Contra
Costa
County

PUBLIC WORKS DEPARTMENT
INITIAL STUDY OF
ENVIRONMENTAL SIGNIFICANCE

PROJECT NUMBER: 0662-6R-4080

CP# **11-58**

PROJECT NAME: Canal Road Bridge Replacement

PREPARED BY: Ave' Brown, Analyst II DATE: October 29, 2015

APPROVED BY: _____ DATE: 11-17-15

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: Honker Bay	Base Map Sheet #: F-17	Parcel #: 097114016, 097335022, 097100055, and 097100050

GENERAL CONSIDERATIONS:

1. **Location:** The project is located 0.5 mile west of Bailey Road, located in the north-central area of Contra Costa County in the community of Bay Point [Figures 1-2].

2. **Project Description:** The purpose of this project is to replace an existing bridge that carries Canal Road over the Contra Costa Canal.

   The Project consists of bridge replacement; raising the roadway and bridge profile by as much as 3.5 feet; reconstruction of the existing roadway; reconstruction/raising the canal maintenance access roads at all four corners of the bridge and adjacent driveways to conform between the raised road profile and the existing terrain; removal of an existing pedestrian bridge because those facilities will be incorporated into the new bridge, and accompanying utility relocation and right-of-way transactions. Tree and shrubbery removal and trimming will be necessary in support of the Project. In order to minimize damage to trees, any roots exposed during construction activities will be clean cut and tree branches will be trimmed. There will be no deck drains on the new bridge. Storm water runoff will be captured in a new inlet and runoff in the roadway over the entire project will be directed to a new inlet at the northeast corner of the Project and be conveyed into the existing 42" storm drain. A full detour will be necessary. Emergency vehicles will be re-routed in some cases but access will be maintained.

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. Bureau of Reclamation and the Contra Costa Water District.

5. **Is the project within the Sphere of Influence of any city?** Pittsburg.

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
[Pursuant to Public Resources Code Section 21080(c) and California Code of Regulations, Title 14, Sections 15070-15071]

In compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000, et seq.), this Initial Study has been prepared to determine whether an Environmental Impact Report (EIR) or a Negative Declaration needs to be prepared, or to identify the significant environmental effects to be analyzed in an EIR.

PROJECT TITLE

Canal Road Bridge Replacement

LEAD AGENCY NAME AND ADDRESS

Contra Costa County Department of Conservation and Development
30 Muir Road
Martinez, California 94553

CONTACT PERSON AND PHONE NUMBER

Avé Brown, Environmental Analyst II (925) 313-2311

PROJECT LOCATION

The project is located 0.5 mile west of Bailey Road, located in the north-central area of Contra Costa County in the community of Bay Point (Figures 1 and 2)

PROJECT SPONSOR'S NAME AND ADDRESS

Contra Costa County Public Works Department (CCCPWD)
255 Glacier Drive
Martinez, California 94553

GENERAL PLAN DESIGNATION

SH, (Single Family Residential High), ML (Multi Family Residential Low), MM (Multi Family Residential Medium.

ZONING

P-1 (Area Wide Planned Unit Development)

PROJECT DESCRIPTION

The purpose of this project is to replace the existing structurally deficient bridge with one that meets current load and functional standards for public safety. The project generally includes the following components: bridge replacement; raising the roadway and bridge profile by as much as 3.5 feet; reconstruction of the existing roadway; reconstruction/raising the canal maintenance access roads at all four corners of the bridge and adjacent driveways to conform between the raised road profile and the existing terrain; and accompanying utility relocation and right-of-way acquisition (Project).

The existing bridge, constructed in 1938, is a single span, two-lane, reinforced concrete slab structure. It is 31 feet long, and has a clear width (curb-to-curb) of 23.5 feet. The superstructure is supported by seat abutments on spread footings.

The condition of the substructure is noted as the reason for the low rating. The bridge also has a very low load capacity and rating due to its year of construction and remaining service life. The deck geometry does not meet standards for the traffic volumes present on this road, making this bridge functionally obsolete as well.

The proposed bridge will consist of an approximately 40-foot long single-span structure. The preferred bridge type will be either a pre-cast voided slab, or a cast-in-place reinforced concrete slab. The new bridge will have a 44-foot clear width made up of two 12-foot lanes, two 5-foot shoulders and two 5-foot sidewalks. Concrete bridge railings are expected to be used. The bridge rails are directly attached to the bridge deck and will result in a total bridge deck width of approximately 47 feet.

The bridge to be replaced provides access over the Contra Costa Canal (canal). The canal is lined on both sides with gravel access roads for a total of four access points one on each corner of the bridge. The new bridge will be centered in the existing bridge alignment and raised up in profile to meet the requested clearance needs for the canal operator, the Contra Costa Water District (CCWD). The slightly raised profile (approx. 3.5 feet) requires reconstruction of the approach roadway (Canal Road) approximately 200 feet to the north and 250 feet to the south of the bridge.

To accommodate the new profile of the roadway, the canal access roads on all four corners will be reconstructed as well as church accesses and one resident driveway (APN 097114016). In addition, vegetation removal, parking lot adjustments, drainage adjustments, and slope adjustments may be necessary on adjacent parcels (APNs 097114016, 097335022, 097100055, and 097100050). As such, Real Property transactions will be necessary in support of the Project. To date, only temporary construction easements immediately adjacent to the road right-of-way are anticipated. Property owners will be compensated for any landscape vegetation, fences, etc. removed from private property.

There are drains in the existing bridge deck and one 42" storm drain that originates on canal property west of the Project and enters the road right of way north of the bridge and heads north on Canal/Alves road away from the Project. Runoff in the roadway over the entire Project will be directed to a new inlet at the northeast corner of the Project and be conveyed into the existing 42" storm drain. There will be no deck drains on the new bridge.

Bridge construction may require temporary falsework across the channel. Canal flows are typically lower in the winter season, however, there are no known seasonal restrictions associated with working over the canal.

Construction of the bridge abutments will require two excavation areas that will extend up to 10 feet deep. The bridge abutments are expected to be founded on spread footings or cast-in-drilled hole piles up to 60 feet deep. Impact driven piles will not be used. The existing bridge would be removed and disposed of offsite to allow the construction of the new structure. During construction, the road will be closed and traffic will be detoured around the bridge on existing

adjacent roads, primarily Bailey Road and Willow Pass Road. The detour length is approximately two miles.

The project will not impact the canal channel lining. The bridge abutments and foundations will be constructed outside the channel, beyond the existing bridge foundations. There is a pedestrian bridge located adjacent to the bridge that will be removed as part of the project. However, it is expected that the pedestrian bridge will remain open for most of the construction period with occasional closures and access restrictions. Pedestrian and bicycle facilities will be provided on the new bridge.

Overhead utilities (electric, cable, and phone) are located on the west side of the bridge along Canal Road. Just south of the bridge, the overhead lines cross from the west side of the road to the east side. At least two poles will need to be relocated because they are in conflict with the Project. Two additional poles may be relocated or reconfigured because of the change in alignment of the line. Additional utilities including gas, water, and sewer will be relocated to accommodate bridge work.

Potential staging areas have been identified on the canal's access roads. If the CCCPWD is not successful in securing rights to perform staging on the canal access roads or the contractor desires additional areas, the contract documents will include the requirement to locate and secure staging areas subject to the following requirements and any applicable East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan (HCP/NCCP) requirements and fees.

- Staging areas will be located on existing previously disturbed areas with preference to gravel, asphalt, or concrete surfaces.
- HCP/NCCP preconstruction surveys will be conducted in areas with potential habitat.
- Staging areas will not be located near sensitive environmental resources or impact water resources.
- Access through staging areas on canal access roads will be preserved for the underlying owner.

Standard construction equipment will be used, including but not limited to: excavators, graders, scrapers, loaders, sweepers/scrubbers, plate compactors, vibratory compactors, rollers, backhoes, cranes, drill rigs, and pavers. The canal access roads have been identified for construction staging areas (Figure 3). Disturbed areas will be stabilized as necessary following construction.

Construction activities will be generally limited to the hours between 7:00 a.m. and 6:00 p.m.

Construction is expected to occur in 2017 and take approximately nine months to complete.

SURROUNDING LAND USES AND ENVIRONMENTAL SETTING

North of the bridge, the land is fully developed with a church at the northeast quadrant, and single family homes in the northwest quadrant. South of the bridge there are two churches, one on each side of Canal Road (southeast and southwest quadrants). There is a driveway immediately adjacent to the southern maintenance road that provides access to the church in the southeast quadrant. This driveway is shared with the southeast canal maintenance road access as well as access for the pedestrian bridge.

Contra Costa Canal in the Biological Study Area (BSA) is not considered to be Waters of the U.S. and/or Waters of the State under the Clean Water Act or the Porter-Cologne Water Quality Act. Typically, the U.S. Army Corps of Engineers (ACOE) takes jurisdiction over the canal from Rock Slough (the Delta inlet) to Pump Station 1 in Brentwood since this portion is tidally influenced and is directly connected to navigable waters. The portion in the BSA is not tidal nor connected to navigable waters and was likely constructed in upland (ECORP 2014).

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

Federal Highway Administration (FHWA), California Department of Transportation (Caltrans)

The project will be partially funded through the Federal Highway Bridge Program (BRLO-5928(108)). Caltrans, on behalf of the FHWA, is the lead agency for compliance with the National Environmental Policy Act (NEPA). The project has been determined to be a Categorical Exclusion under NEPA.

State Water Resources Control Board (SWRCB)

National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-0006-DWQ) (Construction General Permit [CGP]). Projects that disturb one or more acres of soil or disturb 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 which requires a fee and submittal of a Storm Water Pollution Prevention Plan to identify best management practices (BMPs) for water pollution control (SWRCB 2015). If the project will disturb less than five 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 have less force). Currently, it is anticipated that the project will disturb approximately one and one half acres. Therefore, a waiver certification will be requested from the SWRCB. However, project specifications will still require preparation of a Water Pollution Control Plan to identify applicable water pollution control BMPs.

United States Bureau of Reclamation (Reclamation)

The Contra Costa Canal, over which the bridge spans, is a concrete-lined channel providing municipal and agricultural water supply to Contra Costa County (County). The Canal is owned by Reclamation and is maintained by the CCWD. The bridge, although originally constructed by Reclamation concurrent with the canal, was deeded to the County as part of the 1938 condemnation by the United States of America. The County's road easement at the current bridge location dates back to 1930 and predates both the bridge and canal. Consultation with Reclamation is underway and will continue throughout the Project for temporary access and conforms to the canal access roads and to avoid potential impacts to the canal.

Contra Costa Water District (CCWD)

The CCWD maintains and operates the canal and represents Reclamation in right of way transactions. Consultation with CCWD is underway and will continue throughout the Project. The existing minimum clearance between the top of the canal lining and the bridge soffit is 0.5 foot. In order to meet CCWD vertical clearance requirements of two and one half feet above the canal lining, the profile of the road will need to be raised approximately 3.5 feet.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & 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 in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Anne Brown — 10-29-15

NAME OF PREPARER — Date

Contra Costa County Public Works Department

[signature] — 10-29-15

LEAD AGENCY NAME — Date

Contra Costa County Conservation and Development Department

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

The County has two main scenic resources in addition to many localized scenic features: (1) scenic ridges, hillsides, and rock outcroppings and (2) the San Francisco Bay/Delta estuary system. 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 (CCCGP 2005a).

Environmental Setting

Canal Road crosses the Contra Costa Canal just north of Highway 4. Views to the north of the bridge are of a residential development and the landscaped road frontage of the Church located in the northeast quadrant near the project site. Views to the south are of two churches, one in the southeast quadrant and one in the southwest quadrant that is located on a small rise, the slope of that rise blocks views of the Highway 4 overpass which is located approximately 350 feet to the south.

The Contra Costa Canal was determined to be eligible for the National Register of Historic Places in 2005. The Canal Road bridge is a contributing element to the Contra Costa Canal however; it is not individually eligible. Refer to Section IV, Cultural Resources for a discussion regarding the historical significance of the bridge and the Contra Costa Canal.

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

There are no views of scenic ridgelines, or other scenic vistas from the project site. Therefore, the project will have **no impact**.

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

The project site is not located within a state scenic highway or an officially designated County scenic highway (Caltrans 2015, CCCGP 2005a). Therefore, the project will have **no impact**.

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

The Project will cause very little visual change to the existing roadway and surrounding area because of the limited nature of the work; bridge replacement, roadway conform work, and associated necessary work; for example, relocation of utilities, restriping, re-grading, etc. The project will not introduce buildings, structures or other features that might not be compatible with the character of the area.

Disturbed areas within the road of way will be reseeded and property owners will be compensated for any landscaping that needs to be removed from private property.

On the south side of the bridge in front of the two of the churches, the side slope in the southwest quadrant will be graded back in support of the Project and in the southeast quadrant landscape plants will be removed from a landscape median within the road right of way. The cut slope and landscape median will be stabilized and re-vegetated with seed on completion of the Project.

Project activities may require the removal of a number of landscape trees (estimated to be 12 trees), one from the northwest quadrant near the canal access road and eleven from the Canal Road frontage of the Catholic Church in the northeast quadrant. The tree in the northwest quadrant is a deciduous tree growing in the road right of way that appears to be in poor condition. Most of the other trees that may require removal are small ornamental cypresses located just behind the cyclone fence of the Catholic Church parcel however; it is likely that two larger landscape trees in the same alignment will also be removed. Other trees may need to be trimmed. As stated above, CCCPWD will compensate property owners for any trees removed from private property; the property owner may or may not replace the trees depending on the property owner's preference.

While removal will have some effect on the appearance of the setting, the overall effect will not be substantially different. That is, the setting is a neighborhood with various landscape features and removal of selected landscape trees will not change the overall appearance of the neighborhood. Therefore, there would not be a significant change in the overall vegetative appearance in the Project area.

The Project will replace a single span, concrete slab bridge with a new single span, concrete slab bridge with a similar design. The new bridge will be approximately twice as wide as the existing bridge to bring the width up to current County standards and will allow for five-foot shoulders and five-foot sidewalks on each side. A cast in place concrete bridge rail will be

installed at both edges of the bridge deck, which may be similar to the existing bridge rail or may include an aesthetic upgrade to its exterior finish or by its design elements. In addition, in order to meet CCWD vertical clearance requirements of 2.5 feet above the canal lining, the profile of the road will need to be raised approximately 3.5 feet. These changes replace an existing structure with a similar but larger, more modern structure at a slightly different elevation. There are no views that might be blocked and the changes will not alter the feeling of the existing setting because the existing bridge will be replaced with a similar structure.

The bridge was determined to be eligible as a contributing element to the canal because its architecture is representative of bridges built over the canals by Reclamation at that time not because the architecture is noteworthy. The original bridges built by Reclamation over the canal were designed according to Standard Specifications for Highway Bridges by the American association of State Highway Officials, 1935 edition and were common for their type and method of construction when they were built and inexpensive to construct and maintain. The bridge is not individually eligible for listing on the National Register and does not possess noteworthy features that would be typically associated with a scenic resource.

For the reasons stated above, Project impacts will be **less than significant.**

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

The Project will not create a new permanent source of light or glare that would adversely affect day or nighttime views. No reflective surfaces beyond typical road markers or lights would be installed by the Project. Construction is expected to take place during the daylight hours. If unforeseen circumstances, for example completion of critical work prior to an unexpected storm, necessitate night work, it would be conducted on a situational basis and must be approved by the Resident Engineer who will be available to address any concerns. Therefore, Project impacts will be **less than significant.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES				
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 agriculture use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Regulatory Setting

The Farmland Mapping and Monitoring Program (FMMP) produce maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years.

The California Land Conservation Act of 1965, better known as the Williamson Act (Act), provides an arrangement where private landowners voluntarily restrict their land to agricultural and compatible open space uses under a contract with the County, known as a Land Conservation Contract.

Environmental Setting

There is no agricultural land, forest land or land zoned for timber production on the project site or in the vicinity of the project site.

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 will have **no impact**.

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

The Project will have **no impact**.

c) *Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources 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))?*

The Project will have **no impact.**

d) *Result in the loss of forestland or conversion of forestland to non-forest use?*

The Project will have **no impact.**

e) *Would the project involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?*

The Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY				
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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which 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 Clean Air Act requires the United States Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for six common air pollutants known as criteria air pollutants. They are: particle pollution (often referred to as particulate matter or PM_{10} and $PM_{2.5}$), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Of the six pollutants, particle pollution and ground-level ozone are the most widespread health threats. (USEPA 2012). In addition, the California Health and Safety Code require the California Air Resources Board (CARB), a division of the California EPA, to establish and periodically review area designation criteria for state standards, which are more stringent. The Project is located in the San Francisco Bay Area Air Basin (SFBAAB), which is currently designated as a nonattainment area for state and national ozone standards and national particulate matter ambient air quality standards. (BAAQMD 2015).

The Bay Area Air Quality Management District (BAAQMD) is the regional, government agency that regulates sources of air pollution within the nine San Francisco Bay Area Counties. In addition to criteria pollutants, the BAAQMD enforces the California Airborne Toxic Control Measure (ATCM) that regulates the Naturally-Occurring Asbestos (NOA) emissions from grading, quarrying, and

surface mining operations at sites, which contain ultramafic rock. According to the 2001 map "A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos", the Project site is not in an area likely to contain ultramafic rocks. (CARB 2000)

The BAAQMD periodically prepares and updates plans in cooperation with the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) to establish rules and regulations for various emissions sources. In June 2010, the BAAQMD adopted new thresholds of significance and in 2011 updated its CEQA Guidelines. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the 2010 Thresholds. Subsequent proceedings may ultimately reinstate the Thresholds; however, currently the 2010 thresholds are not formally in place pending review and have been pulled from the BAAQMD CEQA Guidelines that were updated in 2012 to omit the thresholds to reflect the 2012 ruling. In the interim, the BAAQMD website suggests consideration of the 1999 Thresholds of Significance and the evidence in record for the project as a suitable way to determine air quality impacts. The plans listed below were reviewed to determine Project impacts:

- The BAAQMD 2010 Bay Area Clean Air Plan , (BAAQMD 2010);
- The 2012 BAAQMD CEQA Air Quality Guidelines (BAAQMD 2012);
- The 1999 BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans ((BAAQMD 1999)

The 1999 CEQA Guidelines does not include thresholds of significance for construction activities but recommends use of the PM_{10} control measures listed in Table 2 of the 1999 Guidelines to reduce construction emissions to less than significant levels. The 1999 Guidelines state that if the set of measures appropriate to the project are implemented, that construction emissions would be less than significant.

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

There will be no operational air quality impacts resulting from the Project because the Project is limited to bridge replacement with no additional travel lanes and will not increase capacity of the roadway. However, exhaust from construction equipment contains ozone precursors and activities associated with construction of the Project could produce $PM_{2.5}$ and PM_{10} from construction vehicle emissions and dust generated by grading and soil movement.

According to the 1999 Guidelines, the BAAQMD's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than perform detailed quantification of emissions and to recommend use of the PM_{10} control measures listed in Table 2 of the 1999 Guidelines to reduce construction emissions to less than significant levels. The Guidelines further state that all projects should implement the Basic Construction Measures and projects over 4 acres should also implement the Enhanced Control Measures. In this case, the total Project area is 1.92 acres including staging areas. Therefore, all Basic Control Measures from Table 2 will be implemented, if applicable, and in such a way that the intent of the measure is met. For example, the Project will remove any soils tracked onto paved surfaces using appropriate methods that do not generate excessive

dust or create the potential for silt-laden runoff. In addition, applicable measures from Table 8-1 of the BAAQMD 2012 CEQA Guidelines have been included to further reduce potential impacts.

A review of the Bay Area 2010 Clean Air Plan and Section 8, Conservation Element of the General Plan indicates that the Project does not conflict with any of these plans.

IMPACT AIR 1: GENERATION OF CONSTRUCTION EMISSIONS INCLUDING PM_{10} AND $PM_{2.5}$

The Project would generate emissions including PM_{10} and $PM_{2.5}$ from construction related activities.

MINIMIZATION MEASURE AIR 1:

- Water all active construction areas as needed for dust control.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Ensure all construction machinery and vehicles are properly tuned.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

In accordance with the BAAQMD's 1999 Guidelines, Minimization Measure AIR 1 will be incorporated into the Project specifications to minimize Project generation of $PM_{2.5}$, PM_{10}, and other emissions caused by Project construction,. Therefore, Project impacts will be **less than significant.**

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

As discussed above, the Project would not result in an increase in operational air quality emissions. However, exhaust from construction equipment, dust generated by grading and soil movement, and off gassing from asphalt paving, could contribute to existing ozone, PM_{10}, and $PM_{2.5}$ air quality violations. As discussed in Section III Air Quality (a), to minimize project generation of $PM_{2.5}$, PM_{10}, and other emissions caused by Project construction, Minimization Measure AIR 1 will be incorporated into the Project specifications. Therefore, impacts will 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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?*

According to the 1999 Guidelines, if a project does not have individually significant air quality impacts the determination of significant cumulative impact should be based on an evaluation of the consistency of the Project with the local general plan and of the most recently adopted Clean Air Plan (CAP). As discussed in Section III Air Quality (a), the Projects impacts will not be significant and the Project is consistent with the General Plan and the BAAQMD CAP. Therefore, Project impacts would be **less than significant**.

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

Sensitive receptors include locations of human populations such as residences, hospitals, schools, day care centers, retirement homes, and convalescent facilities. The Project will not result in increased operational emissions; however, construction of the Project will temporarily increase toxic air contaminants (TAC) and fine particulate matter $PM_{2.5}$ from construction equipment exhaust. Evidence suggests that $PM_{2.5}$ is by far the most harmful air pollutant in the San Francisco Area Air Basin in terms of the associated impact on public health.

The Project's emissions would be intermittent, temporary construction emissions (approximately nine months). No long-term operational impacts would occur. Construction of the proposed Project would adhere to all measures that require minimizing equipment idling times and use of properly maintained equipment which will reduce $PM_{2.5}$ and TAC emissions. Considering that no long-term impacts would occur, and that the minimization measure noted in Section III Air Quality (a) above will be implemented to reduce emissions, construction impacts are considered **less than significant**.

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

The operational aspects of the Project will not generate any objectionable odors. However, construction equipment exhaust and asphalt paving operations may create intermittent, temporary objectionable odors near sensitive receptors. Considering that no long-term impacts will occur, and that the minimization measure noted in Section III Air Quality (a) above will be implemented to reduce emissions, construction impacts are considered **less than significant**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES				
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, 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 (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

Regulatory Background

In 1973, the federal Endangered Species Act (ESA) was passed by Congress to protect ecosystems supporting special-status species to be administered by the U.S. Fish and Wildlife Service (USFWS). The California Endangered Species Act (CESA) was passed as a parallel act to be administered by the California Department of Fish and Wildlife (CDFW). Special-status plant and wildlife species are defined as those species listed as endangered, threatened, or proposed for listing or designated as fully protected species. If a project has the potential to impact special-status species and/or their associated habitats, the appropriate agency must be consulted to determine appropriate mitigation to offset impacts as well as other mitigation measures to avoid impacts.

Environmental Setting

The following analysis was based on the Natural Environment Study prepared for the Project in 2014 by ECORP Consulting Inc. (ECORP 2014) and the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan, Planning Survey Report (PSR), prepared by Nomad Consulting, July 2014 (Nomad 2014).

The project site is within the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) inventory area. The vast majority of the Biological Study Area (BSA) consists of ruderal and urban habitats. No Waters of the U.S. or state were identified within the BSA. The BSA contains a stretch of Contra Costa Canal, the roadway and bridge, right-of-way and maintenance roads adjacent to the canal, three churches, and several residences. It is highly disturbed from traffic on Canal Road and the adjacent churches and residences. Highway 4 is immediately south of the BSA. South of Highway 4 are several open fields with more residential communities to the south.

There are no sensitive natural communities, designated Critical Habitat, or special status plant habitat and minimal special status animal habitat present within the BSA. There is a drainage outlet with established wetland vegetation at the boundary of one of the canal access roads and outside of the project's BSA.

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 the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Data base searches identified a total of 83 special status plant species with potential to occur in the project area. All species were ruled out during field reviews.

Data base searches identified a total of 74 special-status animals with potential to occur in the project area. All but four species (burrowing owl, hoary bat, western red bat, and pallid bat) could be ruled out from occurring within the BSA based on lack of suitable habitat or unlikeliness to occur.

In addition, trees in the project vicinity provide habitat for nesting birds.

POTENTIAL IMPACT BIO 1: ADVERSE EFFECTS TO BURROWING OWL

Implementation of the Project has the potential to impact western burrowing owl during construction activities if they were to occur on or near the Project site. The western burrowing owl (BUOW) is an HCP/NCCP covered species. BUOW occurrences have been documented south of Highway 4 within 0.27 mile of the project site. No BUOW individuals or sign were noted at the time of the survey. Ruderal land cover within the project area provides suitable habitat for BUOW, specifically parcel APN 097-100- 050, which contained three ground squirrel burrow complexes. Suitable habitat was also present on Parcel APN 097-121-001 which is adjacent to the project area and outside of the BSA. The suitable habitat on site is beyond the work footprint and impacts to any potential habitat are not anticipated. In addition, breeding sites were limited by the minimal amount of small mammal burrows. The lack of ground squirrel activity could be attributed to the apparent periodic disking of both parcels. Presence of the species on site is unlikely based on the limited availably of suitable habitat, however because there is marginally suitable habitat, preconstruction surveys and avoidance measures as required by the HCP/NCCP will be implemented

AVOIDANCE MEASURE BIO 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 having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines.
- On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership will not be surveyed.
- Surveys will take place near sunrise or sunset in accordance with CDFW guidelines.
- All burrows or burrowing owls will be identified and mapped.
- Surveys will take place no more than 30 days prior to construction.
- During the breeding season (February 1 – August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 – January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.

POTENTIAL IMPACT BIO 2: ADVERSE EFFECTS TO BATS

Implementation of the Project has the potential to impact hoary bat, western red bat, and pallid bat during construction activities. The ruderal grassland habitat combined with the surrounding developed land (buildings, homes, bridges, etc.) offer a combination of foraging and roosting opportunities. In addition, construction activities will likely take place during the bat maternity period (May 1 through mid-September). While occurrences within the BSA are unlikely, they cannot be ruled out; therefore, preconstruction surveys for roosting bats are recommended. The following mitigation measures will be implemented to reduce impacts to bats.

AVOIDANCE MEASURE BIO 2:
If construction activities occur within the bat maternity period (May 1 through mid-September), pre-construction bat specific surveys, such as bat acoustical surveys, will be conducted by a qualified biologist within 30 days of construction, with an additional survey one week prior to construction. If roosting bats are found, consultation with CDFW to determine if additional avoidance measures are necessary based on proximity to construction activity, and day roost versus maternity site. If no bats are found, no avoidance measures are necessary.

POTENTIAL IMPACT BIO 3: ADVERSE EFFECTS TO NESTING BIRDS
Implementation of the Project could have negative effects on nesting avian species during construction activities. The BSA and surrounding area have the potential to offer nesting habitat to a multitude of avian species protected by the Federal Migratory Bird Treaty Act (16 USC, Section 703) and the California Fish and Game Code (Sections 3503 and 3503.5). Numerous avian species nest within urban environments and if construction activities are to occur within the nesting season (February 1 to August 31) pre-construction nesting bird surveys will be conducted to avoid impacts to nesting bird species.

AVOIDANCE MEASURE BIO 3:

- If tree removal, pruning, or grubbing activities are necessary, such activities should be conducted in the fall or winter after August 31 and before February 1. This timing will avoid impacts to nesting birds during the breeding season (February 1 to August 31).
- If project construction, including tree removal, is conducted during the breeding season (February 1 to August 31), preconstruction surveys will be conducted within the project footprint and a 250 foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing or surface-disturbing activities. If no active nests are found, no further avoidance is necessary. If work ceases for a period of two weeks or longer, preconstruction nesting bird surveys will be conducted prior to recommencing work.
- If active nests (i.e., nests with eggs or young birds present) are found, non-disturbance buffers will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance, and the type/duration of potential disturbance. No work will occur within the non-disturbance buffers until the young have fledged. Buffer size will be determined in cooperation with the CDFW and the U.S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work will cease immediately and the CDFW and the U.S. Fish and Wildlife Service will be contacted for further guidance.

With implementation of the proposed Avoidance Measures BIO 1 through BIO 3, impacts to special status wildlife species will be **less than significant.**

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, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

A routine wetland delineation was performed by Nomad Consulting on February 3, 2014 as part of the PSR (Nomad 2014). The field studies were conducted in accordance with the ACOE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. All areas and vegetation communities within the BSA were visited on foot and were evaluated for their potential to support jurisdictional wetlands and/or other waters. No evidence of Waters of the U.S., including wetlands, were present in the BSA. There is a drainage outlet with established wetland vegetation near the canal access road in the northwest quadrant (approximately 270 feet from the canal access road entrance on Canal Road). The drainage outlet is beyond the Project's anticipated footprint.

Contra Costa Canal in the BSA is not considered to be Waters of the U.S. and/or Waters of the State under the Clean Water Act or the Porter-Cologne Water Quality Act. Typically the ACOE takes jurisdiction over the canal from Rock Slough (the Delta inlet) to Pump Station 1 in Brentwood since this portion is tidally influenced and is directly connected to navigable waters. The portion in the BSA is not tidal nor connected to navigable waters and was likely constructed in upland. The canal will be protected from construction debris with a debris containment system. Refer to Section IX Hydrology and Water Quality (f).

POTENTIAL IMPACT BIO 4: ADVERSE EFFECTS TO DRAINAGE AREA
A drainage outlet with wetland vegetation could inadvertently be impacted during construction. The drainage outlet is outside of the Project's anticipated foot print but located on one of the canal access roads that is identified for staging. If not identified in the field, and protected, it could be impacted by accidental spills during construction.

AVOIDANCE MEASURE BIO 4:
The Project limits will be delineated to exclude the drainage outlet area.

Implementation of the proposed avoidance measure will reduce impacts to **less than significant.**

c) *Would the project have a substantial adverse effect on federally protected wetlands as defined (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

There are no wetlands in the Project footprint. There is a drainage outlet with wetland vegetation outside but near the Project footprint. Refer to drainage outlet discussion and corresponding avoidance measure in Section IV Biological Resources (b). Implementation of Avoidance Measure BIO 4 will reduce potential impacts to **less than significant.**

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 Project is limited to bridge replacement along an existing road that will not result in significant changes to the existing configuration of the road or surrounding land. No new features that could be barriers to wildlife movement are proposed. Moreover, there is limited habitat for wildlife in the Project area. As such, Project impacts will 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?*

Approximately 12 landscape trees will be removed however they are not protected trees. Property owners will be compensated for any trees removed from private property. Refer to Section 1, Aesthetics for a more detailed discussion about tree removal. Project impacts will be **less than significant**.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The Project is within the HCP/NCCP Service Area and is a covered project. A Planning Survey Report was prepared to identify HCP/NCCP covered sensitive habitats and species that may occur in the Project vicinity. All applicable avoidance and minimization measures are listed in Section IV Biological Resources (a), will be made part of construction bid documents, and will be implemented. In addition, the Project will pay all applicable HCP/NCCP fees for impacts to land cover types occurring in the Project BSA (Urban land cover type has no associated fees). Permanent impact fees would total $121.17. Temporary impact fees would total $355.43.

IMPACT BIO 6: HCP/NCCP FEE REQUIREMENT
The Project is within HCP/NCCP coverage area therefore, applicable fees must be paid for temporary and permanent impacts to specific landcover types.

MITIGATION MEASURE BIO 6: The County will pay applicable HCP/NCCP fees prior to start of construction.

Therefore, Project impacts will be **less than significant with mitigation incorporated.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §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?	☐	☐	☒	☐

Regulatory Background

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Section 101 of the NHPA authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places (NRHP) composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture.

To be eligible for listing on the National Register, a site must "possess integrity of location, design, setting, materials, workmanship, feeling, and association" (36 CFR 60.4), and must:

- Criterion (A) be associated with events that have made a significant contribution to the broad patterns of history (60.4[a]); or
- Criterion (B) be associated with the lives of persons significant in our past (60.4[b]); or
- Criterion (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (60.4[c]); or
- Criterion (D) have yielded, or may be likely to yield information important in prehistory or history (60.4[d]).

In addition, the General Plan contains goals and polices to protect cultural resources and CEQA provisions provide for the documentation and protection of significant prehistoric and historic resources.

A Historic Property Survey Report and Archeological Survey Report (HPSR/ASR) was prepared for the Project by ECORP Consulting Inc. (ECORP 2015a). The HPSR/ASR found that the Canal Road bridge is eligible for the NRHP as a contributing element to the Contra Costa Canal. The State Historic Preservation Officer (SHPO) concurred with this finding in February of 2015. A subsequent Finding of No Adverse Effect was prepared by ECORP Consulting, Inc. (ECORP 2015b). The Finding of No Adverse Effect was approved by Caltrans District 4 Professionally Qualified Staff, concurred by Reclamation, CCWD, Caltrans Headquarters, and is expected to be approved by the SHPO. The following analysis is based on those reports.

Environmental Setting and Records Search

The Area of Potential Effect (APE) for the project includes the APE for archeological and architectural resources. The archaeological APE measures approximately 2.5 acres. The architectural APE was expanded in consultation with Caltrans to encompass adjacent structures and buildings in parcels from which right-of-way take is planned and measures approximately 10.3 acres. The architectural APE also encompassed adjacent areas for potential indirect effects. The APE map is included as Figure 3 of this document.

A records search was performed at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State on 30 August 2013 (NWIC Search 13-0356). No historic landmarks, historic markers, or properties listed in the California Register of Historical Resources were identified within the APE. The record search indicated that 27 cultural resources studies have been conducted within one mile of the APE. Sixteen sites were recorded within one mile of the APE. These sites consist of historic ranches, residences, canals, bridges, and railroad lines. Of these, two sites (P-07-2648, bridge #28C0376; and P-0702695, Contra Costa Canal) are located within the APE.

Site P-07-2695 consists of the 48-mile long Contra Costa Canal constructed between 1937 and 1948 by the Reclamation District. Only a portion of the Canal is present within the APE. The concrete-lined portion of the canal (which carries water) is not located within the APE as it is located below the work area and will be protected; however, the banks and access roads that service it on both sides are included in the APE, as they may be used for temporary construction staging. Although several portions of the 48-mile canal have been recorded throughout the years, the entire canal, including the portion that passes through and by the APE, was recorded and evaluated by JRP Consulting in 2002 and 2003. In 2005, Caltrans and the California Office of Historic Preservation (OHP) concurred that the canal was eligible for listing in the NRHP under Criterion A.

Site P-07-2648 was evaluated in 2005 by JRP as part of the Somersville Road Bridge project (a different undertaking) and consisted of nine separate bridges that cross over the Contra Costa Canal that were built between 1937 and 1951. One of these bridges (Canal Road Bridge) is located within the APE and is proposed for removal as part of this project. The Canal Road Bridge was constructed in 1938, has not been significantly altered throughout the years, and during that

evaluation was determined to be eligible as a contributing element to the Contra Costa Canal under NRHP Criterion A. The SHPO concurred on this eligibility determination in February of 2015.

The Caltrans Local Agency Bridge Inventory lists the bridge as a Category 4 bridge, or "not determined" for inclusion in the NRHP.

No other cultural resources or archaeological sites were identified within the APE.

a) *Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

As stated above, the Contra Costa Canal was determined, with SHPO concurrence, to be eligible for listing under NRHP Criterion A, for its association with the Central Valley Project and resulting economic growth on a state and local level.

The Canal Road Bridge is eligible for listing as a contributing element of the Contra Costa Canal but is not individually eligible for listing on the NRHP. The character-defining features of the bridge that are significant for its association with the Contra Costa Canal, and which retain historic integrity to convey that significance, are its original structural components. These include its single simple span reinforced slab concrete structure resting on concrete abutments and its concrete curbs with timber railings that flank the roadway. The bridge retains elements of historic integrity in that it is in its original location and retains its original design and material which help convey the workmanship of its construction. Together, these aspects help convey the feeling of the canal's period of significance and provide a direct association with that period. The bridge's integrity, along with the character-defining features, makes it a contributing element to the NRHP-eligible Contra Costa Canal, although it is not individually eligible for the NRHP.

Remodeling or retrofitting of the existing bridge has been determined to not be feasible because it would result in higher costs and the necessary modifications are so substantial that retaining the features that made it eligible as a contributing factor to the Canal may not be feasible. Adjusting the horizontal alignment in an effort to avoid the existing bridge would result in significant right-of way take from private property owners and increased environmental impacts. Therefore, replacing the bridge on the existing alignment was determined to be the best alternative. In accordance with County standards, the new bridge will provide two 12-foot traffic lanes, 5-foot shoulders, and 5-foot sidewalks on each side of the bridge. In order to meet CCWD vertical clearance requirements of 2.5 feet above the canal lining, the profile of the road will need to be raised approximately 3.5 feet.

The Criteria of Adverse Effect state that "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" [36 CFR 800.5(a)(1)]. Application of the Criteria of Adverse Effect is largely an assessment of an undertaking's impacts on the historic integrity of a historic property and how an undertaking will affect those features of a historic property that contribute to its eligibility for listing in the NRHP. Effects can be direct, indirect, and cumulative. Direct effects include such actions as

physical destruction or damage. Indirect effects include the introduction of visual, auditory, or vibration impacts, as well as neglect of a historic property, or cumulative effects. Cumulative effects are the impacts of the project taken into account with known past or present projects along with foreseeable future projects. Table 1 lists examples of the types of possible adverse effects, as provided by 36 CFR 800.5(a)(2).

Table 1. Examples of Adverse Effect [36 CFR 800.5(a)(2)]

Example Number	Adverse Effect Example
(i)	Physical destruction of or damage to all or part of a property
(iii)	Removal of the property from its historic location
(iv)	Change to the character of the property's use or of physical features within the property's setting that contributes to its historic significance

The Canal Road Bridge Project requires the removal of the existing bridge, to be replaced with a new and wider bridge allowing for a heavier load capacity for vehicle travel and increased foot traffic with two pedestrian walkways, one on either side of the bridge.

According to JRP, the characteristics of the Contra Costa Canal that made it eligible for inclusion in the NRHP are its association with the construction and operation of the Central Valley Project and its association with the economic development of eastern Contra Costa County. The Canal also retains integrity of workmanship, design, materials, and location. The aspects of setting and feeling have changed since it was first constructed; it now winds through densely populated areas and commercial buildings instead of its former environment of open fields and no longer retains integrity of setting and feeling.

With respect to the effect that the removal of Canal Road Bridge would have on the aspects of integrity that are retained by the Canal and make it significant, the removal of the bridge will have an effect on the Canal's location, design, materials, and workmanship because it will remove one of the structures that is a character defining feature. However, the effect on the Canal does not qualify as adverse, as defined in 36 CFR 800.5(a)(1), because the Canal itself will still retain the integrity of association, location, design, materials, and workmanship that qualify the Canal for the NRHP. The removal of the bridge will not have an effect on the Canal's historical association with the Central Valley Project or economic growth of eastern Contra Costa County that is the primary characteristic of the historic property that qualifies it for the NRHP. The Canal retains this integrity with or without the bridge that carries Canal Road over the Canal. Moreover, although the bridge is considered a character-defining feature of the Canal because it was constructed at the same time, the sole purpose of the bridge was to carry an existing road over the Canal. The bridge did not function as part of the Canal, nor was its construction necessary for the operation of the canal, and it did not individually contribute in any way to the continued economic growth of eastern Contra Costa County.

Overall, what makes the Canal historically significant is its association with the Central Valley Project and continued economic development of the area, under NRHP Criterion A. While the bridge conveys some of the physical aspects of integrity of the Canal, the bridge itself does not convey integrity of association with the Central Valley Project or economic development of the

area with any substantial strength. So, removal of the Canal Road Bridge will not diminish the integrity of the Contra Costa Canal in a manner that would disqualify it for inclusion in the NRHP, which would cause an adverse effect. Therefore, removal of the Canal Road Bridge (P-07-2648, #28C0376) will not have an adverse effect on the Contra Costa Canal.

Therefore, Project impacts will be **less than significant**.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

No archeological resources are known to occur within the Project area based on the record search results and the field survey. While no archaeological resources were identified, there is the potential of encountering unrecorded archaeological resources. The following Avoidance Measure Cult 1 will be made part of the Project contract specifications and will be in effect for the duration of the Project.

POTENTIAL IMPACT CULT 1: ADVERSE EFFECTS TO PREVIOUSLY UNDISCOVERED RESOURCES.
Project construction could affect previously undiscovered resources that occur below the ground surface.

AVOIDANCE MEASURE CULT 1:

1. If an inadvertent discovery is made, the construction contractor will cease all ground-disturbing activities in the area of the discovery.
2. The construction contractor will immediately notify the CCCPWD Resident Engineer who will then request the appropriate specialist to evaluate the finding(s).
3. If the finding(s) is determined to be potentially significant, the specialist in consultation with the appropriate agency and cultural resource representative, if applicable, will develop a research design and treatment plan outlining management of the resource, analysis, and reporting of the find.

With implementation of CULT 1 Project impacts will be **less than significant.**

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

Based on the records search results and the field survey, no evidence of unique paleontological resources (i.e., fossil remains) or geologic features have been discovered within the Project area. Avoidance Measure Cult 1 will be made part of the Project contract specifications and will be in effect for the duration of the Project.. With implementation of Avoidance Measure CULT 1, Project impacts will be **less than significant**.

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

No formal cemeteries are present within or adjacent to the Project site. As part of the cultural review conducted for the Project, the Native American Heritage Commission (NAHC) was contacted to determine if there are any recorded Native American burial grounds and/or sacred

land sites in the Project vicinity. The NAHC reported that no recorded sites occur in the Project APE. Avoidance Measure Cult 1 will be made part of the Project contract specifications and will be in effect for the duration of the Project. With implementation of Avoidance Measure CULT 1, Project impacts will be **less than significant**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

A Preliminary Foundation Report was prepared for the Project by Taber Consultants Engineers and Geologists (Taber 2013). The following analysis is based in part on that report.

Environmental Setting

Seismic Hazards

Contra Costa County is located within a region of high seismicity; the San Francisco Bay Region has been impacted by severe earthquakes during historic time (Contra Costa County 2005c). In order to provide safety of structures for human occupancy, the Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazards. The law requires the state Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. The Project site is not located in an Alquist-Priolo Fault Zone (Taber 2013). However, faults occur in the general area (Contra Costa County 2005c).

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

   i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state Geologist for the area or based on other substantial evidence of a known fault?*

      The Project site is not within an Alquist-Priolo Fault Zone and there is no geomorphic evidence of fault rupture though the site (Taber 2013) Therefore, the Project will have **no impact.**

   ii) *Strong seismic ground shaking?*

      Faults occur in the area that could potentially cause seismic ground shaking. The nearby faults and their distances to the Project site are: the Los Medanos – Roe Island Fault, (1.8 km/ 1.1 mi – Maximum Moment Magnitude[1] 6.8); Clayton Fault (5.1 km /3.2 mi – Maximum Moment Magnitude 6.9); and the Green Valley Fault 06 (Midland) alt2 (14.1 km/8.8 mi – Maximum Moment Magnitude 6.8) (Taber 2013). If movement were to occur on one of these faults, or another fault, the duration and intensity of shaking will depend upon both the magnitude of the earthquake, distance from the epicenter, and ground conditions. The Project does not include elements that would increase risk to people or structures; it will replace a structurally deficient bridge with a new bridge built to current standards. The Project has been designed according to the soil conditions, seismic considerations, and the recommendations in the Preliminary Foundation Report prepared for the Project. Therefore, Project impacts will be **less than significant**.

[1] Maximum Moment Magnitude is the size if an earthquake in terms of the energy released.

iii) Seismic-related ground failure, including liquefaction?

According to the Taber report the site is mapped within an area of low or very low liquefaction susceptibility and likelihood of liquefaction is low. Therefore, Project impacts will be **less than significant.**

iv) Landslides?

The Project site is relatively flat with the exception of the small rise near the southeast quadrant. This is a very small rise that does not pose a substantial threat with regard to landslide. According to the Taber report risk of landslide is considered low. The Project will cut the slope of the rise back to accommodate road conforms and the area will be stabilized with compaction and vegetation re-establishment. For these reasons, increased risk of injury or death because of landslides is unlikely. Therefore, Project impacts will be **less than significant.**

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

Grading and excavation will disturb soils and create the potential for soil erosion. The contract specifications will require adherence to standard dust control and erosion control practices during construction. In addition, a SWPPP or WPCP will be prepared for the Project that will identify appropriate erosion control measures to be implemented, and will be approved by the CCCPWD. Upon Project completion, all areas left exposed will be re-seeded or stabilized in order to prevent erosion. Implementation of these measures will minimize soil erosion and loss of topsoil to the extent possible. Therefore, Project impacts will 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The Taber report states that the subsurface conditions at the Project site are adequately stable and suitable for construction of the bridge. Other site-specific conditions were identified through subsurface borings such as proximity to canal walls, areas of sand etc. that have been incorporated into the bridge and abutment design. Therefore, Project impacts will 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 Taber report did not identify expansive clays as a site or design consideration. The site is underlain by fill, alluvium, and weathered rock. Therefore, Project impacts will be **less than significant.**

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

Septic tanks and alternative wastewater disposal systems are not part of the Project. Therefore, the Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS				
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?	☐	☐	☒	☐

Regulatory Setting

In 2006, the Legislature passed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board (CARB) to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. Nine Discrete Early Action Measures went into effect January 2010 and are listed below. The Approved Scoping Plan was adopted in December 11, 2008, and is currently being updated (CARB 2015a)

Discrete Early Action Measures:

- Low Carbon Fuel Standard Program.
- Landfill Methane Capture.
- Hydroflorocarbon (HFC) Emission Reduction Measures for Mobile Air Conditioning.
- Semi-Conductor Reduction.
- Sulfur hexafluoride (SF6) Reductions from Non-Electric and Non-Semiconductor Applications.
- High global warming potential (GWP) Consumer Products.
- Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation.
- Tire Pressure Program.
- Shore Power for Ocean-going Vessels. (CARB 2015b)

The first update to the Scoping Plan was approved by the CARB on May 22, 2014, and builds upon the initial Scoping Plan with new strategies and recommendations. The first update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. (CARB 2015a)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the state CEQA Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010. (OPR 2011)

On September 15, 2010, the Air District Board of Directors adopted the final Bay Area 2010 CAP (BAAQMD 2010). The BAAQMD has recently updated its CEQA Guidelines (the 2012 BAAQMD CEQA Air Quality Guidelines) to provide guidance for addressing project-generated GHG emissions impacts under CEQA (BAAQMD 2012).

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

The operational aspect of the Project would not result in an increase of GHG emissions; however, construction activities will generate GHG through vehicle exhaust. The BAAQMD does not have an adopted Threshold of Significance for construction related GHG emissions but states that lead agencies should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated impacts. The Project's emissions will be short term and the Project will implement standard BMPs as well as Minimization Measure AIR 1 which include measures to reduce emissions from construction vehicles such as minimizing idling times and requiring properly maintained and tuned equipment which will further reduce GHG emissions. Therefore Project impacts will be **less than significant.**

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

The BAAQMD does not have an adopted Threshold of Significance for construction-related GHG emissions but suggests that Lead Agencies quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these emissions. In relation to meeting AB 32 GHG reduction goals, the goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. The first step in reaching this goal was to establish nine Discrete Early Action Measures. These measures, and additional proposed measures, are expected to contribute 25 percent of the 2010 reductions needed to meet the AB 32 target. The Discrete Early Action Measures are achieved through regulatory methods rather than Project specific methods. A review of the Bay Area 2010 CAP and the General Plan indicate that the Project does not conflict with any of these plans. Therefore, Project impacts will be **less than significant.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project 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

Numerous agencies and federal and state laws regulate hazardous materials and waste such as the EPA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the California Environmental Protection Agency (Cal/EPA), California Department of Toxic Substance Control (DTSC), and California Department of Health Services (CDHS). In addition, depending on the waste, the California Air Resources Board (CARB) or the State Water Resources Control Board (SWRCB) or another agency may be involved.

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

The Project consists of replacement of an existing bridge. The Project does not propose land uses that would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, the Project will have **no impact.**

b) Would the project 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?

As stated above, the Project does not propose land uses that are associated with hazardous materials. As such, no operational impacts will occur. However, the Project has the potential to release hazardous materials as a result of accidental petroleum spills from construction equipment during Project construction. The Project contract specifications require the contractor to implement BMPs such as spill management and regular maintenance of vehicles to minimize potential impacts from accidental spills associated with construction equipment and operation. There is potential for asbestos presence on the bridge. Prior to demolition, areas with potential for asbestos will be tested and handled in accordance with current state laws and regulations.

There is a minimal potential for aerial deposited lead (ADL) to be present on graveled, earthen, or landscaped areas in the Project site. Non-paved areas will either be tested prior to construction to determine whether or not they are contaminated or presence of ADL will be assumed. If presence is assumed or verified, once excavated, the material will be managed, transported and disposed of at a Class I disposal facility as a hazardous waste.

POTENTIAL IMPACT HAZ 1: POTENTIAL FOR ASBESTOS AND AERIALLY DEPOSITED LEAD

Unpaved areas that will be disturbed could contain aerially deposited lead (ADL)

MITIGATION MEASURE HAZ 1: Non-paved areas will be tested prior to construction to determine if they are contaminated or presence of ADL will be assumed. If presence is assumed or verified, once excavated, the material will be managed, transported and disposed of at a Class I disposal facility as a hazardous waste.

Mitigation Measure HAZ 1 will reduce potential impacts to **less than significant with mitigation incorporated.**

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

There are no known schools within ¼ mile of the project site.

Therefore, the Project will have **no impact.**

d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

A database search of the Regional Water Quality Control Board's GeoTracker website was conducted on May 15, 2015 and revealed one record adjacent to the project site. The record was a leaking underground storage tank, (T060130063), RB Case#: 07-0653, Loc Case#: 53981. The potential contaminant was gasoline. The cleanup status is complete and the case was closed in 1997. No other potential sources of contamination were indicated. Therefore, the Project will have a **less than significant impact.**

e) *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?*

The Project site is not within two miles of an airport. The closest airport to the Project site is the Buchanan Field Airport located approximately 6 mile to the north. According to Figure 3-A of the Contra Costa County Land Use Compatibility Plan the Project is not within the Buchanan Field Airport Influence Area. Therefore, the Project will have **no impact**.

f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

The Project is not located in the vicinity of a known private airstrip. Therefore, the Project will have **no impact**.

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

The Project will not result in significant changes to existing roadways or change traffic patterns once construction is complete. During construction, the road will be closed and traffic will be detoured around the bridge on existing roads, primarily Bailey Road and Willow Pass Road. The detour length is approximately 2 miles. Contra Costa Fire Protection District's Station 86 is located along the detour route at 3000 Willow Pass Road. The Fire Department was contacted and a detour map was sent to determine whether the detour would affect fire response. According to subsequent conversations, the additional traffic from the detour is not expected to substantially affect the station, however, it was noted that access to the two churches south of the bridge would need to be from Bailey Road not Alves Road. The Fire Department's representative asked to be personally notified and sent the addresses of the churches to the south one week prior to implementing the detour so he could inform dispatch (Pers. Com. Marshall). This notification requirement will be included in the Resident Engineers file to ensure this commitment is completed.

Access for emergency vehicles will be provided to residences and for parcels in the Project area subject to detour from certain directions. Emergency response agencies include but are not limited to the Contra Costa Fire Protection District, the Contra Costa County Sheriff's Department, and the California Highway Patrol who will be notified of the detour within 30 days of start of work.

POTENTIAL IMPACT HAZ 2: ADVERSE EFFECTS TO EMERGENCY RESPONSE
Emergency access to properties south of the Project site will require a different route during implementation of the Project detour.

MINIMIZATION MEASURE HAZ 2: In addition to standard notifications, CCCPWD or their representative will specifically notify Station 86 at least one week prior to implementing the detour.

With implementation of Minimization Measure HAZ 2, Project impacts will 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 site is located in an area with moderate wildfire threat and within a generally high-risk urban interface area for wildfire (ABAG 2014a). No residences or gathering places are proposed by the Project and the Project does not propose uses that would put residences in danger or increase the risk of wildland fire hazards. Therefore, the Project will have a **less than significant impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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 which 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 which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
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 which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐

g) Place housing within a 100-year floodplain 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 which would impede or redirect flood flows?	☐	☐	☐	☒
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) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Environmental Setting

The bridge to be replaced provides access over the Contra Costa Canal. The canal is lined on both sides with gravel access roads. Contra Costa Canal is part of the Contra Costa Water District. The Canal delivers water from the Delta to the District's treatment facilities and raw-water customers. The canal is a 48-mile long facility that starts at Rock Slough in East Contra Costa County and ends at the Terminal Reservoir in Martinez. Along the way, it winds through Oakley, Antioch, Pittsburg, Bay Point, Clyde, Pacheco, Concord, Walnut Creek, and Pleasant Hill. Water is drawn from Rock Slough near Knightsen (eight miles east of Antioch) and Old River near Discovery Bay. Rock Slough water travels through a four-mile unlined channel before entering the concrete-lined section of the canal in Oakley. The Canal ultimately ends at the Martinez Reservoir.

A drainage outlet with established wetland vegetation is present at the boundary of one of the canal access roads, outside of the Project's footprint and will not be affected.

There are no other water bodies near the project site. There are drains in the existing bridge deck and one storm drain that runs through the site. A storm drain inlet is located approximately 300 feet from the project site.

Flood Hazard Areas

100-year Floodplains

According to federal Emergency Management agency (FEMA) Flood Insurance Rate Map 06013C0114F, the project site is not in a flood plain.

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

The Project will not create wastewater discharge. However, construction activities and accidental leaks from construction equipment have the potential to migrate into the canal, drainage outlet area, or local storm drains.

POTENTIAL IMPACT HYD 1: ADVERSE EFFECTS TO WATER QUALITY
There is potential for construction fluids and/or materials to accidentally enter the storm water system, drainage area, or the canal during construction activities.

AVOIDANCE MEASURE HYD 1:
A Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP) would be prepared for the Project. Recommendations contained therein to reduce potential for sedimentation, concrete products or by products, or other construction materials from entering the canal, storm drains, or the drainage outlet would be adhered to. Best management practices may include but not be limited to:

1. The Project limits will be delineated to exclude the drainage outlet area.
2. The contractor will be required to provide debris containment to keep demolition debris from entering the canal.
3. If staging occurs on canal access roads, perimeter protection shall be installed on the canal side of the staging area to ensure that no construction materials or accidental spills enter the canal. All equipment, stockpiles, and other construction materials staged on the access roads shall be staged within the perimeter protection.
4. When not in use, equipment that contains fluid will be positioned on drip pans.
5. Porta Potties, concrete mixing and washout areas, and any liquids shall be placed on secondary containment.
6. Stockpiles shall have additional perimeter control and be covered when not in use.
7. Refueling of equipment shall take place at service stations when feasible. If refueling on-site is necessary, equipment fueling and maintenance activities shall be conducted within a bermed and lined area that is at a lower elevation than the canal. Absorbent spill pads suitable for hazardous materials shall be on hand in case of accidental spills.
8. All machinery used during construction of the Project shall be properly maintained and cleaned to prevent spills and leaks that could contaminate soil or water.
9. Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) shall be cleaned up in accordance with applicable local, state, and/or federal regulations.
10. Concrete wastes will be collected in washouts, and water from curing operations will be collected and disposed of off-site. Neither will be allowed into the canal or drainages.
11. Before October 15, and/or immediately after construction is complete, exposed surfaces will be stabilized.
12. Storm drain inlet protection will be utilized.
13. Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, or other suitable materials along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on disturbed slopes. No erosion control materials that use plastic or synthetic mono-filament netting will be used.
14. All disturbed soils within upland areas would be stabilized with an erosion control tackifier and would be seeded with a native seed mix and fertilizer suitable for use near aquatic environments.

POTENTIAL IMPACT HYD 2: POTENTIAL FOR CONSTRUCTION DEBRIS TO ENTER CONTRA COSTA CANAL.
There is potential for construction and/or demolition debris to enter the canal during construction activities.

AVOIDANCE MEASURE HYD 2:
The Contractor shall provide a construction debris containment system to prevent construction and demolition debris from entering the canal. The construction debris containment system shall be approved by the County's Resident Engineer.

Implementation of BMP's and installation of a construction and demolition debris containment system will reduce potential for accidental release of construction materials into the canal, drainage area, or local storm drains. Therefore, Project impacts will be **less than significant**.

b) *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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 which would not support existing land uses or planned uses for which permits have been granted)?*

The Project will not require any withdrawals from an aquifer or groundwater table and will result in minimal additional new impervious surfaces. Therefore, the Project will have a negligible effect on groundwater recharge. Project impacts will be **less than significant**.

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, which would result in substantial erosion or siltation on- or off-site?*

The new bridge will be built in approximately the same alignment as the existing bridge and will not affect existing drainage patterns. The project will not impact the channel lining. The bridge abutments and foundations will be constructed outside the channel, beyond the existing bridge foundations. Therefore, the Project will have **no 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 on- or off-site?*

The new bridge will be built in approximately the same alignment as the existing bridge but will be approximately twice as wide resulting in approximately 1,200 square feet of additional impervious surface. The additional width of the new bridge results primarily from the addition of shoulders and sidewalks. The lanes will be one foot wider than the existing lanes. As such road conforms will not be substantially wider than the existing condition and will result in a minimal increase in impervious surfaces. Currently storm water falling onto the existing bridge drains directly into the canal through a series of deck drains. The new bridge will not have deck drains. Runoff from the bridge and the roadway over the entire Project area will be directed to a new inlet at the northeast corner of the Project and be conveyed into an existing 42" storm drain. Additional minor drainage adjustments including an additional inlet may be necessary. The run off from the bridge deck and the new impervious surfaces would be negligible and accommodated by the existing storm drain. The Project will not add additional travel lanes and is therefore not subject to the County's C.3 storm water requirements. Therefore, Project impacts will be **less than significant**.

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

The Project will not create or contribute runoff water that would exceed the capacity of the existing storm water drainage system in the area. As stated above in Section IX Hydrology and Water Quality (d), the Project will create a minimal amount of new impervious surface and existing storm drains have capacity to accommodate the negligible amount of additional run off. The Project will not add additional travel lanes and is therefore not subject to the County's C.3 storm water requirements. Therefore, Project impacts will be **less than significant**.

f) *Would the project otherwise substantially degrade water quality?*

No potential impacts to water quality other than those discussed above are anticipated. Therefore, Project impacts will 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 Project is not located in a flood plain and does not include the construction of housing. Therefore, the Project will have **no impact**.

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

The Project is not located in a flood plain and does not include the construction of structures that would impede or redirect flows. Therefore, the Project will have **no impact**.

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 a failure of a levee or dam?*

The Project does not include the construction or alteration of any levees or dams and according to Contra Costa County Flood Control and Water Conservation District maps, the Project is not located within an area that would be inundated by failure of an existing dam. The project will not impact the channel lining of the canal. The bridge abutments and foundations will be constructed outside the channel, beyond the existing bridge foundations. Therefore, Project impacts will be **less than significant**.

j) *Would the project be subject to inundation by seiche, tsunami or mudflow?*

According to the California Department of Conservation's Geologic Survey Tsunami Inundation Maps, the Project site is not located in a tsunami inundation area (CDC 2013).

The Project site is located in an inland area not subject to tsunami inundation. Mudslides and debris flows are characterized by fast moving saturated earth. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or "slurry" (FEMA 2013). The Project site is relatively flat and is not located in a debris flow source area (ABAG 2014b). Therefore, Project impacts will be **less than significant**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or 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?	☐	☐	☐	☒

Regulatory Background

General planning policies and provisions are contained in the General Plan and the Contra Costa County Zoning Ordinance. The Project is in the County's adopted Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) service area. The following analysis focuses on General Plan policies and ordinances associated with the General Plan designation and zoning for the Project site to identify any land use conflicts that could arise from implementation of the Project and for consistency with the County's HCP/NCCP. Other environmental planning regulations are discussed under dedicated sections of this document e.g. biology, air quality, water quality etc.

a) Would the project physically divide an established community?

The Project is limited to replacement of an existing bridge and will not physically divide a community. Therefore, the Project would have **no impact.**

b) Would the project conflict with any applicable land use plan, policy or 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 Project is limited to replacement of an existing bridge. The new bridge does not provide additional lanes that would increase traffic in the area and no other land uses are proposed that could be inconsistent with local policy or regulation of an agency with jurisdiction over the Project. Sidewalks and shoulders of a desirable width for a Class II bike lane would be provided

on the new bridge which is consistent with General Plan Policy 5-L, which encourages increased opportunity for bicycle use for recreation as well as transportation. Other potential impacts associated with specific topical sections are discussed in those sections.
Based on the analysis above, the Project is consistent with environmental land use policies and plans. Therefore, Project impacts will be **less than significant**.

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

The Project will implement all applicable HCP/NCCP species measures and will pay the applicable HCP/NCCP fees (refer to Section IV Biological Resources).Therefore, The Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES				
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

The most important mineral resources that are currently mined in the County include diabase near Mt. Zion on the north side of Mt. Diablo, domegine sandstone, located just south of Camino Diablo and east of Vasco Road in the Byron area, and shale in the Port Costa area, which has been designated for protection by the General Plan (Contra Costa County 2005b).

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 resource areas near the Project. Therefore, the Project will 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 resource areas near the Project. Therefore, the Project will have **no impact**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE				
Would the project result in:				
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 groundbourne vibration or groundborne 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 Setting

The Noise Element of the General Plan provides goals, policies, and implementation measures for consideration of noise impacts. Policy 11-1 requires that new development meet exterior noise level standards outlined in Figure 11-6 of Chapter 11, of the Noise Element. These noise standards are primarily meant to address new development but can be used as a general guideline for long-term noise impacts and would be conservative for short-term construction impacts like those

associated with the Project. For low-density residential areas such as the Project vicinity, the noise level standards are as follows:

- Normally Acceptable: 50-60 (dB)
- Conditionally Acceptable: 55-70 (dB)
- Normally Unacceptable: 70-75 (dB)
- Clearly Unacceptable: 75-85 (dB)

Thresholds for low-density residential areas are the most stringent thresholds for land uses identified in Figure 11-6 of the General Plan.

The County does not have a noise ordinance and therefore does not specify construction noise level limits. However, the 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. Figure 11-6 of the General Plan indicates that 70 dBA is a conditionally acceptable dBA for schools, libraries, churches, hospitals, and nursing homes. As stated above, the guidelines in Figure 11-6 were developed for construction of new permanent facilities, not temporary construction noise. Nevertheless, they provide a general guideline for acceptable noise levels for particular types of land uses.

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. Noise levels can also be affected by several factors other than the distance from the noise source. Topographic features and structural barriers that absorb, reflect, or scatter sound waves can affect the reduction of noise levels over distance. Atmospheric conditions (wind speed and direction, humidity levels, and temperatures) and the presence of dense vegetation can also affect the degree of sound attenuation (ICF International 2014).

Sound from multiple sources operating in the same area such a multiple pieces of construction equipment will result in a combined sound level that is greater than any individual source. The individual sound levels for different noise sources cannot be added directly to give the sound level for the combined noise sources. Rather, 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 (only 3 dBA louder than the single bulldozer) (ICF International 2014).

Environmental Setting

North of the bridge, the land is fully developed with a church in the northeast quadrant, and single family homes in the northwest quadrant. South of the bridge there are two churches, one on each side of Canal Road. Correspondence with the neighboring churches indicates that two of the churches only conduct services on Sunday and in the evenings after normal construction hours (CGP Pers. Com. 2015, Perkins. Pers. Com. 2015, UPC 2015). However, the Catholic Church in the northeast quadrant holds mass at 7:30 a.m. on Monday, at 7:30 a.m. and 8:30 a.m. Tuesday through Friday, and Saturday at 8:00 a.m. and 5:00 p.m. Additional mass is held later on Saturday

evenings and on Sundays. In addition, there are other church services and the church is a venue for weddings and other events. Priests live at the rectory of the church. The church building itself is approximately 300 feet from Alves Lane (Canal Road).

Distance to Sensitive Receivers

The distance to sensitive receivers is provided below in Table 2. Figure 4 shows relationship to sensitive receivers to the Project.

Table 2: Distance to Sensitive Receivers

Land Use	Approximate Closest Distance to Construction Footprint – (including outdoor use areas)	Other notes
Our Lady Queen of the World Catholic Church in northeast quadrant	Building/Rectory: 100 feet Church: 300 feet	Staging may occur on the canal access road directly behind the church parcel
Closest residence in northwest quadrant	Church: 25 feet Yard: Adjacent	Staging may occur on the canal access road directly behind the residential parcel
United Pentecostal Church in southeast quadrant	Church: 10 feet	Staging may occur on the canal access road directly behind the church parcel
Church of God of Prophecy in southwest quadrant	Church: 60 feet Outdoor area: 16 feet	Staging may occur approximately 40 feet from the building on the canal access road
Notes: Measured from Google Earth		

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

Operational Impacts

The Project will not increase capacity of the road and no significant changes to topography would occur. The Project will not bring travel lanes closer to sensitive receptors. Therefore, no operational impacts would occur.

Construction Impacts

Construction of the Project will generate temporary construction noise very near to a residential neighborhood and three churches. Project construction noise will be intermittent and its intensity will vary depending on the construction activities. The bridge abutments are expected to be founded on spread footings or cast-in-drilled hole (CIDH) piles up to 60 feet deep. Driven piles will not be considered. Use of CIDH piles will significantly reduce noise

generated during pile installation (compared to vibratory or driven piles). However, overall, drilling the piles is expected to generate the greatest construction noise levels for this project. Available noise levels of typical construction equipment are provided in Table 3 below.

Table 3: Typical dBA of Common Construction Equipment

Type of Equipment	Estimated dBA at 50 feet.
Air compressor	78
Drill Rig Truck	84
Excavators	81
Front end loader	79
Graders	85
Pavers	77
Rollers	80
Scrapers	84
Tractors/ loaders	84
Compactor	83
Source: Federal Highway Administration Construction Noise Handbook 2006, Table 9.1 Notes: Table 9.1 lists specified noise levels and actual measured noise levels (averaged). If available, actual noise levels are shown. Where actual measurements were not available, the specified noise level is shown.	

As stated above, Contra Costa County does not have a noise ordinance but the 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 Figure 11-6 of the General Plan indicates that 70 dBA is a conditionally acceptable dBA for low density residential, schools, libraries, churches, hospitals, and nursing homes.

Construction noise near residences and churches on any given day will likely intermittently exceed normally acceptable levels at the closest receptors. In accordance with General Plan policy, work will be conducted during normal business hours and is expected to occur primarily during the workweek (Monday through Friday). Work will be precluded on Sundays and holidays however, occasional Saturday work may be necessary. This would likely be a very limited number of Saturdays as weekend work is not typical.

If work is conducted on Saturday, it would be during typical non-noise sensitive hours and would occur only on limited occasions. As noted above, two of the churches only hold services on Sunday and later in the evening when work is not expected to occur, however the Catholic Church holds mass every day as well as special events on Saturday and Sunday. The church itself is located approximately 300 feet from Canal Road. Using an attenuation rate of 6 dBA per doubling of distance, the loudest piece of equipment anticipated would be 85 dBA 50-feet from the source (estimated to be on or near Canal Road). This would result in a sound level of approximately 70 dBA at the Church if measured from Canal Road. Therefore, if work were to occur on a Saturday, noise levels at the chapel of the Catholic Church would be approximately

70 dBA which is a conditionally acceptable noise level for church facilities. The canal access road that runs behind the Catholic Church is directly adjacent to the chapel and all of the buildings associated with the Church. In addition, canal access roads run behind the two other churches and residences. Noise generated on access roads would not be notably attenuated by distance.

Construction activities will be generally limited to the hours between 7:00 a.m. to 6:00 p.m. Although unanticipated, if work is necessary outside of these hours because of unforeseen conditions such as completing critical work prior to an unexpected storm event, the Resident Engineer shall approve the work and will be available to address any noise concerns during all construction activities. In addition, Minimization Measure NOI 1 will be implemented to reduce noise impacts to nearby sensitive receptors.

POTENTIAL IMPACT NOI 1: EXPOSURE OF SENSITIVE RECEPTORS TO TEMPORARY CONSTRUCTION NOISE

Construction activities may expose sensitive receptors to noise levels that exceed General Plan guidelines for long-term impacts for surrounding land uses. The Projects impacts will be temporary, nevertheless, the following measures will be incorporated into the Project to minimize effects to sensitive receptors.

MINIMIZATION MEASURE NOI 1:

- Impact pile driving for permanent piles will not be allowed.
- Prohibit unnecessary idling of internal combustion engines;
- Locate all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems as far as practical from the surrounding residences and churches;
- Noise-generating construction activities shall take place between 7:00 a.m. and 6:00 p.m., Monday through Friday. No noise generating construction activities shall occur on Sundays or holidays. If work is necessary outside of these conditions, the Contractor shall demonstrate the necessity of the work outside of these hours and obtain County approval prior to conducting the work. Church officials and residences within 800 feet of the proposed work will be notified prior to conducting the work. The Resident Engineer will be available to address any noise concerns during all construction activities and, if feasible, provide additional minimization measures as necessary (in the form of noise control blankets, temporary noise barriers, or other noise minimizing or dampening techniques appropriate for the situation) for affected receptors.
- Saturday work shall generally be discouraged and, if necessary, only take place between the hours of 9:00 a.m. and 5:00 p.m. to avoid Saturday mass times. The Contractor shall demonstrate the necessity of the Saturday work and obtain County approval prior to conducting the work. The County will coordinate with the Catholic Church prior to approving the work and will monitor the work to ensure a 70 dBA is not exceeded at the church building location if events are scheduled for that day. Church officials and residences within 800 feet of the proposed work will be notified prior to conducting the work. The Resident Engineer will be available to address any noise concerns during all construction activities and, if feasible, provide additional minimization measures as necessary (in the form of noise control blankets, temporary noise barriers, or other noise minimizing or dampening techniques appropriate for the situation) for affected receptors.

- No noise generating work or staging activities shall occur on the access road behind the Catholic Church on Saturdays.
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment;
- Utilize "quiet" air compressors and other "quiet" equipment where such technology exists.
- A notice will be posted in the community newspaper notifying the public about the Project. The notice will include a phone number for questions. A sign will also be posted near the Project site that includes a phone number for noise complaints.

The temporary nature of the noise and implementation of Mitigation Measure NOI 1 will reduce impacts to less than significant levels. Therefore, Project impacts will be **less than significant.**

b) *Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Excessive groundborne vibration from construction activities may occur during project construction particularly during pile installation. The bridge abutments are expected to be founded on spread footings or CIDH piles up to 60 feet deep. Driven piles will not be allowed. Use of CIDH piles will significantly reduce noise and vibration generated during pile installation (compared to driven piles).

The temporary nature of the noise and implementation of Mitigation Measure NOI 1 will reduce Project impacts to **less than significant**.

c) *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

The Project will not increase the capacity of the roadway and no significant changes in topography will occur from Project implementation. Therefore, the project will have **no impact**.

d) *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Construction of the Project will result in a temporary increase in ambient noise levels. Refer to the discussion and Mitigation Measures in Section XII Noise (a). Implementation of Mitigation Measure NOI 1 will reduce temporary noise impacts. The temporary nature of the noise and implementation of Mitigation Measure NOI 1 will reduce impacts to less than significant levels. Therefore, Project impacts will be **less than significant**.

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

The Project is not located within an airport land use plan area or within two miles of a public airport or a public use airport. Therefore, the Project will 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 is not located in the vicinity of a private airstrip. Therefore, the Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING				
Would the project:				
a) induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Regulatory Setting

Section 15126.2(d) of the CEQA Guidelines requires a lead agency discuss ways in which the proposed project could foster economic or population growth, either directly by construction of businesses or housing, or indirectly by removing obstacles to population growth; for example, extending infrastructure into previously un-serviced areas. Increases in population may stress existing 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 Project does not include new homes or businesses that could directly induce population growth. The Project will not increase the capacity of the roadway. Drainage modifications are limited to that which is necessary to accommodate the new pavement width and storm drain capacity will not be increased. No other infrastructure is proposed that could indirectly induce population growth. Therefore, the Project will have **no impact.**

b) *Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

The Project will not displace any existing housing; as such, no replacement housing is necessary. Therefore, the Project will have **no impact.**

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

The Project will not displace any people; as such, no replacement housing construction is necessary. Therefore, the Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Environmental Setting

The Contra Costa Fire Protection District provides fire protection services and emergency services to the Project area and the Contra Costa County Sheriff's Department provides general public safety and law enforcement services in unincorporated areas of Contra Costa County (Contra Costa County 2005g). The Project is located in the Mt. Diablo Unified School District.

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

The Project will not result in new development that could increase demand on public services and therefore will not necessitate the construction of new facilities or the alteration of facilities that could result in environmental impacts. Because the Project will not result in population growth, nor does it propose land uses that increase demand on police and fire services, the Project will not impact service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities. Therefore, the Project will have **no impact**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION				
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?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

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 Project is limited to the replacement of an existing bridge and associated adjustments. The Project does not include new development that could increase use of existing parks or recreational facilities that could result in deterioration of facilities. Therefore, the Project will have **no impact**.

b) Does the project include recreational facilities, or require the construction or expansion of existing facilities, which might have an adverse physical effect on the environment?

The Project is limited to the replacement of an existing bridge and associated adjustments. The Project does not propose new recreational facilities or require expansion of recreational facilities. Therefore, the Project will have **no impact**.

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC				
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 due to 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 Setting

The Contra Costa Transportation Authority (CCTA) is a public agency formed to manage the County's transportation sales tax program and to do countywide transportation planning. The CCTA has an adopted bike and pedestrian plan, the *2009 Countywide Bike and Pedestrian Plan*. In addition, the Transportation and Circulation Element of the General Plan includes goals and policies regarding Contra Costa County bikeways.

In response to Senate Bill 743, the Governor's Office of Planning and Research is in the process of amending the CEQA guidelines with regard to analysis of transportation. Proposed changes include removing the level of service (LOS) approach to determine impacts and may instead use a trip generation and vehicle miles traveled approach (OPR 2014). At the time of this writing, these changes had not been finalized; therefore the LOS approach was used in the following analysis.

Environmental Setting

The Project is located 0.5 mile west of Bailey Road, located in the north-central area of Contra Costa County in the community of Bay Point. Canal Road runs between State Route 4 and the Contra Costa Canal, west of the Bailey Road Interchange. Canal Road is functionally classified as a local road, running roughly north-south, and serves neighborhoods in Bay Point. It has a posted speed limit of 25 mph and the design speed of the existing alignment also roughly equates to 25 mph. Average daily traffic (ADT) on Canal Road near the Project site is approximately 3,010 trips total, split almost evenly between eastbound and westbound traffic. A single span pedestrian bridge is located approximately 25' upstream of the Canal Road Bridge that will be removed by the Project. Canal Road is classified as a Class II bicycle facility.

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?*

Construction of the new bridge will not increase the capacity of the roadway. There will be no long-term changes in traffic flows resulting from the Project. Temporary construction effects will occur primarily because of a full detour that will be in place for the duration of the Project (nine months).

Detour

During construction, Canal Road will be closed and traffic will be detoured around the bridge on existing roads, primarily Bailey Road and Willow Pass Road. The detour length is approximately two miles. There are few services immediately south of the bridge. However, the bridge provides easy access to the two churches immediately south of the bridge and access to Highway 4 and services to the east including Bel Air elementary school for at least a portion of the adjacent neighborhood (south of the Delta de Anza Regional Trail). That access will not be accessible for approximately 9 months. The detour route may be a slightly longer route for these residences but not considerably so (two miles or less). For the remainder of the neighborhood, depending on the location of a given residence, the increase in miles traveled because of the detour becomes less. Refer to Figure 5 for the detour route.

The Contractor will be required to submit a traffic control plan that will be approved by the Engineer prior to the beginning of work. The Contractor will be required to maintain accurate information on construction area signs. Signs that are no longer needed will be removed immediately. The Contractor will use standard traffic control devices to close the roadway including temporary concrete railings across the road. The Contractor will provide flaggers as needed to temporarily hold traffic for staging equipment or Project work. Changeable message boards will be in place 14 days in advance of the road closure. Detour signage will be installed to direct traffic onto the detour route.

Through Project implementation, the roadway would provide shoulders with a desirable pavement width for a Class II bike lane. This use is consistent with General Plan Policy 5-L, which encourages increased opportunity for bicycle use for recreation as well as transportation. For the reasons stated, the Project does not conflict with applicable plans and Project impacts will be **less than significant**.

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?*

As discussed above, the Project does not include elements that could increase traffic on roadways nor does it propose significant changes to the road. Therefore, Project impacts will be **less than significant**.

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 Project is not located near an airport nor does it propose creation of structures or land uses that could affect air traffic patterns. Therefore, the Project will have **no impact.**

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

The Project does not propose significant changes to the configuration of the bridge, roadway or intersections. No hazardous design features or incompatible uses are proposed. Therefore, the Project will have **no impact.**

e) *Would the project result in inadequate emergency access?*

Contra Costa Fire Protection District's Station 86 is located along the detour route at 3000 Willow Pass Rd. The Fire Department was contacted and a detour map was sent to inquire if the detour would affect fire response. According to subsequent conversations the additional traffic from the detour is not expected to substantially affect the station however it was noted that access to the two churches south of the bridge would need to be from Bailey Road not Alves Road. The Fire Department's representative asked to be personally notified and sent the addresses of the churches to the south one week prior to implementing the detour so he could inform dispatch (Marshall, Pers Com. 2015).

Access for emergency vehicles will be provided to residences and for parcels in the Project area subject to detour from certain directions. Emergency response agencies including but not

limited to Contra Costa Fire Protection District, the Contra Costa County Sheriff's Department and the California Highway Patrol will be notified of the detour within 30 days of start of work. In addition, Minimization Measure HAZ 2 requires that the CCCPWD or its representative to personally notify Station 86 as requested by that Station at least one week prior to implementation of the detour. Therefore, Project impacts will 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?*

The new bridge once completed, will provide sidewalks and shoulders with a desirable pavement width for a Class II bike lane. However, pedestrian and bicycle access across the canal will be limited during construction.

Pedestrian Facilities

The new bridge will provide bicycle and pedestrian access across the canal. Therefore, the existing pedestrian bridge located adjacent to the existing Canal Road bridge would be redundant and will be removed. There are two churches immediately south of the bridge that are within walking distance from the residential area north of the bridge. The Pittsburg Bay Point BART Station is within walking distance from the bridge (a little over one mile) for pedestrians traveling south using Canal Road. The pedestrian bridge would be left in place for as long as possible to allow access to the churches south of the bridge and BART from the residential area north of the bridge. While the pedestrian bridge is open, occasional access restrictions are to be expected. Although the pedestrian bridge would remain open through most of the construction period, it would be removed prior to the end of construction and before the sidewalk and bike lanes of the new bridge are available. It is expected that for approximately four to six weeks direct pedestrian access across the canal would be unavailable.

The Delta De Anza Regional trail is located approximately 1,000 feet (0.2 mile) from the Project site. This trail provides an alternative detour (1.3 miles) for pedestrians or bicyclists to the churches or the BART station. There are two entrances to the Delta de Anza Regional Trail, near the site, one off Alves (an extension of Canal Road) and one off of Bailey Road. There is a crosswalk at the Alves entrance to the Delta de Anza Trail with a clear line of site and the Bailey entrance has a signaled crosswalk. Therefore, the detour is not expected to affect these trail entrances.

On January 6, 2015. Neil Leary and Ave Brown from the CCCPWD Department attended a Bay Point Municipal Advisory Council (MAC) Meeting to present the Project in general and to discuss the detour and removal of the pedestrian bridge. The Project was well received. The MAC indicated that the detour would not be a problem as long as the surrounding residents had advance notice of the detour. Notices will be sent to the surrounding neighborhood and churches and message boards will be used to notify travelers of the detour. Some concern was expressed regarding pedestrian access to the churches on the south side of the bridge. For this reason, the pedestrian bridge will remain accessible for as long as possible during construction.

As stated above, the roadway would be signed and striped for a Class II bike lane, which is consistent with the goals, and policies contained in the General Plan and the 2009 Countywide Bicycle and Pedestrian Plan. Tri Delta Transit provides bus service in the area. According to the System map, several routes service the Project area using Willow Pass Road and Bailey Road. No routes use Canal Road. As such, bus routes travel the detour route and will not need to be re-routed because of the proposed detour. Therefore, Project impacts will be **less than significant.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES				
a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in §21074?	☐	☐	☐	☒

Regulatory Setting

AB 52, Gatto. Native Americans: California Environmental Quality Act. The Native American Historic Resource Protection Act, establishes a misdemeanor for unlawfully and maliciously excavating upon, removing, destroying, injuring, or defacing a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources.
The bill specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. The bill requires a lead agency to begin consultation with a California Native American tribe that is: traditionally and culturally affiliated with the geographic area of the proposed project; if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area; and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. To date, the CCCPWD has received a letter from the Wilton Rancheria tribe.

Discussion

a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in §21074?

As required by AB 52, the CCCPWD sent a letter to the Wilton Rancheria tribe informing them of the Project and providing an opportunity to consult on September 1, 2015 that was signed as received on September 2, 2015 by a representative from the Wilton Rancheria tribe. No response indicating that the tribe wanted to consult regarding potential tribal resources or the Project was received within the 30-day response period. Therefore, the Project will have **no impact.**

ISSUES:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. UTILITIES AND SERVICE SYSTEMS				
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 construction of new storm water 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 are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Discussion

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Project will not produce wastewater. Therefore, the Project will have **no impact**.

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?

The Project does not include nor will it require construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, the Project will have **no impact**.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Up to two new inlets will be constructed as part of the project and will be directed to an existing storm drain that has capacity to accommodate the runoff. Potential impacts from construction activities are analyzed in this document and have been mitigated to less than significant through BMPs and other proposed measures. No other storm water drainage facilities are proposed or will be necessary for implementation of the Project. Therefore, Project impacts will be **less than significant**.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The Project will not require water service. Therefore, the Project will have **no impact**.

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?

The Project does not require wastewater treatment services. Therefore, the Project will have **no impact**.

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

The Project will not generate operational waste and will not result in the need for a new solid waste facility. However, a small amount of construction waste may be generated. The County has active solid waste facilities with capacity to accommodate any construction waste that may be generated (CalRecycle 2015, CCCALT 2015). Project contract specifications will require that the contractor dispose of solid waste in accordance with all federal, state and local regulations. Therefore, the Project impacts will be **less than significant.**

g) Comply with federal, state and local statutes and regulations related to solid waste?

As stated above, Project contract specifications will require that the contractor dispose of any solid construction waste in accordance with all federal, state and local regulations. Therefore, Project impacts will be **less than significant.**

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

Discussion

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, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?

Because the Project is a bridge replacement project, its impacts will primarily be short term construction related impacts. The avoidance, minimization, and mitigation measures proposed in Section IV Biological Resources and Section IX Hydrology and Water Quality will reduce the Project's biological and water quality impacts to less than significant levels. In addition, avoidance and minimization measures will be implemented which will further reduce impacts to biological resources and water quality as well as to unknown cultural resources. An invitation to consult on potential tribal resources was sent to the Wilton Rancheria tribe with no response. As discussed in Section V, removal of the existing bridge will not affect the eligibility of the historic Contra Costa Canal. As such, the Project will not degrade the quality of the

environment, substantially reduce the habitat or affect populations of any fish or wildlife species, or eliminate important examples of the major periods of California history or prehistory. With proposed mitigation measures, Project impacts will be **less than significant with mitigation incorporated**.

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?*

All Project impacts were found to be either no impact, less than significant impact, or less than significant with avoidance, minimization, and mitigation measures incorporated. As discussed in Sections III (Air Quality), V (Cultural Resources), IV (Biological Resources), IIX (Hazards and Hazardous Materials), IX (Hydrology and Water Quality), and XIII (Noise), impacts will be reduced to less than significant through the incorporation of avoidance, minimization, and mitigation measures. As discussed in the remainder of the document, no other significant impacts were identified.

Therefore, cumulatively considerable impacts will be **less than significant with mitigation incorporated.**

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

Environmental effects that could directly or indirectly cause substantial adverse effects on human beings are discussed in Sections III (Air Quality), VI (Geology and Soils), VIII (Hazards and Hazardous Materials), IX (Hydrology and Water Quality), and XII (Noise). As discussed in those Sections, all Project impacts were found to be either no impact or less than significant impact. Therefore, Project impacts will be **less than significant.**

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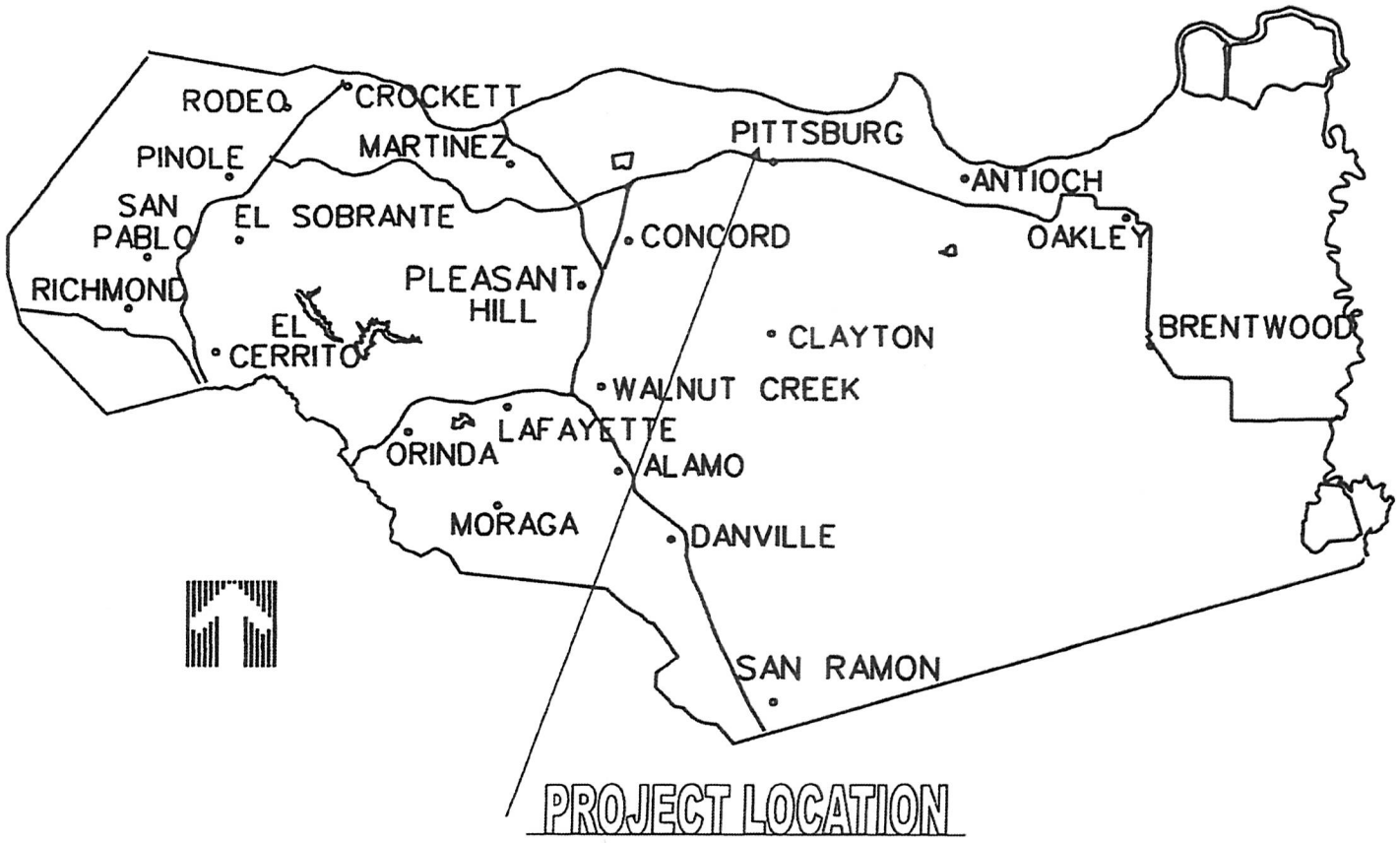
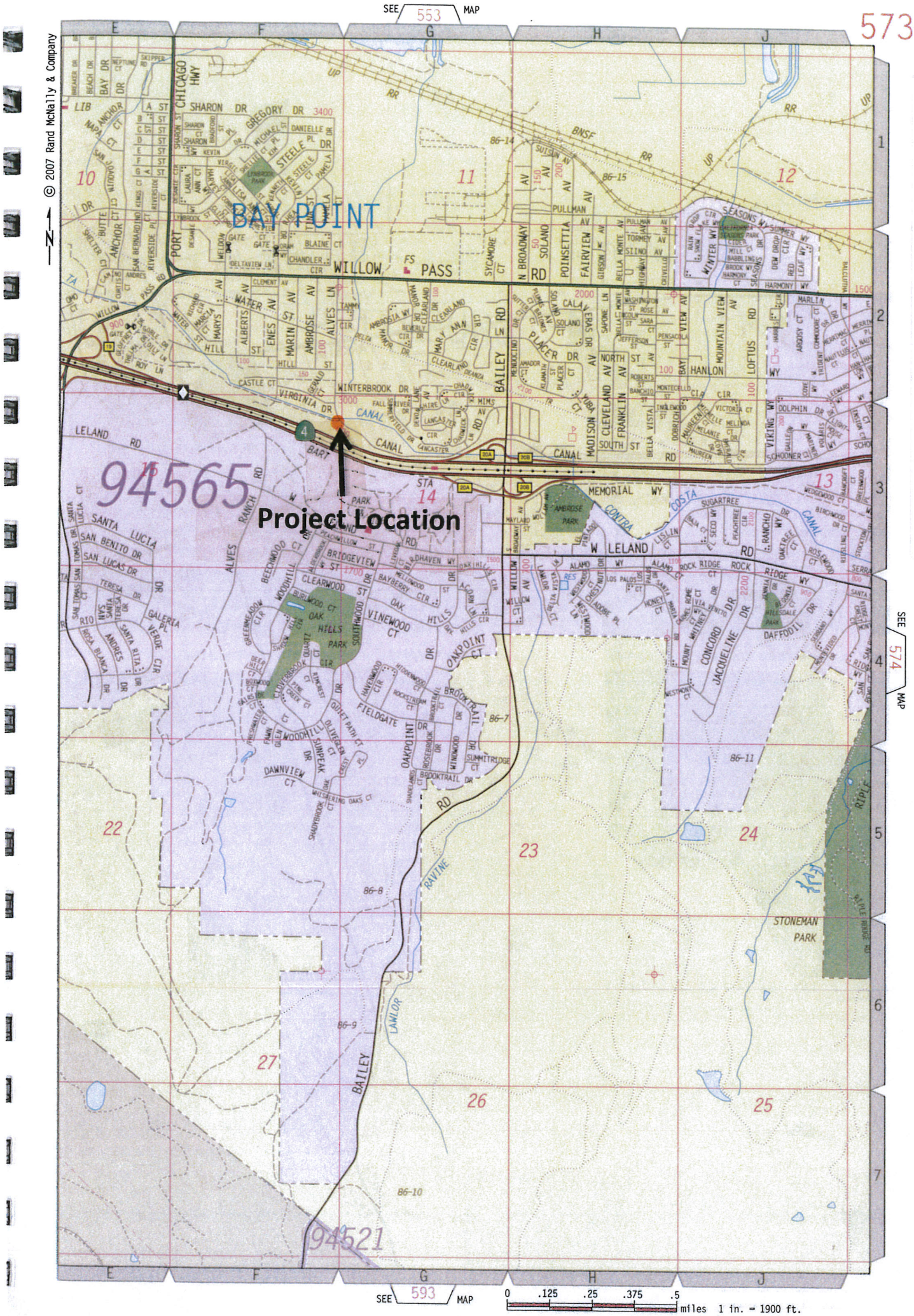
CONTRA COSTA COUNTY
CALIFORNIA



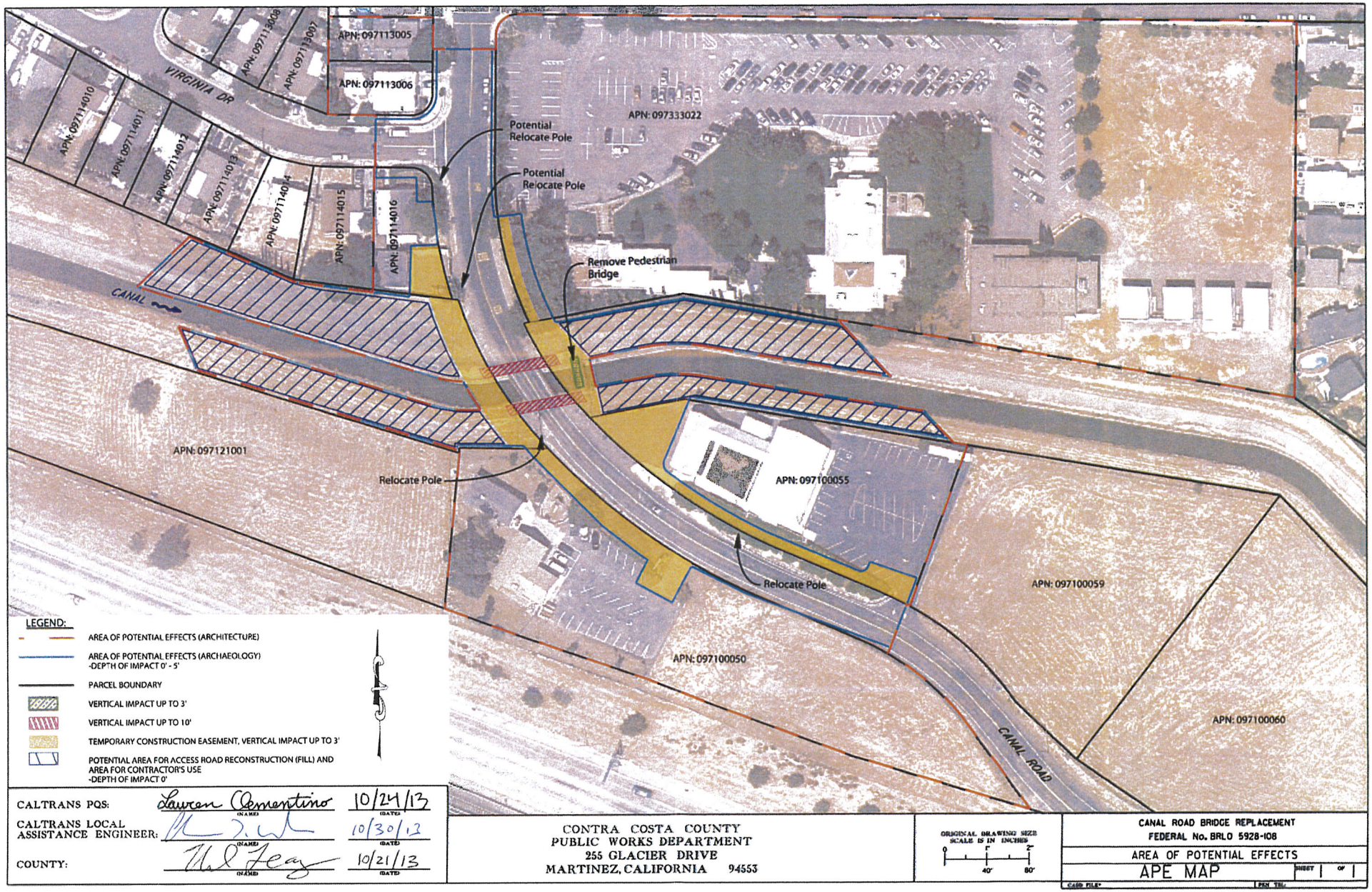
LOCATION MAP

Canal Road Bridge Replacement

Figure 1



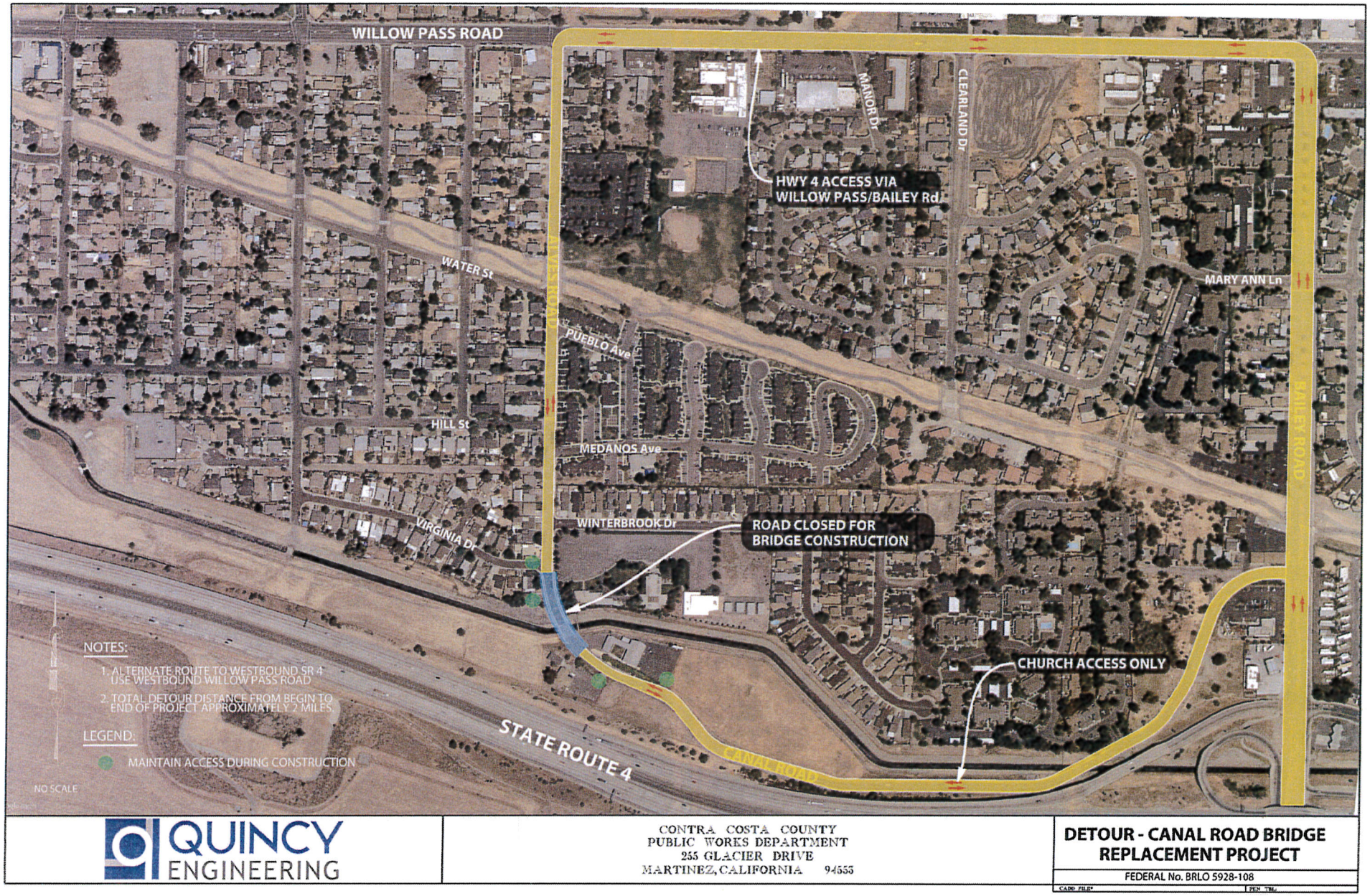
Canal Road Bridge Replacement
Figure 2



Canal Road Bridge Replacement
Figure 3

Canal Road Bridge Replacement

Figure 4



QUINCY ENGINEERING

CONTRA COSTA COUNTY
PUBLIC WORKS DEPARTMENT
255 GLACIER DRIVE
MARTINEZ, CALIFORNIA 94553

DETOUR - CANAL ROAD BRIDGE REPLACEMENT PROJECT

FEDERAL No. BRLO 5928-108

CADD FILE* PEN TBL

Canal Road Bridge Replacement
Figure 5

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
III. AIR QUALITY					
IMPACT AIR 1 **GENERATION OF CONSTRUCTION EMISSIONS INCLUDING PM_{10} AND $PM_{2.5}$**	**MINIMIZATION MEASURE AIR 1:** • Water all active construction areas as needed for dust control. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Ensure all construction machinery and vehicles are properly tuned. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. • Post a publicly visible sign with the telephone number and person to contact	During construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.				
IV. BIOLOGICAL RESOURCES					
POTENTIAL IMPACT BIO 1 **ADVERSE EFFECTS TO BURROWING OWL**	**AVOIDANCE MEASURE BIO 2** • 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 having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines. • On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	land ownership will not be surveyed. • Surveys will take place near sunrise or sunset in accordance with CDFW guidelines. • All burrows or burrowing owls will be identified and mapped. • Surveys will take place no more than 30 days prior to construction. • During the breeding season (February 1 – August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 – January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.				
POTENTIAL IMPACT BIO 2 **ADVERSE EFFECTS TO BATS**	**AVOIDANCE MEASURE BIO 2** • If construction activities occur within the bat maternity period (May 1 through mid-September), pre-construction bat specific surveys, such as bat acoustical surveys will be conducted by a qualified biologist within 30 days of construction, with an	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	additional survey one week prior to construction. If roosting bats are found, consultation with CDFW to determine if additional avoidance measures are necessary based on proximity to construction activity, and day roost versus maternity site. If no bats are found, no avoidance measures are necessary.				
POTENTIAL IMPACT BIO 3 **ADVERSE EFFECTS TO NESTING BIRDS**	**AVOIDANCE MEASURE BIO 3** • If tree removal, pruning, or grubbing activities are necessary, such activities should be conducted in the fall or winter after August 31 and before February 1. This timing will avoid impacts to nesting birds during the breeding season (February 1 to August 31). • If project construction, including tree removal, is conducted during the breeding season (February 1 to August 31), preconstruction surveys will be conducted within the project footprint and a 250 foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing or surface-disturbing activities. If no active nests are found, no further avoidance is necessary. If work ceases for a period of	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	two weeks or longer, preconstruction nesting bird surveys will be conducted prior to recommencing work. • If active nests (i.e., nests with eggs or young birds present) are found, non-disturbance buffers will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged. Buffer size will be determined in cooperation with the CDFW and the U.S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work will cease immediately and the CDFW and the U.S. Fish and Wildlife Service will be contacted for further guidance.				

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
POTENTIAL IMPACT BIO 4 **ADVERSE EFFECTS TO DRAINAGE AREA**	**AVOIDANCE MEASURE BIO 4** The Project limits will be delineated to exclude the drainage outlet area.	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
IMPACT BIO 5 **HCP/NCCP FEE REQUIREMENT**	**MITIGATION MEASURE BIO 6** The County will pay applicable HCP/NCCP fees prior to start of construction.	Prior to construction	CCCPWD	CCCPWD East Contra Costa County Habitat Conservancy	
V. CULTURAL RESOURCES					
POTENTIAL IMPACT CULT 1: **ADVERSE EFFECTS TO PREVIOUSLY UNDISCOVERED RESOURCES.**	**AVOIDANCE MEASURE CULT 1** 1. If an inadvertent discovery is made, the construction contractor will cease all ground-disturbing activities in the area of the discovery. 2. The construction contractor will immediately notify the CCCPWD Resident Engineer who will then request the appropriate specialist to evaluate the	During construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	finding(s). 3. If the finding(s) is determined to be potentially significant, the specialist in consultation with the appropriate agency and cultural resource representative, if applicable, will develop a research design and treatment plan outlining management of the resource, analysis, and reporting of the find.				
VIII. HAZARDS AND HAZARDOUS MATERIALS					
POTENTIAL IMPACT HAZ-1: **POTENTIAL FOR ASBESTOS AND AERIALLY DEPOSITED LEAD**	**MITIGATION MEASURE HAZ-1:** Non-paved areas will be tested prior to construction to determine if they are contaminated or presence of ADL will be assumed or verified. If presence is assumed once excavated, the material will be managed, transported and disposed of at a Class I disposal facility as a hazardous waste.	Prior to and during construction	CCCPWD	CCCPWD	
POTENTIAL IMPACT HAZ 2 **ADVERSE EFFECTS TO EMERGENCY RESPONSE**	**MINIMIZATION MEASURE HAZ 1** In addition to standard notifications, CCCPWD or their representative will specifically notify Station 86 at least one week prior to implementing the detour.	Prior to construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
VIIII. HYDROLOGY AND WATER QUALITY					
POTENTIAL IMPACT HYD 1 **ADVERSE EFFECTS TO WATER QUALITY**	**AVOIDANCE MEASURE HYD 1** A Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP) would be prepared for the Project. Recommendations contained therein to reduce potential for sedimentation, concrete products or by products, or other construction materials from entering the canal, storm drains, or the drainage outlet would be adhered to. Best management practices may include but not be limited to: 1. The Project limits will be delineated to exclude the drainage outlet area. 2. The contractor will be required to provide debris containment to keep demolition debris from entering the canal. 3. If staging occurs on canal access roads, perimeter protection shall be installed on the canal side of the staging area to ensure that no construction materials or accidental spills enter the canal. All equipment, stockpiles, and other construction materials staged on	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	the access roads shall be staged within the perimeter protection. 4. When not in use, equipment that contains fluid will be positioned on drip pans. 5. Porta Potties, concrete mixing and washout areas, and any liquids shall be placed on secondary containment. 6. Stockpiles shall have additional perimeter control and be covered when not in use. 7. Refueling of equipment shall take place at service stations when feasible. If refueling on-site is necessary, equipment fueling and maintenance activities shall be conducted within a bermed and lined area that is at a lower elevation than the canal. Absorbent spill pads suitable for hazardous materials shall be on hand in case of accidental spills. 8. All machinery used during construction of the Project shall be properly maintained and cleaned to prevent spills and leaks that could contaminate soil or water. 9. Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) shall be cleaned up in accordance with applicable local, state, and/or federal				

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	regulations. 10. Concrete wastes will be collected in washouts, and water from curing operations will be collected and disposed of off-site. Neither will be allowed into the canal or drainages. 11. Before October 15, and/or immediately after construction is complete, exposed surfaces will be stabilized. 12. Storm drain inlet protection will be utilized. 13. Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, or other suitable materials along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on disturbed slopes. No erosion control materials that use plastic or synthetic mono-filament netting will be used. 14. All disturbed soils within upland areas would be stabilized with an erosion control tackifier and would be seeded with a native seed mix and fertilizer suitable for use near aquatic environments.				

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
POTENTIAL IMPACT HYD 2 **POTENTIAL FOR CONSTRUCTION DEBRIS TO ENTER CONTRA COSTA CANAL**	**AVOIDANCE MEASURE HYD 2** The Contractor shall provide a construction debris containment system to prevent construction and demolition debris from entering the canal. The construction debris containment system shall be approved by the County's Resident Engineer.	Prior to and during construction	CCCPWD	CCCPWD	
XII. NOISE					
IMPACT NOI 1 **EXPOSURE OF SENSITIVE RECEPTORS TO TEMPORARY CONSTRUCTION NOISE**	**MINIMIZATION MEASURE NOI-1** • Impact pile driving for permanent piles will not be allowed. • Prohibit unnecessary idling of internal combustion engines; • Locate all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems as far as practical from the surrounding residences and churches; • Noise-generating construction activities shall take place between 7:00 a.m. and 6:00 p.m., Monday through Friday. No noise	Prior to and during construction	CCCPWD	CCCPWD	

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	generating construction activities shall occur on Sundays or holidays. If work is necessary outside of these conditions, the Contractor shall demonstrate the necessity of the work outside of these hours and obtain County approval prior to conducting the work. Church officials and residences within 800 feet of the proposed work will be notified prior to conducting the work. The Resident Engineer will be available to address any noise concerns during all construction activities and, if feasible, provide additional minimization measures as necessary (in the form of noise control blankets, temporary noise barriers, or other noise minimizing or dampening techniques appropriate for the situation) for affected receptors. • Saturday work shall generally be discouraged and, if necessary, only take place between the hours of 9:00 a.m. and 5:00 p.m. to avoid Saturday mass times. The Contractor shall demonstrate the necessity of the Saturday work and obtain County approval prior to conducting the work. The County will coordinate with the Catholic Church prior to approving the work and will monitor the work to ensure a 70 dBA is not exceeded at the church building location if				

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	events are scheduled for that day. Church officials and residences within 800 feet of the proposed work will be notified prior to conducting the work. The Resident Engineer will be available to address any noise concerns during all construction activities and, if feasible, provide additional minimization measures as necessary (in the form of noise control blankets, temporary noise barriers, or other noise minimizing or dampening techniques appropriate for the situation) for affected receptors. • No noise generating work or staging activities shall occur on the access road behind the Catholic Church on Saturdays. • Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment; • Utilize "quiet" air compressors and other "quiet" equipment where such technology exists. • A notice will be posted in the community newspaper notifying the public about the Project. The notice will include a phone number for questions. A sign will also be				

The following Avoidance, Minimization and Mitigation Measures will be implemented. CCCPWD and/or its Contractors under the supervision of CCCPWD, will be responsible for implementing the following measures. CCCPWD will be responsible for monitoring to ensure the following measures are implemented.

IMPACT	MITIGATION, AVOIDANCE, AND MINIMIZATION MEASURES	IMPLEMENTATION TIMING	IMPLEMENTATION RESPONSIBILITY	VERIFICATION RESPONSIBILITY	COMPLIANCE VERIFICATION DATE
	posted near the Project site that includes a phone number for noise complaints.				