Would the project displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?

The proposed project may necessitate the temporary or permanent acquisitions of right-of-way in order to accommodate the new alignment of the bridge. The following parcel acquisitions may require right of way acquisitions: 12801 Marsh Creek Road (APN 078230003); 12807 Marsh Creek Road (APN 078230002); 12410 Marsh Creek Road (APN 078180010); and 2103 Marsh Creek Road (APN 078180007).

These acquisitions would not include existing residential structures or impair the continued use of existing residential structures. Therefore, the proposed project would have a **less than significant impact**.

c) Would the project displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

The proposed project would not displace or remove any individual residents or existing housing units. Therefore, the proposed project would have **no impact**.

XIV. Public Services	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 fire protection, police protection, schools, parks, or other public facilities?

Fire Protection. The East Contra Costa Fire Protection District provides fire protection services and emergency services for the Marsh Creek Springs area (East Contra Costa Fire Protection District 2015). The proposed project would not increase demand for fire services nor impede existing service. Therefore, no new government facilities or expansion of existing facilities would be required. A temporary road would be maintained during construction, so access through the project area is not expected to be disrupted for more than short and intermittent periods. Therefore, proposed project impacts would be **less than significant**.

Police Protection. The Contra Costa County Sheriff's Department provides general public safety and law enforcement services in unincorporated areas, contract cities and special districts totaling 521 square miles (Contra Costa County 2015b). The proposed project would not increase demand for police services nor impede existing service. Therefore, no new government facilities or expansion of existing facilities would be required. A temporary road would be maintained during construction, so access through the project area is not expected to be disrupted for more than short and intermittent periods. Therefore, proposed project impacts would be **less than significant**.

Schools. The project area is serviced by the Mt. Diablo Unified School District (MDUSD 2015). The proposed project would not increase demand for school services and thus no new government facilities

or expansion of existing facilities would be required. The closest school is Mt. Diablo Middle School located in the City of Clayton approximately 4.5 miles west of the project area. Access to the school is from Marsh Creek Road. There are also no school bus routes through the project area (Contra Costa County 2013). Therefore, the proposed project would have **no impact**.

Parks. The project area is not located within or near a park; the nearest parks are the Mt. Diablo State Park and Clayton Ranch Open Space Preserve, both with lands approximately 1.7 miles to the west (Contra Costa County 2005). The constructed project would not increase demand for parks facilities or resources, therefore no new facilities or expansion of existing facilities would be required. As such, the proposed project would have **no impact**.

Other Public Facilities. The Marsh Creek Detention Facility is operated by Contra Costa County and is located less than 1 mile west of the project area, off of Marsh Creek Road. The Marsh Creek Detention Facility is a minimum-security facility with a housing capacity of 256 inmates (Contra Costa County 2015b). The proposed project would not increase demand for detention facilities and thus no new government facilities or expansion of existing facilities would be required. A temporary road would be maintained during construction, so access through the project area is not expected to be disrupted for more than short and intermittent periods. Therefore, proposed project impacts would be **less than significant**.

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

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?

The proposed project does not include new development that could increase the use of existing parks or recreational facilities that could result in substantial physical deterioration of facilities. Therefore, the proposed project would have **no impact**.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

For the same reasons as noted under checklist item a), the proposed project would have **no impact**.

XVI. Transportation/Traffic	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Regulatory Background

The Contra Costa Transportation Authority (CCTA) is a public agency formed to manage the County's transportation sales tax program and conduct countywide transportation planning. CCTA is responsible for maintaining and improving the County's transportation system by planning, funding, and delivering critical transportation infrastructure projects and programs that connect the communities safely and efficiently including bicycle and pedestrian projects as described in the 2009 Countywide Bike and Pedestrian Plan (CCTA 2009). In addition, the Transportation and Circulation Element of the General Plan includes goals and policies regarding Contra Costa County bikeways.

Environmental Setting

The existing bridge over Marsh Creek has been deemed structurally deficient and functionally obsolete in recent Caltrans bridge inspection reports. The purpose of the proposed project is to improve safety

on Marsh Creek Road by replacing the existing single-span bridge with a new single-span bridge that meets current design standards. The new bridge would be designed to meet current design standards (i.e., CCCPWD, Caltrans, and American Association of State Highway and Transportation Officials) and would include wider shoulders and wider lanes.

The proposed project has been designed so that existing traffic can be accommodated during construction, while minimizing impacts to the surrounding right-of-way, including existing buildings. Construction would be sequenced in a manner to minimize traffic impacts during construction. Two phases of bridge construction are expected:

- The first phase would partially construct the new bridge with traffic using the existing bridge.
- The second phase shifts both directions of traffic onto the new bridge so the existing bridge can be demolished and the new bridge can be built to full width.

During construction, the project is expected to accommodate one 12-foot-wide travel lane in each direction on Marsh Creek Road through the project site throughout construction, with short, infrequent periods of one lane traffic controls. Construction would take up to two seasons, likely starting in the summer of 2017 and finishing by the fall of 2018, pending Caltrans and Federal approvals.

Marsh Creek Road is a narrow, two-lane rural major collector road that is widely used by commuters as an alternate to the heavily congested State Route 4. The Average Daily Traffic on this portion of Marsh Creek Road is 6,129 vehicles. The road winds through a series of tight turns in rolling terrain, serving as a vital transportation link between Central and East Contra Costa County for passenger vehicles, heavy trucks, and vehicles with trailers. Marsh Creek Road is not used by transit, including school buses through the project area (Contra Costa County 2013).

a) Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The proposed project would maintain traffic flow and safety during construction. Construction of the new bridge would be staged to accommodate two lanes of traffic throughout construction. During the first phase of construction, traffic would be routed to the existing bridge. During the second stage of construction, traffic would be routed to the new bridge structure. A temporary partial road closure may be required over a long weekend to complete the replacement of the culvert west of the project. Local access to the existing residential driveways would be maintained at all times. Construction activities should have minimal interference to detour traffic. Traffic stops along the detour road may occur to allow for heavy equipment moving in and out of the work zone. Speeds may be reduced to 25 miles per hour to promote safety in the construction. This reduction in speed could cause drivers to experience traffic delays exceeding 10 minutes. The County would ensure that at least one lane would remain accessible to the public at all times during construction of the proposed project and notice of the project's start date and times of construction would be posted in area publications.

The proposed project would widen shoulders through the project area, improving pedestrian and bicycle safety. This is consistent with local and regional plans to provide safe and convenient circulation and pedestrian facilities (Contra Costa County 2005; Contra Costa Transportation Authority 2009).

There are no existing designated bicycle facilities within the Marsh Creek Springs area at this time (Contra Costa County 2013). While the 2009 Contra Costa Countywide Bicycle and Pedestrian Plan shows Marsh Creek Road as a proposed route, they represent corridors and general connections (vs. specific suggested alignments) to link the western and eastern parts of the County. The widened shoulders would not be designated as a bicycle facility, but the improved shoulders would provide shared use of the road for bicyclists and motorists within the project area (Contra Costa County 2013).

The proposed Project would improve safety by replacing a bridge that is structurally obsolete, widen existing shoulders, and straighten a sharp curve. Construction of the proposed project may disrupt traffic through the project area as speeds would be reduced to 25 miles per hour through the construction zone, and some delays up to 10 minutes may occur. These impacts would be temporary, localized and measures would be in place to minimize disruption as described above. Therefore, proposed project impacts would be **less than significant**.

b) Would the project conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?

The project would not conflict with applicable congestion management programs. The proposed project would not increase the capacity or change traffic circulation along Marsh Creek Road. Therefore, the proposed project would have **no impact**.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project would result in no changes to air traffic patterns; therefore, the proposed project would have **no impact**.

d) Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project area ranks high for accidents within Contra Costa County (Contra Costa County). As part of the proposed project, the curve in the road would be realigned to provide a straighter approach that is safer than existing conditions. Therefore, the project would have **no impact**.

e) Would the project result in inadequate emergency access?

Construction of the proposed project may disrupt traffic through the project area as speeds would be reduced to 25 miles per hour through the construction zone, and there may be delays up to 10 minutes for motorists. These impacts would be temporary. Traffic control measures would be in place to minimize disruption as described above. Therefore, proposed project impacts would be **less than significant**.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

There are no existing or formalized public transit, bicycle, or pedestrian facilities in the project area. Marsh Creek Road has been identified as a route for future bicycle facilities. The proposed project

would not preclude the future development of such facilities. Therefore, the project would have **no impact**.

XVII. Utilities and Service Systems	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

Drinking water in Marsh Creek Springs is provided by the Contra Costa Water District (CCWD 2015). There is no sanitary or waste water utilities in the project area (Contra Costa County 2005).

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project would not require or result in the need for increased wastewater treatment. Therefore, the proposed project would have **no impact**.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would not require or result in the need for increased water or wastewater services. Therefore, the project would have **no impact**.

c) Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project construction would result in the relocation of existing roadside ditches. The existing roadside ditches would provide sufficient drainage for the completed project without additional expansion or construction of new facilities. Therefore, the proposed project would have **no impact**.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Due to the nature of the construction activities, there would be no need for water. The proposed project is not expected to affect any current entitlements or water supplies. Therefore, the proposed project would have **no impact**.

e) Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The proposed project would not require or result in the need for increased wastewater treatment services. Therefore, the proposed project would have **no impact**.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The proposed project would not generate the need for a new solid waste facility. Solid waste generated by the proposed project would be limited to construction debris, including asphalt and concrete. This material would be disposed of off-site over the short period of time it would be generated. Therefore, the proposed project would have a **less than significant impact**.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The contractor would dispose of solid waste generated from construction in accordance with federal, state, and local regulations. Therefore, the proposed project would have **no impact.**

XVIII. Mandatory Findings of Significance		Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Does the project have the potential to 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?	☐	☐	☒	☐
b.	Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the project have the potential to 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?

Construction of the proposed project would result in less than significant impacts on certain resources, some of which require mitigation. The potential impacts of the proposed project on fish, wildlife, and other biological resources are described in detail in Section IV of this document. The potential impacts of the proposed project cultural, historic, and archaeological resources are described in detail in Section V of this document. With implementation of mitigation measures AIR-1, BIO-1 and 3-10a/b, the proposed project would result in **less than significant impacts** on these resources.

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.)

Construction of the proposed project would result in less than significant impacts on certain resources, some of which require mitigation. Within the broader context used to assess cumulative impacts, the proposed project would not directly or indirectly increase traffic volumes to Marsh Creek Road and would improve safety within the project area by replacing an old bridge with a new bridge that meets all

current safety standards. Therefore, the proposed project would result in **less than significant impacts** as related to cumulative impacts.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Construction of the proposed project would result in less than significant impacts on certain resources that could affect human beings, some of which require mitigation. Specifically, the potential impacts of the proposed project air quality are described in detail in Section III of this document. With implementation of mitigation measure AIR-1, the proposed project would result in less than significant impacts. No other impacts that could affect human beings require mitigation. Thus, impacts would be **less than significant**.

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FIGURES

Figure 1
Project Site and Vicinity Map
Marsh Creek Bridge 141 Replacement
Contra Costa County, California

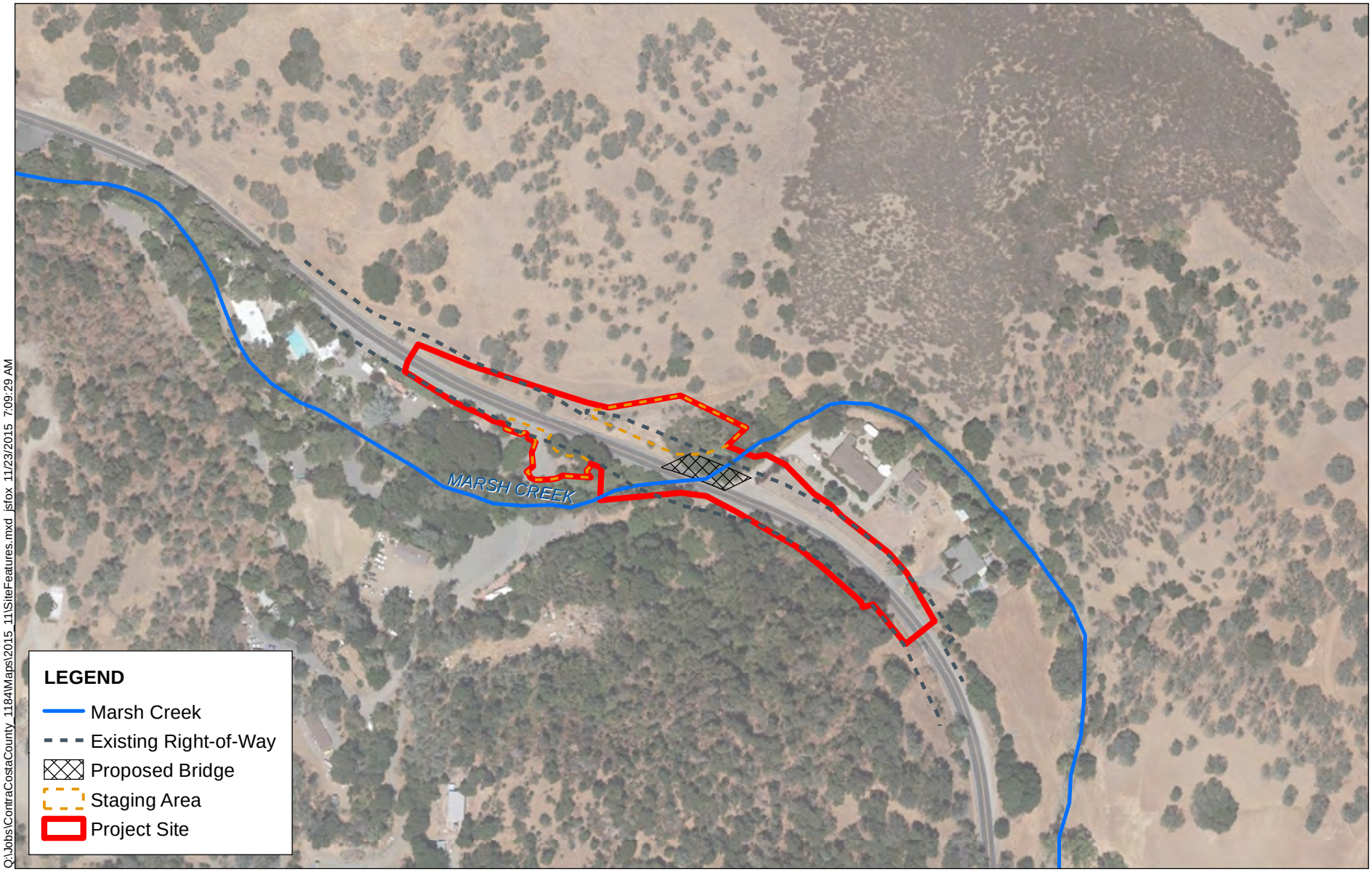

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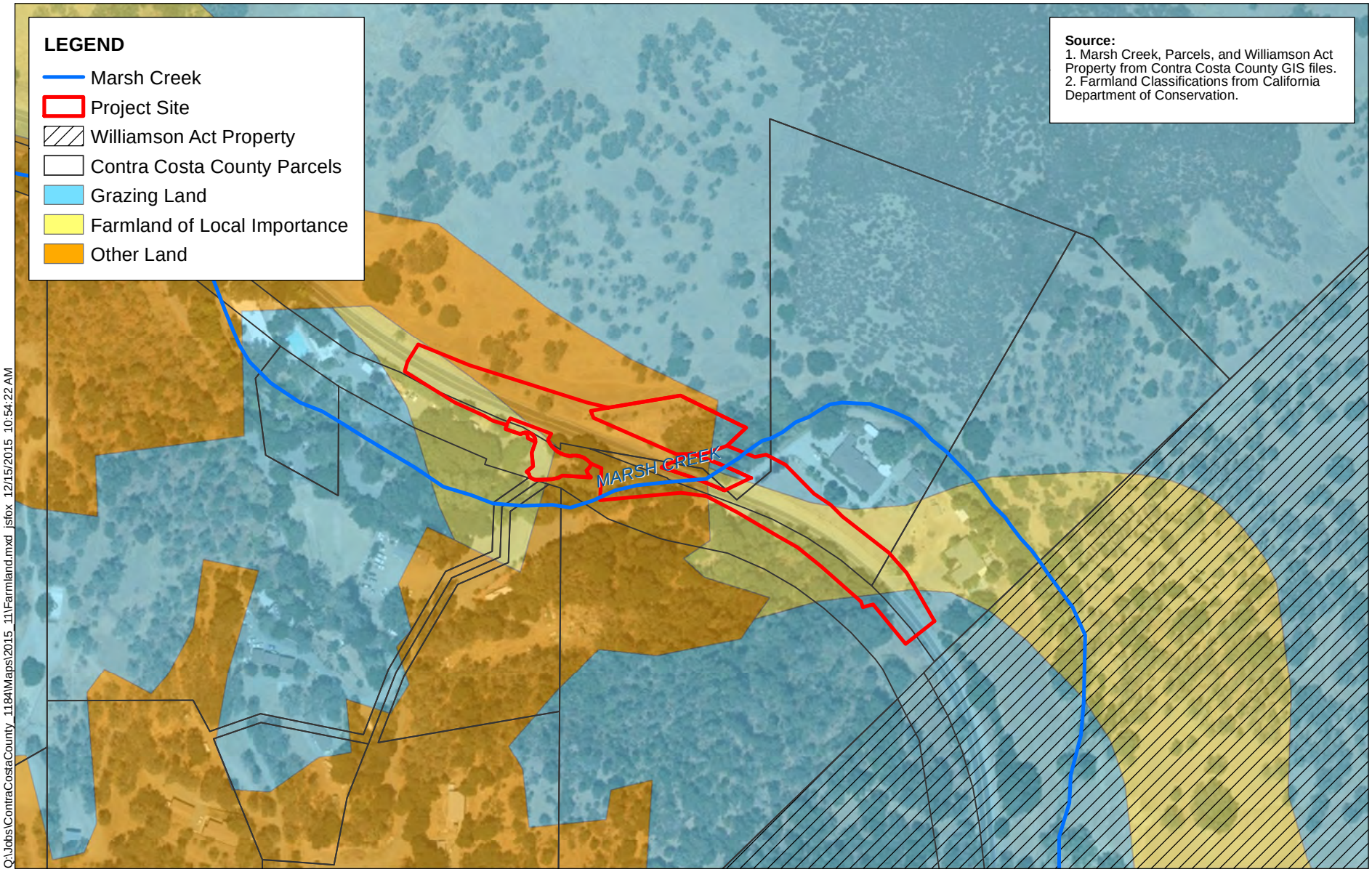
Figure 2
Site Features
Marsh Creek Bridge 141 Replacement
Contra Costa County, California



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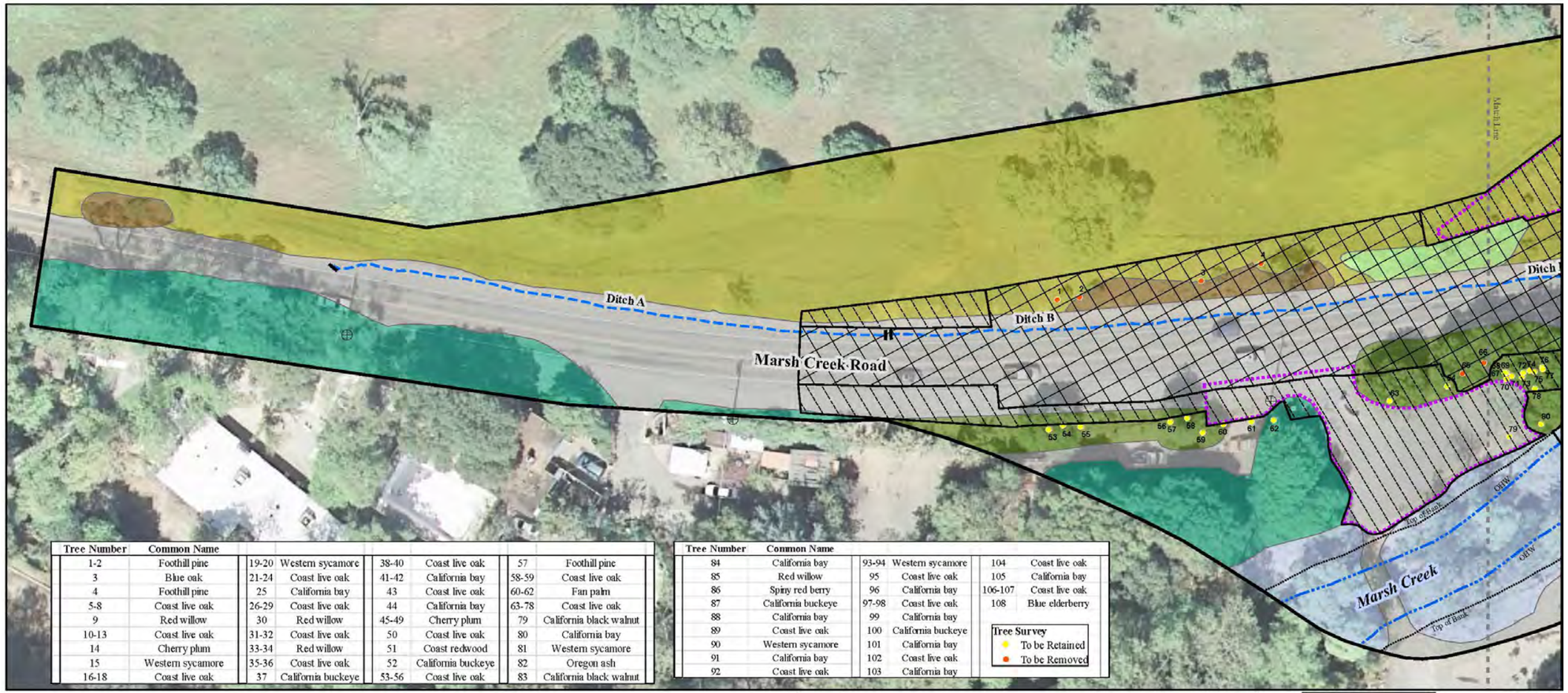
Feet
0 250 500

Figure 3
Potential Impact to Contra Costa County Farmland
Marsh Creek Bridge 141 Replacement
Contra Costa County, California



Tree Number	Common Name						
1-2	Foothill pine	19-20	Western sycamore	38-40	Coast live oak	57	Foothill pine
3	Blue oak	21-24	Coast live oak	41-42	California bay	58-59	Coast live oak
4	Foothill pine	25	California bay	43	Coast live oak	60-62	Fan palm
5-8	Coast live oak	26-29	Coast live oak	44	California bay	63-78	Coast live oak
9	Red willow	30	Red willow	45-49	Cherry plum	79	California black walnut
10-13	Coast live oak	31-32	Coast live oak	50	Coast live oak	80	California bay
14	Cherry plum	33-34	Red willow	51	Coast redwood	81	Western sycamore
15	Western sycamore	35-36	Coast live oak	52	California buckeye	82	Oregon ash
16-18	Coast live oak	37	California buckeye	53-56	Coast live oak	83	California black walnut

Tree Number	Common Name				
84	California bay	93-94	Western sycamore	104	Coast live oak
85	Red willow	95	Coast live oak	105	California bay
86	Spiny red berry	96	California bay	106-107	Coast live oak
87	California buckeye	97-98	Coast live oak	108	Blue elderberry
88	California bay	99	California bay		
89	Coast live oak	100	California buckeye		
90	Western sycamore	101	California bay		
91	California bay	102	Coast live oak		
92	Coast live oak	103	California bay		

LSA

LEGEND

- Biological Study Area (BSA) (6.333 ac)
- Permanent Impact
- Temporary Impact
- Staging Area
- Existing Power Pole/ Utilitiy Box
- Marsh Creek (Below OHW)
- Top of Bank (TOB)
- Ditches A and B (Potentially Non-jurisdictional)

Feature	Existing Length (ft) in BSA	Average Width (ft)	Total Existing Area (ac)	Permanent Impact [1]		Temporary Impact [1]		Total Impact Area (ac)
				Area (ac)	Length (ft)	Area (ac)	Length (ft)	
Marsh Creek	495	51 (30)[3]	0.578 (0.341)	0.058 (0.030)[3]	(40)[3]	0.289 (0.169)[3]	(249)[3]	0.347 (0.199)[3]
Ditch A[2]	290	2	0.013	0.002	45	0	0	0.002
Ditch B[2]	380	2	0.017	0.017	380	0	0	0.017

[1] All impact totals exclude the Urban Land Cover Type.
[2] Potentially Non-jurisdictional.
[3] Below OHW.

0 25 50
FEET

SOURCE: Aerial Imagery from Contra Costa County (March/April 2008).

Symbol	HCP Land Cover Types and Features in the BSA	Area in BSA (ac)	Habitat for Select Covered/ No-Take Species	Temporary Impact Area (ac)	Permanent Impact Area (ac)	Total Impact Area (ac)
	Urban (0.047 ac)[1] (0.035 ac)[2]	1.902	--	0.417 (0.013 ac)[1] (0.013 ac)[2]	1.015 (0.020 ac)[1] (0.015 ac)[2]	1.433 (0.032 ac)[1] (0.028 ac)[2]
	Oak Savanna	1.398	CTS, CRLF (A), WPT, SJKF (B) CTS, CRLF, AWS, CHL, SJKF (F) CTS, CRLF, WPT, AWS, CHL, SJKF (M)	0.184	0.150	0.334
	Oak Woodland (0.009 ac)[1]	1.427	CRLF (A) CRLF, AWS (F) CRLF, WPT, AWS (M)	0.208 (0.009 ac)[1]	0.102	0.310 (0.009 ac)[1]
	Riparian Woodland/Scrub (0.522 ac)[1] (0.306 ac)[2]	0.832	CRLF (A) CRLF, WPT, AWS (F) CRLF, WPT, AWS (M)	0.306 (0.279 ac)[1] (0.169 ac)[2]	0.091 (0.058 ac)[1] (0.030 ac)[2]	0.397 (0.337 ac)[1] (0.199 ac)[2]
	Non-native Woodland	0.456	--	0.031	0.021	0.052
	Chaparral and Scrub (0.001 ac)[1]	0.233	CTS, CRLF, AWS, CHL (F) CTS, CRLF, AWS, CHL (M)	0.083 (0.001 ac)[1]	0.128	0.211 (0.001 ac)[1]
	Native Grassland[3]	0.085	CTS, CRLF (A), WPT, SJKF (B) CTS, CRLF, AWS, CHL, SJKF (F) CTS, CRLF, WPT, AWS, CHL, SJKF (M)	0.008	0.046	0.054
	Total	**6.333**	--	**1.24**	**1.55**	**2.79**
	Total excluding Urban	**4.431**	--	**0.82**	**0.54**	**1.36**

[1] The area (acres) of the Land Cover Type below top of bank.
[2] Land cover type that occurs within the Corps 404 Clean Water Act jurisdictional portion between OHW.
[3] Native grassland is included in the annual grassland category in Table 1 of the Planning Survey Report.

Species Abbreviations:
A WS = Alameda Whipsnake
CHL = Coast Horned Lizard
CRLF = California Red-legged Frog
CTS = California Tiger Salamander
SJKF = San Joaquin Kit Fox
WPT = Western Pond Turtle

Habitat Use Abbreviations:
A = Aestivation
B = Breeding
F = Foraging
M = Movement

FIGURE 3
(Page 1 of 2)

Marsh Creek Road Bridge Replacement Project
Contra Costa County, California

Land Cover Types and Impacts

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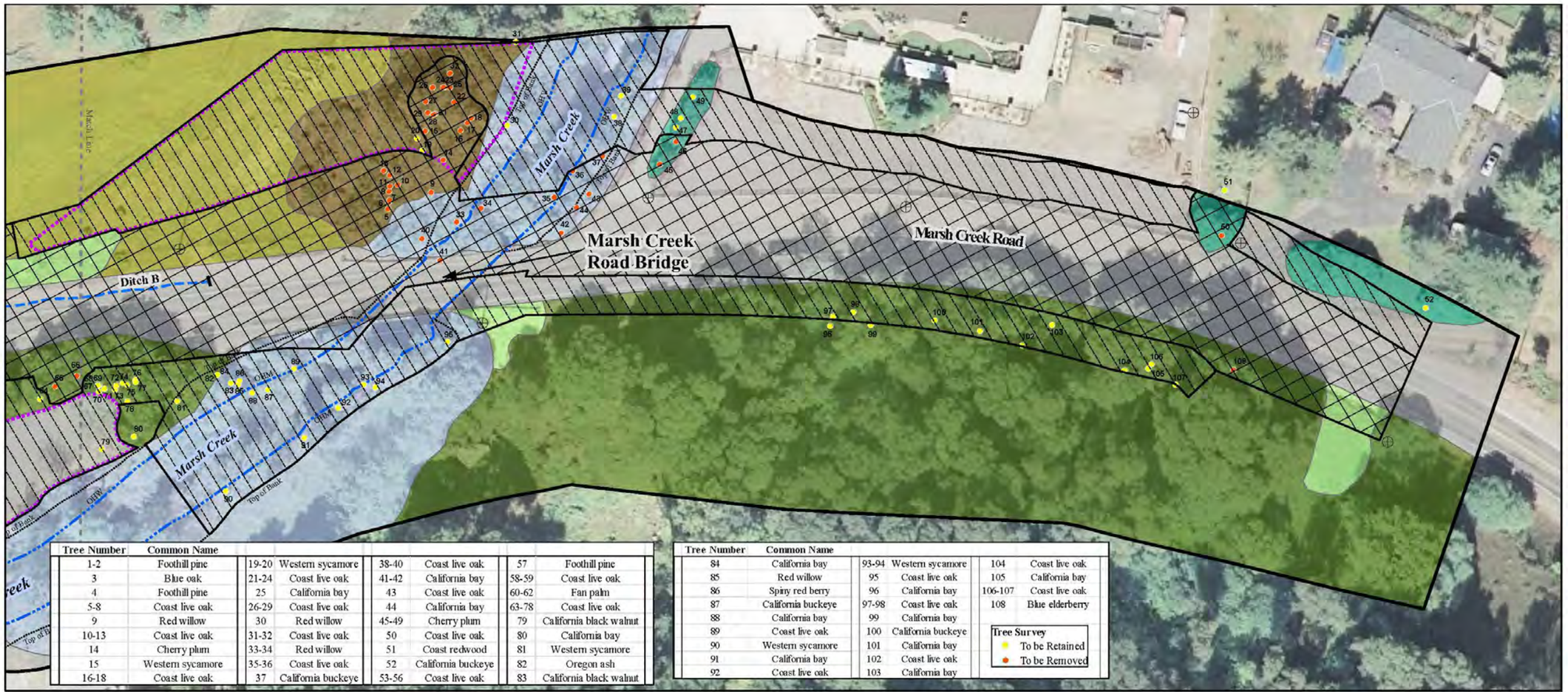
Figure 4a
Land Cover Types and Impacts
Marsh Creek Bridge 141 Replacement
Contra Costa County, California



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Tree Survey
- To be Retained
- To be Removed

LSA

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0 25 50 FEET

SOURCE: Aerial Imagery from Contra Costa County (March/April 2008).

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FIGURE 3
(Page 2 of 2)

Marsh Creek Road Bridge Replacement Project
Contra Costa County, California

Land Cover Types and Impacts

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Figure 4b
Land Cover Types and Impacts
Marsh Creek Bridge 141 Replacement
Contra Costa County, California

Legend

1 Mt. Diablo Mercury Mine Abandoned Dump Site (1.5 miles from Project Site)

2 Marsh Creek Ranch
13265 Marsh Creek Road

One-Half Mile Radius

Project Site

Source: EDR, 2013b.

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Figure 5
Sites on Regulatory Databases within 0.5 Mile of Project Site
Marsh Creek Bridge 141 Replacement
Contra Costa County, California

APPENDIX A
MITIGATION MONITORING REPORTING PLAN

Mitigation Monitoring and Reporting Plan

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
III. AIR QUALITY					
Construction-Related Toxic Air Contaminant Impacts	**MITIGATION MEASURE AIR-1: Enhanced Exhaust Emissions Reduction Measures**				
	The construction contractor will implement the following BAAQMD Enhanced Exhaust Emissions Reduction Measures for Project Construction Equipment measures to further reduce construction-related exhaust emissions: • All off-road construction equipment will meet the following requirements: – All engines will meet or exceed USEPA/CARB Tier 3 off-road emission standards; or – All engines will be retrofitted with a CARB Level 2 Verified Diesel Emissions Control Strategy device.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
IV. BIOLOGICAL RESOURCES					
BIO-1: Disturbance to Sensitive Habitats and Trees	**MITIGATION MEASURE BIO-1: Habitat and Tree Protective Measures**				
	Equipment storage, fueling, and staging areas will be sited on disturbed areas or on ruderal or non-sensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	All no-take species will be avoided.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Biologist, Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-1: Disturbance to HCP/NCCP Habitats and Trees	Construction activities will comply with the Migratory Bird Treaty Act and will consider seasonal requirements for birds and migratory non-resident species, including covered species.	During construction	CCCPWD Construction Contractor	CCCPWD Biologist, Environmental Services Division	
	Temporary stream diversions, if required, will use sand bags or other approved methods that minimize in-stream impacts and effects on wildlife.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Silt fencing or other sediment trapping method will be installed down-gradient from construction activities to minimize the transport of sediment off site.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Barriers will be constructed to keep wildlife out of construction sites, as appropriate.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	On-site monitoring will be conducted throughout the construction period to ensure that disturbance limits, best management practices, and HCP restrictions are implemented properly.	During construction	CCCPWD Biologist, Environmental Services Division	CCCPWD Resident Engineer, Environmental Services Division	
	Active construction areas will be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted.	During construction	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Vegetation and debris must be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and the passage through the culvert or under the bridge remains clear.	During construction	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Cut-and-fill slopes will be revegetated with native, non-invasive nonnative, or nonreproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions.	During construction	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-1: Disturbance to HCP/NCCP Habitats and Trees	Per the NES, tree protection fencing will be used during the construction process to prevent direct damage to trees and their growing environment located just outside of the construction site (avoided trees). The fencing will consist of blaze orange barrier fencing supported by metal "T rail" fence posts and will be placed at or outside of the driplines of avoided trees to the extent feasible based on the limits of the area to be graded. The fencing will be installed before site preparation, construction activities or tree removal/trimming begins, and will be installed under the supervision of a qualified arborist.	Prior to site preparation, construction activities, or tree removal/trimming begins	Certified Arborist	CCCPWD Resident Engineer, Environmental Services Division	
	Per the NES, heavy machinery will not be allowed to operate or park within or around areas containing avoided trees. If it is necessary for heavy machinery to operate within the dripline of avoided trees, then a layer of mulch or pea gravel at least 4 inches deep will be placed on the ground beneath the dripline. A 0.75-inch sheet of plywood will be placed on top of the mulch. The plywood and mulch will reduce compaction of the soil within the dripline.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Per the NES, construction materials (e.g., gravel, aggregate, heavy equipment), project debris, and waste material will not be placed adjacent to or against the trunks of avoided trees.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Per the NES If the trimming of tree canopy is required to allow the movement of construction machinery, all branches to be removed will be pruned back to an appropriate sized lateral or to the trunk by following proper pruning guidelines. All trimming will be conducted under the supervision of a certified arborist.	Prior to and during construction or project-related activities	Certified Arborist	CCCPWD Resident Engineer, Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-3: Disturbance to Special-Status Birds During Construction	**MITIGATION MEASURE BIO-3: Migratory Bird Protective Measures**				
	To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 – August 31.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	If vegetation removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 0.5 mile for golden eagle, 250 feet for raptors including white-tailed kite and 50 feet for other birds should suffice to prevent disturbance to birds nesting in an urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-4: Disturbance to California Red-legged Frog and Their Habitat	**MITIGATION MEASURE BIO-4: California Red-legged Frog Protective Measures**				
	A USFWS/CDFW–approved biologist will identify potential California red-legged frog breeding habitat (Section 6.3.1 of the HCP/NCCP, Planning Surveys). If the project fills or surrounds suitable breeding habitat, the project proponent will notify USFWS, CDFW, and the Implementing Entity of	Prior to construction or project-related activities	USFWS/CDFW-approved Biologist	CCCPWD Biologist, Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-4: Disturbance to California Red-legged Frog and Their Habitat	the presence and condition of potential breeding habitat, as described below. No preconstruction surveys are required.				
	Written notification to USFWS, CDFW, and the Implementing Entity, including photos and habitat assessment, is required prior to disturbance of any suitable breeding habitat. The project proponent will also notify these parties of the approximate date of removal of the breeding habitat at least 30 days prior to this removal to allow USFWS or CDFW staff to translocate individuals, if requested. USFWS or CDFW must notify the project proponent of their intent to translocate California red-legged frog within 14 days of receiving notice from the project proponent. The applicant must allow USFWS or CDFW access to the site prior to construction if they request it.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	There are no restrictions under the HCP/NCCP on the nature of the disturbance or the date of the disturbance unless CDFW or USFWS notify the project proponent of their intent to translocate individuals within the required time period. In this case, the project proponent must coordinate the timing of disturbance of the breeding habitat to allow USFWS or CDFW to translocate the individuals. USFWS and CDFW shall be allowed 45 days to translocate individuals from the date the first written notification was submitted by the project proponent (or a longer period agreed to by the project proponent, USFWS, and CDFW).	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-5: Disturbance to Western Pond Turtle and Their Habitat	**MITIGATION MEASURE BIO-5: Payment of Development Fees**				
	There are no species-specific avoidance and minimization measures required under the HCP/NCCP beyond the general landscape-level avoidance and minimization measures. Impacts to western pond turtle and their habitat would be mitigated through payment of applicable development fees and wetland mitigation fees for permanent and temporary impacts, totaling $83,217.82, as required under the HCP/NCCP (Sections 4.1.1.4 and 4.4.2).	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-6: Disturbance to Special-status Bats	**MITIGATION MEASURE BIO-6: Special-Status Bat Protective Measures**				
	All potential roost trees within the project site will be surveyed for the presence of bat roosts by a qualified biologist. Survey may entail direct inspection of the trees or nocturnal surveys. Survey will be conducted no more than two weeks prior to the initiation of tree removal and ground disturbing activities. If no roosting sites are present, then trees will be removed within 2 weeks following the survey.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	If roosting habitat is present and occupied, then a qualified biologist will determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If it is determined that the bats are not a special-status species and that the roost is not being used as a maternity roost, then the bats may be evicted from the roost using methods developed by a biologist who is experienced in developing and implementing bat mitigation and exclusion plans.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
BIO-6: Disturbance to Special-status Bats	If the bats are found to be pallid bats or the roost is being used as a maternity roost by any bat species, then a biologist who is experienced in bat mitigation and exclusion plans must prepare an eviction plan detailing the methods of excluding bats from the roost(s) and the methods to be used to secure the existing roost site(s) to prevent its reuse prior to removal. Removal of the roost(s) will only occur after the eviction plan has been approved by CDFW.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	Tree removal surrounding roost trees will be conducted without damaging the roost trees.	During construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	No diesel or gas-powered equipment will be stored or operated directly beneath a roost site.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	All construction activity in the vicinity of an active roost will be limited to daylight hours.	During construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	As an option, protocol-level surveys may be conducted the year prior to construction to rule out the presence of bat species in the project vicinity	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-7: Disturbance	**MITIGATION MEASURE BIO-7: Ringtail Protective Measures**				

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
to Ringtail	To ensure the avoidance of ringtail, a preconstruction survey will be conducted by a qualified biologist of all potentially suitable den sites (i.e., tree hollows and logs) within the project site. Any occupied dens will be flagged, and the biologist will prepare a ringtail passive relocation plan subject to the approval of CDFW. The commencement of construction work will be delayed until one of the following has occurred:	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-7: Disturbance to Ringtail	• If the biologist has documented that ringtails have voluntarily vacated the den site, then construction may begin within 7 days following this observation.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	• If the den is not vacated within 20 observation days, then the biologist may commence passive relocation in accordance with the CDFW-approved relocation plan. No relocation shall be conducted during the early pup-rearing season of May 1 to June 15.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	• All activities that involve the ringtail shall be documented and reported to CDFW within 30 days of the activity.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-8: Disturbance to San Joaquin Kit Fox Habitat	**MITIGATION MEASURE BIO-8: San Joaquin Kit Fox Protective Measures**				
	Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. Surveys will establish presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	guidelines. Preconstruction surveys will be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. Status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before start of ground disturbance.				
BIO-8: Disturbance to San Joaquin Kit Fox Habitat	If a San Joaquin kit fox den is discovered in the development footprint, the den will be monitored for three days by a USFWS/CDFW-approved biologist using a tracking medium or an infrared beam camera to camera to determine if the den is currently being used.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	Unoccupied dens will be destroyed immediately to prevent subsequent use.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	If a natal or pupping den is found, USFWS and CDFW will be notified immediately. The den will not be destroyed until the pups and adults have vacated the den and then only after further consultation with USFWS and CDFW.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	If San Joaquin kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied, it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).				
BIO-8: Disturbance to San Joaquin Kit Fox Habitat	If dens are identified in the survey area outside the disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-9: Disturbance to American Badger	**MITIGATION MEASURE BIO-9: Conduct Preconstruction Survey for American Badger**				
	If grading or construction will begin during the breeding season (March through August), a qualified biologist will conduct a survey of the grassland habitat to identify any badger burrows on the site. The survey will be conducted no sooner than two weeks prior to the start of construction.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
	Impacts to active badger dens will be avoided by	Prior to and during	CCCPWD	CCCPWD	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	establishing exclusion zones around all active dens, within which construction-related activities will be prohibited until denning is complete or the den is abandoned.	construction or project-related activities	Biologist, Environmental Services Division	Environmental Services Division	
	A qualified biologist will monitor each active den once per week in order to track its status and inform the CCCPWD of when a den area has been cleared for construction.	Prior to and during construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Environmental Services Division	
BIO-10: Impacts to Sensitive Natural Communities	**MITIGATION MEASURE BIO-10a: Payment of Development Fees**				
	Compensatory mitigation for temporary and permanent impacts to habitats will be achieved through payment by CCCPWD development fees and wetland mitigation fees. The proposed project would provide a wetland mitigation fee of $41,659.62 for permanent impacts to stream and riparian woodland habitats, and a wetland mitigation fee of $25,529.02 for temporary impacts to stream and riparian woodland habitats. Specific to riparian habitat, fees will offset permanent impacts to 40 linear feet of stream and permanent impacts to riparian woodland as a result of the loss of 0.091 acre of riparian canopy. Additionally, the fee will offset temporary construction impacts to 249 linear feet of stream and 0.306 acre of riparian habitat.	Prior to and during construction or project-related activities	CCCPWD Environmental Services Division	CCCPWD Environmental Services Division, East Contra Costa County Habitat Conservancy	
	MITIGATION MEASURE BIO-10b: Wetland, Pond and Stream Protective Measures				
	Prior to the start of construction, all portions of the stream to be avoided by the project will be temporarily staked in the field by a qualified biologist.	Prior to construction or project-related activities	CCCPWD Biologist, Environmental Services Division	CCCPWD Resident Engineer, Environmental Services Division	
	Prior to the start of construction, construction	Prior to	CCCPWD	CCCPWD Resident	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	personnel will be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements.	construction or project-related activities	Biologist, Environmental Services Division	Engineer, Environmental Services Division	
	Trash generated by the project will be promptly and properly removed from the site.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	No construction or maintenance vehicles will be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
BIO-10: Impacts to Sensitive Natural Communities	Appropriate erosion-control measures (e.g., fiber rolls, filter fences) will be used on site to reduce siltation and runoff of contaminants into the stream. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control blankets shall be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Fiber rolls used for erosion control will be certified as free of noxious weed seed and will not contain plastics of any kind.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Seed mixtures applied for erosion control will not contain invasive nonnative species, and will be composed of native species or sterile nonnative species.	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	
	Herbicide will not be applied within 100 feet of wetlands, ponds, streams, or riparian woodland/scrub; however, where appropriate to control serious invasive plants, herbicides that have been approved for use by USEPA in or adjacent to aquatic habitats may be used as long as label instructions are followed and applications	Prior to and during construction or project-related activities	CCCPWD Construction Contractor	CCCPWD Resident Engineer, Environmental Services Division	

Impact	Mitigation, Avoidance, and Minimization Measures	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	avoid or minimize impacts on covered species and their habitats. In seasonal or intermittent stream or wetland environments, appropriate herbicides may be applied during the dry season to control nonnative invasive species (e.g., yellow star-thistle). Herbicide drift should be minimized by applying the herbicide as close to the target area as possible.				

Notes:

CCCPWD = Contra Costa County Public Works Department
CDFW = California Department of Fish and Wildlife
HCP = Habitat Conservation Plan
NCCP = Natural Community Conservation Plan
USEPA = U.S. Environmental Protection Agency
USFWS = U.S. Fish and Wildlife Service

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF DETERMINATION

To: ☐ Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

☒ County Clerk
County of: Contra Costa

From: Contra Costa County
Dept. of Conservation & Development
30 Muir Road
Martinez, CA 94553

State Clearinghouse Number: SCH# 2016012058

Project Title: 0662-6R4079 and CP#15-39

Project Applicant: Contra Costa County Public Works Department

Project Location: The project is located two miles east of Morgan Territory Road, located in the eastern area of Contra Costa County in the community of Clayton [Figures 1-2].

Project Description:
The purpose of this project is to replace an existing bridge along Marsh Creek Road that carries traffic over Marsh Creek.

The Project consists of bridge replacement; The proposed bridge would be an approximately 90-foot-long, single-span bridge. The bridge deck would be widened to provide a width of approximately 43 feet, with 12-foot-wide travel lanes, 8-foot-wide shoulders, and an approximately 1.5-foot-wide concrete barrier on each side of the new bridge. The proposed bridge would be constructed of reinforced concrete on pre-cast and pre-stressed I-girders. The reinforced concrete bridge abutments would be supported by spread footings. The existing structure includes tall, reinforced concrete walls that restrict the flows of Marsh Creek under the bridge. These existing walls would be removed as part of the project to open up the channel where Marsh Creek flows under the bridge. The channel work would require that Marsh Creek be dewatered in accordance with regulatory permits. Dewatering would likely be accomplished using coffer dams according to methods acceptable to the California Department of Fish and Wildlife (CDFW). Water would be routed around the work area to maintain downstream flows. Dewatering would occur in the work area extending approximately 150 feet upstream and 200 feet downstream of the existing bridge. Along with replacing the bridge, the horizontal alignment of Marsh Creek Road would be shifted north on a parallel alignment to accommodate the wider bridge structure, and earthwork would be required along both sides of the existing roadway. In order to meet the hydraulic design standards, the vertical profile of the bridge would be slightly raised. The changes in both the horizontal and vertical alignments require reconstruction of Marsh Creek Road on both sides of the bridge (900 feet total). Two retaining walls may also be necessary: the first retaining wall would be along the north side of the roadway (west of the bridge), would have an average approximate height of 10 feet, and would be 183 feet long; the second smaller retaining wall would be set back from the roadway on the north side of the road (west of the bridge) and would be approximately 7 feet high and 90 feet long. The final design of these walls will be determined prior to construction. The widening and realignment of Marsh Creek Road to construct the new bridge may require right-of-way or temporary easements from several adjacent parcels. Staging of construction materials and equipment would occur in two potential locations north and south of the road in the center of the project site (Figure 2). The northern staging area would occur within an undeveloped vegetated area, and the southern staging would occur entirely within paved parking areas. Standard construction equipment would be used for constructing the proposed project, including but not limited to: excavators, graders, scrapers, loaders, sweepers/scrubbers, plate compactors, rollers, backhoes, and pavers. The proposed project has been designed so that existing traffic can be accommodated during construction, while minimizing impacts to the surrounding right-of-way, including existing buildings. Construction would be sequenced in a manner to minimize traffic impacts during construction. Two phases of bridge construction are expected: The first phase would partially construct the new bridge with traffic using the existing bridge; The second phase shifts both directions of traffic onto the new bridge so the existing bridge can be demolished and the new bridge can be built to full width. During construction, the project is expected to accommodate one 12-foot-wide travel lane in each direction on Marsh Creek Road through the project site throughout construction, with short, infrequent periods of one lane traffic controls. Construction would take up to two seasons, likely starting in the summer of 2017 and finishing by the fall of 2018, pending Caltrans and Federal approvals. Utility relocation and right-of-way transaction will be necessary in support of the project. Tree and shrubbery removal and trimming will be necessary, in order to minimize damage to trees, any roots exposed during construction activities will be clean cut and tree branches will be trimmed.

The project was approved on:

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF DETERMINATION

Notice of Determination sent to Office of Planning and Research.*****

This is to certify that the final EIR with comments and responses and record of project approval, or the Mitigated Negative Declaration, is available to the General Public at:

Contra Costa County Public Works Department
255 Glacier Drive, Martinez, CA 94553

Signature (Contra Costa County): _____ Title: _____

Date: _____ Date Received for filing at OPR: _____

AFFIDAVIT OF FILING AND POSTING

I declare that on _____ I received and posted this notice as required by California Public Resources Code Section 21152(c). Said notice will remain posted for 30 days from the filing date.

Signature_____ Title: _____

Applicant:	Department of Fish and Game Fees Due	
Public Works Department 255 Glacier Drive Martinez, CA 94553 Attn: Hillary Heard Environmental Services Division Phone: (925) 313-2022	☐ EIR - $3,070.00 ☒ Neg. Dec. - $2,210.25 ☐ DeMinimis Findings - $0 ☒ County Clerk - $50 ☒ Conservation & Development - $25	Total Due: $ 2,285.25 Total Paid $ _____ Receipt #: _____

*****Notice of Determination may be sent by fax to (916) 323-3018, if followed up with a duplicate mailed copy.

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.