

CEQA ENVIRONMENTAL CHECKLIST FORM (REVISED JANUARY 7, 2019)

1. **Project Title:** Byron Highway Bridge Replacement Project (BRLS-5928(104))
2. **Lead Agency Name and Address:** Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553
3. **Contact Person and Phone Number:** Ave' Brown
Contra Costa County Public Works Department
Environmental Services Division
225 Glacier Drive, Martinez, CA 94553
4. **Project Location:** Byron Highway over the California Aqueduct, approximately 3.6 miles southeast of Byron, CA (**Appendix A: Figure 1 and Figure 2**).
5. **Project Sponsor's Name and Address:** Contra Costa County Public Works Department
225 Glacier Drive, Martinez, CA 94553
6. **General Plan Designation:** AL (Agricultural Lands), PS (Public/Semi-Public), DR (Delta Recreation), and WA (Water)
7. **Zoning:** Heavy Agriculture (A-3-X), General Agriculture (A-2), General Agriculture – Railroad Corridor (A-2-X), and Agriculture Preserve (A-4)
8. **Description of Project:**

Contra Costa County Public Works Department (CCCPWD), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing, obsolete Byron Highway Bridge (Bridge No. 28C-0121) over the California Aqueduct (Project) (**Appendix A: Figures 1 through 5**). The Project would replace the existing bridge with a multi-span concrete bridge approximately 360 feet long, and a clear width of approximately 40 feet. The Project would also make approximately 1,350 feet of roadway improvements on both sides of the new structure (approx. 2,700 feet of new roadway total). The proposed road and bridge would realign Byron Highway slightly to the south. In its final configuration, the replacement bridge would accommodate two lanes of vehicular traffic (one in each direction) with no increase in capacity. The proposed bridge would have eight-foot wide shoulders on both sides of the road. The eight-foot shoulders would meet American Association of State Highway and Transportation Officials (AASHTO) minimums and would be consistent with the countywide Bicycle and Pedestrian Plan that would accommodate a Class 2 facility with buffer striping at the Project site. The purpose of

the Project is to replace the existing bridge with a bridge that is consistent with County, AASHTO, Federal Highway Administration (FHWA), Department of Water Resources (DWR) and Caltrans design criteria and standards.

A temporary work trestle is anticipated to accommodate construction of the new bridge. The temporary trestle would be located just south of the existing bridge.

The proposed work also includes modified connections for four access roads near the ends of the bridge and modification of the Bruns Road intersection to maintain access to the proposed realigned Byron Highway (**Appendix A: Figure 3**). Extensions of existing culverts and modifications to other drainage features such as ditches and swales would also be performed.

Utility Relocations

Existing overhead utilities at the site include communication lines on both the upstream and downstream sides of the existing bridge. The upstream side of the existing bridge also has overhead electric lines. The overhead transmission lines are not anticipated to conflict with construction of the bridge or roadway and therefore are not anticipated to be relocated prior or during construction. The overhead electric lines just upstream of the existing bridge, however, would be in conflict with the removal of the existing bridge. They would likely need to be temporarily relocated or temporarily deactivated before any demolition activity of the existing bridge begins and would be relocated after the new bridge is built. The project will require relocation of communication lines (overhead and underground) and overhead electric distribution facilities. The project will also require a relocation/extension of a siphon/culvert owned by Byron Bethany Irrigation District near Bruns Road.

Underground utilities are attached to the existing bridge and would need to be relocated onto the new bridge including an 8-inch Chevron Oil line and 12-inch Natural Gas line. The proposed bridge would accommodate these utilities as well as capacity for future underground lines as well.

Right-of-Way

The Project would have both temporary and permanent right-of-way (ROW) impacts. The existing corridor of County ROW along the existing roadway and bridge is approximately 50 to 60 feet wide. Portions of property along the proposed roadway and bridge alignment is owned by Department of Water Resources (DWR), which would require permanent right-of-way acquisition parallel to the roadway in order to accommodate the new road and bridge. Right of way is also needed from various other adjacent landowners. Temporary construction easements and/or permits to enter and construct are anticipated for construction staging, driveway improvements, and/or contractor access routes.

Permanent Right-of-Way	Permanent Easement (DWR Agreement)	Temporary Construction Easement
001-041-063	001-041-012	001-041-063
001-041-004	001-041-035	001-041-004
001-041-053	001-041-034	001-041-012
		001-041-035
		001-041-053

9. Surrounding Land Uses and Setting:

The Project setting is rural. Surrounding land use designation is Agricultural Lands and Public/Semi-Public. The California Aqueduct runs under the existing Byron Highway Bridge. Land use in the vicinity of the Project site is generally agricultural including a vineyard to the southeast. The UC Davis Fish Conservation and Culture Laboratory is located on the south side of the aqueduct and is approximately 420 feet northeast of the project site and the John E. Skinner Delta Fish Protective Facility is located on the north side of the aqueduct and is approximately 750 feet to the northeast of the project site. The existing bridge was built, maintained and owned by DWR; however, the County is responsible for maintaining the bridge deck, curbs, guard rails, signing and striping (along with the County owned road). The County and DWR have a cooperative agreement concerning the Project. Upon Project completion the County will take over ownership of the new bridge.

10. Other public agencies whose approval is required (e.g., permits, financing, approval, or participation agreement:

1. California Department of Transportation (Caltrans) under the aegis of the Federal Highways Administration
2. U.S. Army Corps of Engineers (Corps) (Clean Water Act, Section 404 – Nationwide Permit)
3. San Francisco Regional Water Quality Control Board (SFRWQCB) (Clean Water Act, Section 401- Water Quality Certification)
4. State Water Resources Control Board (SWRCB) (Clean Water Act, Section 402 - National Pollution Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities)
5. East Contra Costa County Habitat Conservancy (East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan [HCP/NCCP])
6. California Department of Water Resources (DWR)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Wilton Rancheria submitted a general request letter to be notified of Projects within Contra Costa County under AB52. CCCPWD initiated contact with Wilton Rancheria on July 5, 2018 regarding the Project (**Appendix B**). No request for consultation nor information about potential resources was received from the tribe. No response was received from Wilton Rancheria within 30 days of receipt of this formal notification, therefore no AB52 consultation was initiated, as per California PRC section 21080.3.1(b).

Environmental Factors Potentially Affected

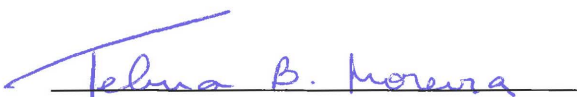
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Services Systems | <input checked="" type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

Environmental Determination

On the basis of this initial evaluation:

- ☐ I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that, although the 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the 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 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 Project, nothing further is required.



Telma Moreira

Principal Planner

Contra Costa County

Department of Conservation & Development

7/15/2020
Date

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

The analysis below follows the guidance and the definitions outlined in the publication *Guidelines for the Visual Impact Assessment of Highway Projects* published by the U.S. Department of Transportation Federal Highway Administration (FHWA) in January 2015.

Visual character is a description (not evaluation) of a site, and includes attributes such as form, line, color, and texture. Visual quality is the intrinsic appeal of a landscape or scene due to the combination of natural and built features in the landscape; this analysis rates visual quality as high, moderate, or low. Visual sensitivity is the level of interest or concern that the public has for maintaining the aesthetic quality of a particular visual resource and is a measure of how noticeable proposed changes might be in a particular scene and is based on the overall clarity, distance, and relative dominance of the proposed changes in the view, as well as the duration that a particular view could be seen.

The Project would replace the existing Byron Highway bridge with a multi-span concrete bridge approximately 360 feet long, and a clear width of approximately 40 feet. The Project would also make approximately 1,350 feet of roadway improvements on both sides of the new structure (2,700 feet total). The proposed road and bridge would realign Byron Highway slightly to the south. The Project site is located in rural Contra Costa County. The surrounding land uses are primarily agricultural and open

space. The UC Davis Fish Conservation and Culture Laboratory is located on the south side of the aqueduct and is approximately 420 feet northeast of the Project site and the John E. Skinner Delta Fish Protective Facility is located on the north side of the aqueduct and is approximately 750 feet to the northeast. The Project site is not located within or adjacent to any officially designated Scenic Highways or Scenic Byways (Federal Highway Administration [FHWA] 2019) or within scenic resource area as defined by the Contra Costa General Plan 2005-2020 (General Plan).

The landscape surrounding the Project site is generally flat with few to no noticeable natural outcroppings. Low mountains may be seen at the horizon. Trees and small structures are scattered intermittently across the landscape. Dominant colors visible from the Project site or from surrounding areas vary with season. Notable features visible from the Project site include the California Aqueduct. The continuity of the landscape is interrupted by large overhead utility lines, and wind turbines in the higher elevation areas.

Currently, the existing Byron Highway bridge structure is a relatively flat concrete structure that does not dominate views of - or from - the Project site. The proposed replacement structure would be constructed slightly south of the existing bridge location and would be approximately 360 feet in length and 40 feet wide, which is slightly longer and wider than the existing structure.

The Project includes the replacement of the Byron Highway Bridge over the California Aqueduct. The view of the Project upon completion will be similar to existing conditions. Sensitive receptors in the vicinity of the Project site include roadway users, the University of California (UC) Davis Fish Conservation and Culture Laboratory, located on the south side of the California Aqueduct and approximately 420 feet northeast of the Project site, and the John E. Skinner Delta Fish Protective Facility, located on the north side of the California Aqueduct and approximately 750 feet northeast of the Project site

SUMMARY:

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

According to the General Plan, 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 (Contra Costa County 2005). No designated scenic resources or scenic vistas were identified in the vicinity of the Project. The Project site is not located within an officially designated Scenic Vista in the General Plan. The Project would be visually consistent with the existing structure and surrounding conditions. The Project would be consistent with the visual character of the Project site upon completion of construction. The Project would have **no impact** on scenic vistas. No mitigation measures are required for this resource.

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

No visually unique features or outcroppings, including rocks, trees, or historic buildings are located within or in the vicinity of the Project site. No State Scenic Highways, National Scenic Byways, or All-American Roads are located within viewable distance of the Project (FHWA 2019). The closest officially designated scenic highway is State Route (SR) 581, located approximately 5.9 miles south of the Project site (Caltrans 2017). However, this scenic highway is not within viewing distance of the Project and the Project is not visible from the scenic highway.

A portion of County Route 4 (J4 Byron Highway) is eligible for designation as a scenic route at a point approximately 9 miles north of the Project at its closest point. The eligible segment spans from SR 160 to SR 84 near Brentwood, CA. However, this route is not visible from the Project site and the Project site is not visible from the eligible segment of County Route 4. The Project would not have an effect on any eligible or officially designated state scenic routes, highways, or their viewsheds.

Vegetation removal would be required along the alignment of the replacement structure. Disturbed areas be revegetated with native plants. Construction activities, including presence of construction equipment, may temporarily affect the visual environment surrounding the Project site. However, these impacts would be temporary and less than significant. Characteristics of the visual environment surrounding the Project site upon completion of construction would be consistent with existing conditions.

The visual characteristics and quality would be similar to existing conditions. The Project would have a **less than significant impact** on scenic resources such as historic buildings, prominent natural features, or any state designated scenic highway. No mitigation is required.

- c) *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The Project site is located within a rural setting in Eastern Contra Costa County. Receptors sensitive to visual change include employees at the adjacent laboratory facilities and roadway users. The Project will not conflict with the General Plan because it will cause very little visual change to the surrounding area. The Project is limited to a bridge replacement project along an existing roadway, which will not substantially alter its improvement. The replacement bridge design including railings would intent to be aesthetically pleasing.

Vegetation removal would be required along the Project alignment and will be revegetated with native plants. Construction activities, including presence of construction equipment, may temporarily affect the visual environment surrounding the Project site. However, these impacts would be temporary and less than significant. Characteristics of the visual environment surrounding the Project site upon completion of construction would be consistent with existing conditions.

Upon construction completion, the Project would be visually consistent with the existing structure and surrounding conditions. The Project would be consistent with the visual character of the Project site and would be similar to existing conditions. Therefore, the Project would have a **less than significant impact** on visual character and quality of public views of the Project site and surrounding area. No mitigation is required.

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

The Project would be a concrete bridge consistent in design with the existing structure. Currently, lighting from adjacent facilities and from roadway traffic are the only sources of nighttime light

at the Project site. Since the Project would not add capacity to the roadway nor would it introduce additional street lighting, no new sources of glare would be created. Construction activities would occur during daylight hours, thus, would not increase light or glare. The Project would have **no impact** to light and glare. No mitigation is required.

SOURCES OF INFORMATION

California Department of Transportation (Caltrans). 2017. Scenic Highways: List of eligible and officially designated State Scenic Highway Systems. Online. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed October 1, 2019.

Contra Costa County. 2005. General Plan (2005-2020) Open Space Element. Online. <https://www.contracosta.ca.gov/4732/General-Plan>. Accessed September 30, 2019.

Federal Highway Administration (FHWA). 2019. America's Byways. Online: <https://www.fhwa.dot.gov/byways/>. Accessed October 1, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURAL AND FOREST 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

A Farmland Impact Memorandum was prepared for the Project and is available for review at the CCCPWD (Drake Haglan and Associates [DHA] 2019). The California Land Conservation Act (Williamson Act) was established after World War II when valuable farmland was rapidly converted to urban use due to pressure from continuous population growth. The Williamson Act provides tax relief to landowners who participate in the program with the condition that their land will not be developed. The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to assess the location and quantity of agricultural lands, and the conversion of these lands over time. This information is used to assist with decision making and planning regarding California's agricultural lands (California Department of Conservation [CDOC] 2018).

Contra Costa County is a major producer of a wide variety of farm products. Agriculture is important not only to the County's economy, but also to its way of life. According to the FMMP, there were 255,574 acres of land identified as farmland or grazing land in the County in 2016 (CDOC 2016a). The agricultural land in the County in 2016 was as follows: 10.3 percent prime farmland, 3.0 percent

farmland of statewide importance, 1.3 percent unique farmland, 23.6 percent farmland of local importance, and 61.7 percent grazing farmland (CDOC 2016a). There are four farmland types mapped within the footprint of the Project: unique farmland, farmland of local importance, grazing land, and other lands (**Appendix A: Figure 3**).

According to the California Department of Conservation (CDOC), Division of Land Resource Protection, 42,137 acres of land within the County were enrolled under the Williamson Act in 2015 (CDOC 2016b), which is approximately 16.5 percent of all farmland and grazing land identified by the FMMP in the County. Most land enrolled under the Williamson Act in the County is classified as non-prime agricultural land (33,071 acres), and approximately 22 percent is classified as prime agricultural land (9,066 acres) (CDOC 2016b). In 2015, no land in the County was enrolled under the Williamson Act as farmland security zone (CDOC 2016b). The following parcels are zoned Agricultural Preserve (A-4) and are enrolled under the Williamson Act (Mixed Enrollment) and would be impacted by the Project: APNs 001 041-033, 001-041-051, 001-041-053, and 001-041-063.

SUMMARY:

- 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?*

These lands are directly adjacent to roadways and development, are not currently being used for farmland, and would not segment or impact the ability to farm the remainder of the parcel. According to the CDOC FMMP, there is no prime farmland or farmland of statewide importance present in the Project area. As mentioned above, the four farmland types mapped within the footprint of the Project: unique farmland, farmland of local importance, grazing land, and other lands.

Impacts to farmland within the footprint of the Project are described in **Tables 1** and **2**. Approximately 0.08 acres of unique farmland and 0.37 acres of land designated as farmland of local importance would be permanently impacted.

Table 1
Breakdown of Impacts to Important Farmland

Parcel Number	Unique Farmland (acres)	Farmland of Local Importance (acres)	Total (acres)
APN 001-041-053	2.47	0.24	2.71
Permanent Impacts	0.08	0.24	0.32
Temporary Impacts	2.39	0	2.39
APN 001-041-051	0.18	0.05	0.23
Permanent Impacts	0	0.05	0.05
Temporary Impacts	0.18	0	0.18
APN 001-041-034	0.13	0	0.13
Permanent Impacts	0	0	0

Temporary Impacts	0.13	0	0.13
APN 001-041-035	0	1.70	1.70
Permanent Impacts	0	0.08	0.08
Temporary Impacts	0	1.62	1.62
APN 001-050-XXX	0	0.62	0.62
Permanent Impacts	0	0	0
Temporary Impacts	0	0.62	0.62

Table 2
Summary of Impacts to Important Farmland

Project Impact	Unique Farmland (acres)	Farmland of Local Importance (acres)	Total (acres)
Permanent	0.08	0.37	0.45
Temporary	2.7	2.24	4.94

The permanent impacts of the Project to unique farmland and farmland of local importance would primarily result from the construction of the proposed roadway and proposed access road realignment, respectively. The area with permanent impacts to farmland of local importance is not actively used for agricultural production but is designated as farmland of local importance by the FMMP. The realignment of the roadway onto unique farmland (APN 001-041-053) would have minor impacts to active farming operations, as it would permanently impact a small sliver of the northwest corner of the parcel (0.32 acres of a 2.71-acre parcel). Within the footprint of the Project, there are approximately 7.31 acres of land designated as grazing land (on APNs 001-041-063, 001-041-012, 001-041-004, 001-041-035, and 001-050-XXX). Of this land, 0.94 acres would be permanently impacted; however, these lands are not currently being used for grazing activities. In total, there are 1.39 acres of permanent impacts and 11.28 acres of temporary impacts to farmland (**Appendix A: Figure 3**).

The implementation of general construction activities and staging areas for the Project would also result in temporary impacts on farmland (prohibit use of certain areas for farming activities). Upon completion of construction, temporarily impacted areas would be restored to existing conditions and would be available for farming activities. The area with permanent impacts to farmland of local importance is not actively used for agricultural production. Therefore, the Project would have **less than significant** impacts on farmland. No mitigation is required.

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

The following parcels are zoned Agricultural Preserve (A-4) and are enrolled under the Williamson Act (Mixed Enrollment) and would be impacted by the Project: APN 001-041-051 and APN 001-041-053. Williamson Act contracts may be cancelled through condemnation of public acquisition of the land subject to the contract. When the action is to acquire less than the entire parcel, as is the case for the Project, then the Williamson Act contract is deemed null and void only for that portion of land that is subject to the action (Government Code Section 51295).

These two parcels average approximately 90 acres each, for a total of approximately 180 acres. Permanent impacts to these two parcels total 0.37 acres of unique farmland and farmland of local importance, comprising approximately 0.2 percent of the two parcels. The Project would not impair the ability to farm the remaining enrolled agricultural land and would result in an impact of less than one percent of the two parcels.

When considering road alignment alternatives (to widen on one side of the existing road or another) every attempt will be made to avoid Williamson Act parcels where it doesn't result in a sub-standard road alignment. If necessary, the Contra Costa County Public Works Department (CCCPWD) would purchase necessary right of way in fee-title, which is not expected to affect the Williamson Act contract on the remainder of the parcel. Purchase of the right of way would not be influenced by the price of the land but by necessity. There are no alternative sites that could be developed to provide the same public improvement without resulting in greater impacts to farmland and the environment. As such, the Project would require minimal takes of portions of one or more parcels under a Williamson Act Contract. However, as required by Government Code Section 51291(b), if acquisition of land under a Williamson Act contract is necessary, the Director of the California Department of Conservation and the Contra Costa County Department of Conservation and Development will be notified of the proposed acquisition, and will be provided with a subsequent notification within 10 working days upon completion of the acquisition. Therefore, Project impacts would remain **less than significant**.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g) or 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)?*

There are no land uses within, or adjacent to, the Project site that are zoned as forest land or timberland. Therefore, the Project would not result in a conflict with existing zoning regarding forest land or timberland. **No impact** would occur in the regard and no mitigation measures are required.

- d) *Would the project involve or result in the loss of forest land or conversion of forest land to non-forest use?*

There are no land uses within, or adjacent to, the Project site that are zoned as forest land or timberland. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. **No impact** would occur in this regard and no mitigation measures are required.

- 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?*

The Project would realign Byron Highway slightly to the south. The roadway would maintain a tangent alignment of Byron Highway at the bridge location with the addition of horizontal curves on both approaches to tie back into the existing roadway. The Project would not change

surrounding land uses beyond the permanent impacts discussed in subsections a and b, above, and shown in **Appendix A: Figure 3**. The Project would not increase capacity along Byron Highway, and thus would not result in indirect land development. Therefore, the Project would not involve other changes in the existing environment which could result in conversion of farmland to non-agricultural use. **No impact** would occur in this regard and no mitigation measures are required.

SOURCES OF INFORMATION

California Department of Conservation (CDOC). 2016a. Table A-5, Contra Costa County, 2014-2016 Land Use Conversion. Available online:
<http://www.conservation.ca.gov/dlrp/fmmp/Pages/ContraCosta.aspx>. Accessed November 28, 2018.

CDOC. 2016b. The California Land Conservation Act of 1965 – 2016 Status Report. December 2016. Available online:
https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2016%20LCA%20Status%20Report.pdf. Accessed December 3, 2018.

CDOC. 2018. Farmland Mapping and Monitoring Program Overview. Available online:
http://www.conservation.ca.gov/dlrp/fmmp/Pages/Program_Overview.aspx. Accessed November 28, 2018.

Drake Haglan and Associates (DHA). 2019. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Farmland Impact Memorandum. June 27, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY – Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The Project site is located within the San Francisco Bay Area Air Basin (Basin), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAMQD). Air quality districts are public health agencies whose mission is to improve the health and quality of life for all residents through effective air quality management strategies. BAAMQD is one of 35 regional air quality districts in California and has jurisdiction over the County. Under the California Clean Air Act, air districts are required to produce regional plans that outline strategies for air quality improvements within their air basin.

The BAAQMD considers a project to be consistent with air quality plans prepared for the region if there is substantial evidence that the project: 1) supports the goals of the Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan, and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan. The BAAQMD 2017 Clean Air Plan contains policies and measures to reduce emissions. Policies applicable to the Project include, but are not limited to, the following:

1. Transportation Control Measure (TCM)- B4: Invest in the region's trade corridors and continue to offer incentives to replace older engine with cleaner equipment than is required.
2. Mobile Source Measure (MCM)- C1: Use various strategies to reduce emissions from construction and farming equipment e.g. incentives for equipment upgrades and/or encourage the use of renewable electricity and fuels.

Policies from the General Plan Air Resources Element applicable to the Project include, but are not limited to, the following:

- 8-98 Development and roadway improvements shall be phased to avoid congestion.

- 8-101 A safe, convenient, and effective bicycle system shall be created and maintained in order to encourage walking as an alternative to driving.

The federal Clean Air Act requires the U.S. Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS) for major pollutants that could be detrimental to the environment and human health. The California Ambient Air Quality Standards (CAAQS) are the California state equivalent of the NAAQS. An air basin is in “attainment” (compliance) when the levels of the pollutant in that air basin are below NAAQS and CAAQS thresholds. **Table 3** provides information on the NAAQS and CAAQS thresholds.

Table 3. NAAQS and CAAQS

Pollutant	NAAQS		CAAQS	
	Averaging time	Concentration Threshold	Averaging time	Concentration Threshold
Carbon monoxide (CO)	8 hours	9 ppm	8 hours	0.09 ppm
	1 hour	35 ppm	1 hour	0.070 ppm
Lead (Pb)	Rolling 3-month average	0.15 µg/m ³	1.5 hour	0.15 µg/m ³
Nitrogen dioxide (NO ₂)	1 hour	100 ppb	1 hour	0.18 ppm
	1 year	53 ppb	Annual mean	0.030 ppm
Ozone (O ₃)	8 hours	0.070 ppm	8 hours	0.09 ppm
			1 hour	0.070 ppm
Particulate matter (PM)	PM _{2.5}	1 year	Annual mean	12.0 µg/m ³
		24 hours	n/a	n/a
	PM ₁₀	150 µg/m ³	24 hours	50 µg/m ³
			Annual mean	20 µg/m ³
Sulfur dioxide (SO ₂)	1 hour	75 ppb	1 hour	0.25 ppm
	3 hours	0.5 ppm	24 hours	0.04 ppm
Visibility reducing particles	n/a	n/a	9 hours	Extinction of 0.23 per kilometer
Sulfates	n/a	n/a	24 hours	25 µg/m ³
Hydrogen sulfide	n/a	n/a	1 hour	0.03 ppm
Vinyl chloride	n/a	n/a	24 hours	0.01 ppm

Sources: U.S. EPA 2019a; California Air Resources Board (CARB) 2017

ppm = parts per million, ppb = parts per billion, µg/m³ = micrograms per cubic meter, n/a = not applicable

The Basin is currently in nonattainment status for both state and federal 8-hour Ozone standards, and for the state’s 1-hour ozone standard. The Basin is also in nonattainment for state standards for particulate matter 10 microns or less in diameter (PM₁₀) and for particulate matter 2.5 microns or less in diameter (PM_{2.5}). The region is in attainment for all other state and federal standards.

The County is currently in nonattainment for the federal 8-hour ozone standards, and for federal standards for PM_{2.5} (U.S. EPA, 2019b). The County has been in nonattainment for the federal 8-hour ozone standard since 2012 and in nonattainment status for PM_{2.5} since 2009.

BAAQMD has also established thresholds of significance for project-level, construction related emissions for select pollutants. Thresholds applicable to the Project are listed below in **Table 4**, under the discussion subsection b.

SUMMARY:

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

The Project would replace an existing, obsolete structure with a structure that is compliant with current AASHTO and Caltrans standards. The Project would not increase automobile capacity or create other permanent new sources of emissions. In addition, the Project would allow for bike lanes onto the new structure. Upon completion, the Project would be consistent with applicable air quality plans.

The Project is consistent with the General Plan air quality objectives and the BAAQMD's Clean Air Plan (by adhering to policies listed above). All construction equipment would be maintained in a manner consistent with state and federal regulations applicable to off-road, construction diesel equipment. The Project would not increase long-term traffic levels and there would be no operational impacts to air quality. This impact would be **less than significant** and no mitigation measures are required.

- b) *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?*

BAAQMD has established construction related thresholds for emissions for certain criteria pollutants, as outlined in the 2017 CEQA Air Quality Guidelines and shown in **Table 4**.

Table 4. BAAQMD Construction Related, Project Level Thresholds

Pollutant/precursor	Average Daily Emissions
ROG	54 (lbs/day)
NO _x	54(lbs/day)
PM ₁₀	82 (lbs/day) (exhaust)
PM _{2.5}	54 (lbs/day) (exhaust)
GHGs (Stationary Sources)	None
GHGs (Projects other than Stationary Sources)	None

Source: BAAQMD 2017a

ROG = reactive organic gas; NO_x = nitrogen oxides; PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter; GHG = greenhouse gas; lbs/day = pounds per day

Road Construction Emissions Model version 9.0.0 (RoadMod), which was developed by the Sacramento Metropolitan Air Quality, was used to quantify construction-related and operational pollutant emissions. For the purposes of this analysis, it was assumed that Project construction would occur over 24 months. The Caltrans Roadway Construction Emissions Modeling tool was used to estimate construction emissions produced by the Project (**Appendix C**). The model was run using the following assumptions: 1) the types and quantities of construction equipment typical of bridge projects would be used; 2) all on road equipment used for the Project would be year 2010 or newer models; and 3) all construction equipment would meet California Air Resources Board (CARB) Tier 4 requirements for some or all off-road equipment. The model was also run

without 2010 or newer equipment and without 2010 or new equipment and without Tier 4 equipment. Tier 4 refers to the latest emission milestone, established by the U.S. EPA and CARB, applicable to new engines found in off-road equipment including construction, mining and agricultural equipment, marine vessels and workboats, locomotives and stationary engines found in industrial and power generation applications. The Tier 4 emission standards are similar to emission reduction requirements for engines that power heavy-duty trucks. While engine manufacturers have developed a nearly uniform suite of clean diesel technologies to meet the truck emission standards, a wide variety of approaches to achieve emission reduction are evident in off-road applications given the wide variation in engine size and equipment use. **Table 5** below shows the emissions predictions for the Project with the different assumptions.

Table 5. Construction Emissions Prediction

Pollutant/ Precursor	Predicted Project Construction Emissions using 2010 or new vehicles and Tier 4 equipment	Predicted Project Construction Emissions older than 2010 vehicles and using Tier 4 equipment	Predicted Project Construction Emissions older than 2010 vehicles and not using Tier 4 equipment
ROG	4.81 lbs/day	4.82 lbs/day	8.29 lbs/day
NO _x	10.65 lbs/day	10.79 lbs/day	88.63 lbs/day
PM ₁₀	0.64 lbs/day (exhaust)	0.64 lbs/day (exhaust)	3.64 lbs/day (exhaust)
PM _{2.5}	0.52 lbs/day (exhaust)	0.53 lbs/day (exhaust)	3.29 lbs/day (exhaust)

Refer to **Appendix C** for the construction emissions model.

ROG = reactive organic gas; NO_x = nitrogen oxides; PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter; CO₂e = carbon dioxide equivalent; lbs/day = pounds per day; MT/project = metric tons per project

The predicted emissions of criteria pollution of the Project are below the thresholds established by BAAQMD except when Tier 4 equipment is not used. When Tier 4 equipment is not used, then the threshold for NO_x is exceeded. Therefore, Mitigation Measure AQ-1 will be incorporated to address use of Tier 4 equipment. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM₁₀) that are recommended for all projects, as provided in Table 8-2 of the BAAQMD 2017 CEQA Air Quality Guidelines. Implementation of these measures would further reduce fugitive dust emissions from construction activities. These measures would be implemented by the project contractor and would include the following best management practices (BMPs):

3. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
4. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
5. All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
6. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
7. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
8. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]).

9. Clear signage shall be provided for construction workers at all access points.
10. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
11. A publicly visible sign shall be posted with the telephone number and contact information for the designated on-site construction manager available to receive and respond to dust complaints. This person shall report all complaints to the County and take immediate corrective action as soon as practical but not more than 48 hours after the complaint is received. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. According to the BAAQMD, air pollution is largely a cumulative impact and no single project is sufficient in size itself to result in nonattainment of ambient air quality standards. In developing the thresholds of significance for air pollutants used in this analysis, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The BAAQMD CEQA Air Quality Guidelines (2017) indicate that if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, if a project's daily average or annual emissions of operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, it would result in a cumulatively significant impact. As stated previously, the Project would not result in operational impacts; however, construction impacts are above the BAAQMD's thresholds for NO_x if Tier 4 equipment is not used. Therefore, Project construction impacts would be **less than significant with mitigation incorporated**.

IMPACT AQ-1: During construction, the project could result in an increase of NO_x above the threshold established by the BAAQMD.

MITIGATION MEASURE AQ-1: All off-road construction equipment used on site, greater than 25 horsepower, shall meet U.S. EPA Tier 4 emission standards. If Tier 4 is not available, the constructor must demonstrate that good faith effort was made to provide Tier 4 equipment to the Resident Engineer.

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

Construction activities for the Project are anticipated to last approximately two years. The closest residential community is located approximately 3.2 miles southeast of the Project site. The UC Davis Fish Conservation and Culture Laboratory is located on the south side of the California Aqueduct and is approximately 420 feet northeast of the Project site. The John E. Skinner Delta Fish Protective Facility is located on the north side of the California Aqueduct and is approximately 750 feet to the northeast of the Project site.

The sensitive receptors in the vicinity of the Project site would be exposed to temporary construction emissions, which would cease upon Project completion. The emission predictions

for the Project are below the thresholds established by the BAAQMD with implementation of the BMPs listed above in subsection b and Mitigation Measure AQ-1. BMPs would be implemented in order to minimize potential impact to receptors in vicinity of the Project. These BMPs include, but are not limited to, those listed above under subsection b. For these reasons, construction of the Project would not expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant with mitigation incorporated**.

- d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Construction activities at the Project site could include other emissions, including objectionable odors, from tailpipe diesel emission and from new asphalt. Other emissions, including odors, would be temporary and limited to the area adjacent to the construction operations. The Project site is located in a sparsely populated area. The closest residential community is located approximately 3.2 miles southeast of the Project site. The UC Davis Fish Conservation and Culture Laboratory is located on the south side of the California Aqueduct and is approximately 420 feet northeast of the Project site. The John E. Skinner Delta Fish Protective Facility is located on the north side of the California Aqueduct and is approximately 750 feet to the northeast of the Project site. Construction odors and other emissions would be temporary in nature, ending upon construction completion. Therefore, odors and other emissions would not affect a substantial number of people for an extended period of time. The Project would not change the operations of Byron Highway, thus, odors and other emissions upon Project completion would be similar to existing conditions. Impacts would be **less than significant**. No mitigation measures are required.

SOURCES OF INFORMATION

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Environmental Issues	Potentially Significant	Less Than Significant	With Mitigation	Less Than Significant	No Impact
	Impact	Incorporated	Impact	Impact	
4. 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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

SETTING:

A Natural Environment Study (NES), Planning Survey Report, and a Summary Biological Assessment (BA) were prepared for the Project and are available for review at the CCCPWD (LSA Associates 2019a through 2019c). Data for the area was obtained from state and federal agencies. Maps and aerial photographs of the Project site and surrounding areas were reviewed. Field surveys were conducted to determine the habitats present.

The Project is a covered project under the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) (California Department of Fish and Wildlife [CDFW] NCCP Permit number 2835-2007-001-03 and United State Fish and Wildlife Service [USFWS] 10(a) (1) (B) incidental take permit TE 160958-0). This HCP/NCCP, signed by both the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), among others, defines measures to avoid, minimize, and mitigate impacts on covered species and their habitats and wetlands while allowing for expansion of urban infrastructure. A Planning Survey Report (LS Associates 2019c) provides information on the Project's effect on threatened, endangered or proposed species covered under the HCP/NCCP.

Surveys

The following list provides the surveys performed for the Project and the corresponding dates of those surveys (LSA Associates 2019a):

- Botanical Survey, 2013 and 2015
- Vernal Pool Branchiopod Survey, 2002-2003
- Vernal Pool Branchiopod Survey, 2012-2013 and 2014-2015
- Burrowing Owl Habitat Assessment, Swainson's Hawk and Golden Eagle Habitat Assessment, Nesting Birds Habitat Assessment, March 18, 2015 (DWR) and December 7, 2018 (LSA)
- Grassland and Seasonal Wetland Survey, March 29, 2013, April 11, 2013, June 10, 2013, and March 5, 2015
- Wetland Delineation Survey, February 19, 2015 (DWR) and January 14, 2019 (DHA)

Habitat

The biological study area (BSA), including the Project impact area (PIA), is within an area dominated by agriculture and public/semi-public land uses (**Appendix A: Figure 4**). Habitat types and vegetation communities in the PIA and surrounding BSA include annual grassland, alkali grassland, ruderal, cropland, vineyard, urban (developed), seasonal and permanent wetland features, and the California Aqueduct. **Table 6** summarizes the habitat types within the BSA.

Table 6 Habitat Types within the BSA

Habitat Type	Acres within BSA	Percent (%) Composition of BSA
Upland Communities		
Alkali Grassland	0.886	3.82
Annual Grassland	10.043	43.34
Cropland	2.596	11.20
Ruderal	0.433	1.87
Urban (Developed)	6.215	26.82
Vineyard	0.374	1.61
Aquatic Communities		
Alkali Wetland	0.150	0.65
Aqueduct	2.274	9.81
Permanent Wetland	0.013	0.07
Seasonal Wetland	0.188	0.81
Total	23.172	100

Source: LSA Associates 2019

Special-Status Plant Species

The NES identified 44 special-status plant species that have the potential to occur in and around the BSA. Of these 44 special-status plant species, 32 special-status plant species have the potential to occur in the Project BSA and 11 special-status plant species are covered under the HCP/NCCP. These 11 species include: large-flowered fiddleneck (*Amsinckia grandiflora*); alkali milk-vetch (*Astragalus tener* var. *tener*); brittlescale (*Atriplex depressa*); San Joaquin spearscale (*Atriplex [=Extriplex] joaquiniana*); big tarplant (*Blepharizonia plumosa*); recurved larkspur (*Delphinium recurvatum*); diamond-petaled California poppy (*Eschscholzia rhombipetala*); Contra Costa goldfields (*Lasthenia conjugens*); showy golden madia (*Madia radiata*); adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*); and caper-fruited tropidocarpum (*Tropidocarpum capparideum*). None of the special-status plant species identified as potentially occurring within the BSA were observed during botanical surveys, and available habitat within the BSA is significantly modified or disturbed (LSA 2019a).

Large-flowered fiddleneck (*Amsinckia grandiflora*) is federally and state endangered and is a CNPS 1B.1 species currently known from fewer than five locations in northwestern San Joaquin Valley at elevations between 900 and 1,800 feet (LSA Associates 2019a). The species is presumed extinct in the County (LSA Associates 2019a). Habitat for this annual herb includes cismontane woodland and valley and foothill grassland, and its flowering period is typically March – May. There are no CNDDDB records within 5 miles of the BSA.

Alkali milk-vetch (*Astragalus tener* var. *tener*) is a CNPS 1B.2 species currently known to occur in the southern Sacramento Valley, northern San Joaquin Valley, eastern San Francisco Bay Area (where it is mostly extirpated), and Inner South Coast Ranges (LSA Associates 2019a) at elevations of less than 200 feet (LSA Associates 2019a). Habitat for this annual herb includes playas, valley and foothill grasslands (adobe clay), and vernal pools. The flowering period is typically March-June. The nearest CNDDDB occurrence of alkali milk-vetch is 0.36 mile from the BSA.

Brittlescale (*Atriplex depressa*) is a CNPS 1B.2 species currently known to occur in the southwest San Joaquin Valley (Carrizo Plain) at elevations of less than 1,050 feet (LSA Associates 2019a). Habitat for this annual herb includes alkaline, clay chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. The flowering period is typically April-October. The nearest CNDDB occurrence of brittlescale is 1.72 miles from the BSA.

San Joaquin spearscale (*Atriplex* (= *Extriplex*) *joaquiniana*) is a CNPS 1B.1 species currently known to occur in the Inner North Coast Ranges, Great Central Valley, Central Coast, San Francisco Bay Area, and the eastern slope of the Inner South Coast Ranges at elevations of less than 2,760 feet (LSA 2019a). Habitat for this annual herb includes alkaline, chenopod scrub, meadows and seeps, playas, and valley and foothill grassland. The flowering period is typically April-October. There are no CNDDB records within 5 miles of the BSA.

Big tarplant (*Blepharizonia plumosa*) is a CNPS 1B.1 species currently known to occur in the northwest San Joaquin Valley and eastern San Francisco Bay Area at elevations of less than 1,640 feet (LSA Associates 2019a). Habitat for this annual herb is valley and foothill grassland. The flowering period is typically July-November. The nearest CNDDB occurrence of big tarplant is 3.31 miles from the BSA.

Recurved larkspur (*Delphinium recurvatum*) is a CNPS 1B.2 species currently extirpated in the Sacramento Valley but is known to occur in the San Joaquin Valley, southern Inner South Coast Ranges (Caliente Range), and western Mojave Desert (LSA Associates 2019a) at elevations of 10-2,460 feet (LSA Associates 2019a). Habitat for this perennial herb includes alkaline chenopod scrub, cismontane woodland, and valley and foothill grassland. The flowering period is typically March-June. The nearest CNDDB occurrence of recurved larkspur is 0.25 mile from the BSA.

Diamond-petaled California poppy (*Eschscholzia rhombipetala*) is a CNPS 1B.1 species currently known to occur in the western San Joaquin Valley (Carrizo Plain, San Luis Obispo County) and east San Francisco Bay Area (Corral Hollow, Alameda County) and is formerly known from the Inner North Coast Ranges, eastern Outer South Coast Ranges, and Inner South Coast Ranges (LSA Associates 2019a) at elevations of less than 3,200 feet (LSA Associates 2019a). Habitat for this annual herb includes alkaline, clay valley, and foothill grassland. The flowering period is typically March-April. The nearest CNDDB record of diamond-petaled California poppy was first documented in 1888 approximately 1.70 miles from the BSA and is possibly extirpated. However, a population of diamond-petaled California poppy was recently found in March 2015 during botanical surveys at Bethany Reservoir, 2.6 miles south of the BSA.

Contra Costa goldfields (*Lasthenia conjugens*), a federally listed endangered species and a CNPS 1B.1 species, were formerly known to occur in the North Coast Ranges, Outer North Coast Ranges, and South Coast Ranges, and are currently known to occur in the southern Sacramento Valley (Napa and Solano counties), Central Coast, and San Francisco Bay Area (LSA Associates 2019a) at elevations of less than 1,540 feet (LSA Associates 2019a). Habitat for this annual herb includes valley and foothill grassland and cismontane woodland in vernal pools, swales, and moist depressions (alkaline). The flowering period is typically March-June. There are no CNDDB records within 5 miles of the BSA.

Showy golden madia (*Madia radiata*) is a CNPS 1B.1 species currently known to occur in the San Joaquin Valley, San Francisco Bay Area, and Inner South Coast Ranges at elevations between 70 and 3,940 feet (LSA Associates 2019a). Habitat for this annual herb includes cismontane woodland and valley and foothill grassland. The flowering period is typically March-May. There are no CNDDB records within 5 miles of the BSA.

Adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*) is a CNPS 4.2 species currently known to occur in the Inner North Coast Ranges, Sierra Nevada Foothills, Tehachapi Mountains Area, Great Central Valley, and South Coast Ranges at elevations between 30 and 3,280 feet (LSA Associates 2019a). Habitat for this annual herb includes clay, vernal mesic valley and foothill grassland, and vernal pools. The flowering period is typically April-June. CNPS list 4 plants are not included in the CNDDB; therefore, the nearest occurrence of the plant to the BSA is unknown.

Caper-fruited tropidocarpum (*Tropidocarpum capparideum*) is a CNPS 1B.1 species currently known to occur in the northwestern San Joaquin Valley and Outer South Coast Ranges at elevations of less than 1,490 feet (LSA Associates 2019a). Habitat for this annual herb is valley and foothill grassland (alkaline hills). The flowering period is typically March-April. The nearest CNDDB occurrence of caper-fruited tropidocarpum is 0.37 mile from the BSA; however, this occurrence is from 1957, and reported soil modification by the landowner has likely caused the extirpation of this population.

Special-Status Wildlife Species

The NES identified 31 special-status wildlife species and 1 critical habitat that have the potential to occur within the vicinity of the BSA. There is no critical habitat or essential fish habitat designated within the BSA (LSA Associates 2019a; LSA Associates 2019b). Of these 31 special-status wildlife species, 18 special-status wildlife species have the potential to occur within the BSA. These 18 species include: vernal pool fairy shrimp (*Branchinecta lynchi*), steelhead trout (Central Valley Distinct Population Segment [DPS]; *Oncorhynchus mykiss*); spring-run and winter-run chinook salmon (*Oncorhynchus tshawytscha*); longfin smelt (*Spirinchus thaleichthys*); California tiger salamander (*Ambystoma californiense*); California red-legged frog (*Rana draytonii*); western pond turtle (*Emys marmorata*); golden eagle (*Aquila chrysaetos*); western burrowing owl (*Athene cunicularia*); Swainson's hawk (*Buteo swainsonii*); northern harrier (*Circus cyaneus*); loggerhead shrike (*Lanius ludovicianus*); American badger (*Taxidea taxus*); and San Joaquin kit fox (*Vulpes macrotis mutica*).

Invertebrates

Vernal pool fairy shrimp are a federally threatened species and are known to occur in a wide range of vernal pool habitats in the southern and Central Valley areas of California. They are only found in vernal pools or vernal pool-like habitat at elevations from 30 to 4,000 feet (LSA Associates 2019a and 2019b). Midvalley fairy shrimp inhabit the California Central Valley from 65 to 295 feet in Contra Costa, Fresno, Madera, Merced, Sacramento, San Joaquin, and Solano counties (LSA Associates 2019a and 2019b). They occur in the shallowest seasonal wetlands, vernal pools, and swales (average ponding depth of 4 inches) that are found predominately on silt loam on riverbank formations within low terrace landforms (LSA Associates 2019b). The closest recorded occurrence of vernal pool fairy shrimp is 0.19 mile north of the BSA (LSA Associates 2019a). The closest recorded occurrence of midvalley fairy shrimp is 0.91 mile southwest of the BSA (LSA Associates 2019a). While vernal pool features are present in the BSA,

they primarily consist of roadside tire ruts and drainage swales; however, there is one vernal pool feature that consists of a natural depression in the landscape (**Appendix A: Figure 5**). Neither of the two listed branchiopod species were discovered within the depressions present within the BSA during the 2012/2013 or the 2014/2015 surveys conducted for the NES and BA.

Fisheries

The Southern DPS of green sturgeon is federally listed as threatened and is considered a California Species of Special Concern. The species is widely distributed in the Pacific Ocean, but in North American rivers the species is found only from British Columbia south to the Sacramento River. No fish were seen during the survey of the BSA in 2018; however, individual green sturgeon is occasionally salvaged from the Skinner Fish Facility located just north of the BSA (LSA Associates 2019a). It is possible that some smaller fish get past the screens and into the BSA. The National Marine Fisheries Service (NMFS) list for the Clifton Court Forebay United States Geological Survey (USGS) 7.5-minute quadrangle includes critical habitat for green sturgeon (southern DPS), but there is no critical habitat within the BSA. Green sturgeon critical habitat includes much of the Delta, but Clifton Court Forebay and the intake channel are explicitly excluded.

Delta smelt are a federally listed threatened and State listed endangered species and they are found in the upper reaches of the San Francisco estuary, in Suisun Bay and upstream through the Delta (LSA Associates 2019a). No fish were seen during the survey of the BSA in 2018; however, individual Delta smelt are occasionally salvaged from the Skinner Fish Facility located just north of the BSA (LSA Associates 2019a). It is possible that some smaller fish and fish eggs get past the screens and into the BSA. The BSA is not part of the historic spawning distribution of Delta smelt and does not include suitable substrates for spawning (e.g., cattails, tules, tree roots, submerged branches). In addition, the fish screens designed to keep Delta smelt and other fish species out of the intake channel also likely prevent fish from returning to the Delta and accessing primary foraging and rearing habitat located within the delta. The fish essentially become entrained in the intake channel and are no longer able to access critical habitat located in other parts of the Delta and San Francisco Bay.

The Central Valley DPS of steelhead was listed as threatened by USFWS in 1998 and is not State listed. The range of the Central Valley DPS of steelhead includes the Sacramento and San Joaquin Rivers, along with the tributaries of the Sacramento, Feather, Yuba, and lower American river drainages. No fish were seen during the survey of the BSA in 2018; however, individual steelhead are occasionally salvaged from the Skinner Fish Facility located just north of the BSA (LSA Associates 2019a). The NMFS list for the Clifton Court Forebay USGS 7.5-minute quadrangle includes critical habitat for Central Valley steelhead, but there is no critical habitat within the BSA. Old River runs adjacent to Clifton Court Forebay and is classified as critical habitat for Central Valley steelhead, but Clifton Court Forebay and the intake channel are explicitly excluded.

Spring-run chinook salmon enter the Sacramento River from late March through September and stay in freshwater streams for several months before spawning from mid-August through early October. Spawning occurs in tributaries to the Sacramento River, including Butte, Mill, Deer, Antelope, and Beegum creeks. No fish were seen during the survey of the BSA in 2018; however, individual salmon are occasionally salvaged from the Skinner Fish Facility located just north of the BSA (LSA Associates 2019a). The intake channel does not provide suitable spawning habitat, although it is possible that some individuals do attempt spawning in the intake channel or downstream of the BAPP after becoming

entrained in the aqueduct. In addition, the fish screens at the Skinner Fish Facility just upstream of the BSA do not allow fish that pass through the screens to migrate back into the Delta. Consequently, any occurrences of chinook salmon in the BSA would be by individuals considered as “lost” from the population and no longer contributing to the maintenance of the population.

Longfin smelt is a State listed threatened species and is not federally listed. Adult and juvenile longfin smelt occur in the open waters of bays, estuaries, and nearshore waters, moving into low-salinity or freshwater rivers to spawn (LSA Associates 2019a). No fish were seen during the survey of the BSA in 2018; however, individual longfin smelt are occasionally salvaged from the Skinner Fish Facility located just north of the BSA (LSA Associates 2019a). It is possible that some smaller fish get past the screens and into the BSA.

The California tiger salamander is a federally and State listed threatened species and is endemic to California. Historically, the California tiger salamander occurred in grassland habitats throughout much of the State (LSA Associates 2019a). The California tiger salamander is primarily a terrestrial species that is found in grassland and oak savanna communities that include vernal pools, seasonal ponds, or sometimes constructed stock ponds that serve as aquatic breeding sites. Adults emerge from underground burrows to breed, but only for brief periods during the year, coinciding with California’s rainy season. California tiger salamanders breed and lay their eggs primarily in vernal pools and other ephemeral ponds that fill in winter and often dry out by summer (LSA Associates 2019a). The closest recorded occurrence of California tiger salamander is approximately 0.09 mile from the BSA (LSA Associates 2019a). While vernal pool features are present in the BSA, they primarily consist of roadside tire ruts and drainage swales, which are shallow, have short hydroperiods, and are highly disturbed due to water runoff and vehicular traffic. No pool, natural or manmade, within the BSA has been observed to have a long enough hydroperiod to support successful breeding during numerous surveys. There are several known salamander breeding ponds within dispersal distance for this species in the vicinity of the BSA. The nearest documented breeding habitat is 0.9 mile from the BSA for California tiger salamander and 1.06 miles from the BSA for California red-legged frog. While California tiger salamanders could utilize the BSA for upland habitat, it has low suitability due to the type of vegetation present and a high level of habitat fragmentation between the BSA and known breeding ponds. There is higher suitability habitat in the area that would be preferred over the habitats in the BSA. The BSA does not fall within the boundaries of critical habitat for California tiger salamander, and no California tiger salamanders were observed during field assessments/surveys.

California red-legged frog (CRLF) is federally threatened and is a California Species of Special Concern. The species is restricted to California and Baja California, Mexico, at elevations ranging from sea level to approximately 5,000 feet and requires a variety of habitat elements, including aquatic breeding areas embedded within a matrix of riparian and upland dispersal habitats (LSA Associates 2019a). The closest recorded occurrence of CRLF was located just outside of the northwest boundary of the BSA, in a small canal that connects to Italian Slough (LSA Associates 2019a). As known breeding habitat is located directly adjacent to the BSA, there is potential for the species to utilize upland habitat within the BSA for dispersal and aestivation. There is no breeding habitat within the BSA. The BSA does not fall within the boundaries of critical habitat for California red-legged frog and no egg masses, larvae, or adults were observed during any of the biological or vernal pool surveys conducted for the NES and BA.

Western pond turtles, including both the northwestern (ssp. *marmorata*) and southwestern (ssp. *pallida*) subspecies, are California species of concern. The western pond turtle range is throughout California, from southern coastal California and the Central Valley, east to the Cascade Range and the Sierra Nevada. There are no recorded occurrences of western pond turtle within 5 miles of the BSA. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. The intake channel within the BSA is sporadically lined with riprap and has little to no vegetation, providing marginal basking habitat. Grassland habitat within the BSA may provide suitable nesting habitat if accessed by gravid females. No western pond turtles were observed during field assessments/surveys for the NES and BA; however, according to DWR they have often been observed north of the BSA near the fish screens at the Skinner Fish Facility (LSA Associates 2019a).

Birds

Golden eagles are fully protected species in California that nest primarily on cliffs and hunt in nearby open habitats, such as grasslands, oak savannas, and open shrublands (LSA Associates 2019a). There are no recorded occurrences of golden eagle within 5 miles of the BSA. A golden eagle was observed foraging approximately 0.25 mile southwest of the BSA during DWR surveys conducted in 2009 (LSA Associates 2019a). No golden eagles were observed during subsequent Project surveys, and no suitable nesting habitat is located within the BSA. Limited suitable nesting habitat exists within 0.5 mile of the BSA.

Western burrowing owl are a California Species of Special Concern that inhabits grassland, desert, and open shrub habitats throughout the State from sea level to approximately 5,300 feet (LSA Associates 2019a). The closest CNDDDB occurrence of burrowing owl was approximately 0.19 mile from the BSA (LSA Associates 2019a). The closest occurrence observed by DWR staff was 0.21-mile northeast of the BSA, west of Clifton Court Forebay (LSA Associates 2019a). The tall vegetation of the annual grasslands in the BSA make them unsuitable for burrowing owls that prefer open grassland with short grass; however, the eastern levee face along the north side of the intake channel within the BSA consists of newly disturbed soil with small fossorial mammal burrows and ground squirrel activity. This area provides potential nesting habitat for burrowing owl, but it is not within the Project footprint. No western burrowing owls or signs of owl activity were observed during the DWR habitat assessment within the survey area.

The closest recorded occurrence of Swainson's hawk was recorded approximately 1.5 miles southeast of the BSA (LSA Associates 2019a). The closest occurrence recorded by DWR staff was 0.9 mile north of the BSA (LSA Associates 2019a). The BSA and landscape within 0.5 mile of the BSA was assessed for potential Swainson's hawk nesting and foraging habitat. The BSA consists of approximately 10 acres of annual grasslands which provides suitable foraging habitat for Swainson's hawk. Potential nesting trees occur approximately 0.36 mile west of the BSA, bordering two private properties on North Bruns Way. Surveys conducted in 2015 and 2018 did not observed Swainson's hawks in or near the BSA, during site visit for the NES and BA (LSA Associates 2019a and 2019b).

The closest recorded occurrence for northern harrier was recorded approximately 2.33 miles east of the BSA (LSA Associates 2019a). The closest DWR observation of northern harrier was recorded 1.2 miles southwest of the BSA (LSA Associates 2019a). No northern harriers were observed during the April 17, 2015 or December 7, 2018 surveys, and no suitable nesting habitat was observed within the BSA.

Loggerhead shrike are a California Species of Special Concern that are common year-round residents throughout the grassland and well-spaced shrub/low tree habitat within the Central Valley of California. The closest recorded occurrence of loggerheaded shrike was 3.80 miles southeast of the BSA. A loggerhead shrike was observed perched on a fence within the BSA and a nest was observed 0.5 mile north of the BSA during DWR surveys in 2009 (LSA Associates 2019a). No loggerhead shrike were observed during the habitat assessment and survey conducted on April 17, 2015. One individual was seen during the December 7, 2018 survey by LSA. Habitat within the BSA is of poor quality for nesting due to the predominance of tall, weedy vegetation and lack of shrubs.

Mammals

American badgers are a California Species of Special Concern that are uncommon but widely distributed throughout the State, except in the North Coast, from below sea level to over 12,000 feet. The closest recorded occurrence of American badger was 0.71-mile northwest of the BSA (LSA Associates 2019a). No American badgers were observed during surveys, and no appropriate burrows were observed within the BSA. Further, soils within the BSA are extremely compacted and have low suitability to be utilized for burrowing habitat, as American badgers require sandy soils with sparse over-story.

The San Joaquin kit fox is a federally endangered and State threatened species that is endemic to the Central Valley and currently utilizes suitable habitat in the San Joaquin Valley and in surrounding foothills of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains. In the northern part of its range (including San Joaquin, Alameda, and Contra Costa counties), kit foxes now occur primarily in foothill grassland, valley oak savanna, and alkali grasslands (LSA Associates 2019a). The closest recorded occurrence of San Joaquin kit fox was a 1993 sighting located 0.48 miles from the BSA (LSA Associates 2019a). The 2003 survey of the California Aqueduct from Clifton Court Forebay to the southernmost portion of Bethany Reservoir found no evidence of recent occupancy (LSA Associates 2019a). During the April 17, 2015 habitat assessment and survey, most burrows observed within 250 feet of the BSA were too small (less than 5 inches in diameter) to support San Joaquin kit fox. Additionally, soils within the BSA are extremely compacted and are unlikely to provide suitable conditions to create denning habitat. Two burrows were located that were of size suitable for San Joaquin kit fox, but neither appeared to be the appropriate shape or have any other signs of San Joaquin kit fox use (scat, tracks, etc.). These conditions were largely corroborated by LSA biologists during the December 7, 2018 survey, though the two larger burrows on the west side of the intake channel did appear to have some recent digging activity. It is unclear what species may have been using the burrows, although a dead coyote (*Canis latrans*) was seen on the south side of Byron Highway within the BSA. In addition, during the wetland delineation in January 2019, DHA's biologist noted a dead red fox (*Vulpes vulpes*) on the north side of Byron Highway within the BSA.

The BSA provides potential nesting habitat for migratory birds and raptors. Cliff swallows (*Petrochelidon pyrrhonota*) frequently establish nests under bridges. Active cliff swallow nesting was observed on the south side of the existing bridge during DWR surveys, and old nests were observed during the LSA survey on December 7, 2018. The BSA also provides habitat for ground nesting species within the grazed and ungrazed grasslands adjacent to the road and aqueduct. Raptors may nest on transmission towers within and adjacent to the BSA; however, no nests were observed on the transmission towers during the 2015 or 2018 surveys (LSA Associates 2019a).

The BSA provides potential habitat for roosting bat species. Some bat species in the Central Valley are known to utilize bridge structures for day roosting or maternity roosting habitat because they can provide either the cave-like or crevice-like roosting habitat some species require. The Byron Highway Bridge does not appear to provide substantial roosting habitat as there no accessible large crevices within the bridge to provide the enclosed cover necessary to protect bats during the day. Surveys conducted for the NES and BA did document sparse amounts of guano present in the corners of the bridge, over the access road to the Skinner Fish Facility (LSA Associates 2019a and 2019b). This indicates that the bridge is being utilized as a night roost by a small population of bats.

Jurisdictional Waters

The aquatic resources delineation identified several potentially jurisdictional aquatic features within the BSA, including the intake channel, an agricultural drainage, and seasonally inundated drainages and wetlands (DHA 2019). All aquatic features, including potentially jurisdictional wetlands and other waters of the United States, are shown below in **Table 7** and discussed further in the aquatic resources delineation.

Table 7. Potentially Jurisdictional Features within the Study Area

Map ID	Wetland Type – Cowardin Classification ¹	Average Width of OHWM (feet)	Length (feet)	Acres
Wetland Features				
Alkali Wetland (AW-1)	Palustrine Emergent Persistent Seasonally Flooded (PEM1C)	--	--	0.075
Alkali Wetland (AW-2)	Palustrine Emergent Persistent Seasonally Flooded (PEM1C)	--	--	0.052
Seasonal Wetland (SW-1)	Palustrine Emergent Persistent Seasonally Flooded (PEM1C)	--	--	0.046
Seasonal Wetland (SW-2)	Palustrine Emergent Persistent Seasonally Flooded (PEM1C)	--	--	0.009
Seasonal Wetland (SW-3)	Palustrine Emergent Persistent Seasonally Flooded (PEM1C)	--	--	0.027
Vernal Pool (VP-1)	Palustrine Emergent Persistent Temporarily Flooded (PEM1A)	--	--	0.024
Other Waters				
Agricultural Drainage (AD-1)	Riverine Unknown Perennial Unconsolidated Bottom Semi Permanently Flooded Excavated (R5UBFx)	5	88	0.013
Alkali Drainage (AKD-1)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	10	5	0.006
Alkali Drainage (AKD-2)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	5	25	0.006
Alkali Drainage (AKD-3)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	10	26	0.011
California Aqueduct (CA-1)	Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded Excavated (R2UBHx)	267	375	2.274
Seasonal Drainage (SD-1)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	5	4	0.008
Seasonal Drainage (SD-2)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	5	179	0.020

Seasonal Drainage (SD-3)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	5	84	0.015
Seasonal Drainage (SD-4)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	7	107	0.017
Seasonal Drainage (SD-5)	Palustrine Emergent Persistent Temporarily Flooded Excavated (PEM1Ax)	5	161	0.021
Total Area of Potentially Jurisdictional Features:			1,054	2.624
Source: DHA 2019				
¹ Classification of Wetlands and Deepwater Habitats of the United States (DHA 2019)				

The agricultural drainage is a manmade channel that extends through the agricultural fields east of Bruns Road to the California Aqueduct. The alkali drainages are manmade channels that occur primarily within the roadside drainage swales present along Byron Highway, in the northwestern portion of the study area. Alkali wetlands within the study area primarily occur within saline depressions within the roadside drainage swales present along Byron Highway, in the northwestern portion of the BSA. The California Aqueduct intake channel is a manmade channel that extends from Clifton Court Forebay to the population centers of southern California. The seasonal drainages within the BSA consist of roadside drainage swales present along Byron Highway. Seasonal drainages can be differentiated from seasonal wetlands in the study area, as seasonal drainages have a defined bed and bank, and an ordinary high-water mark (OHWM) can be determined for these features; seasonal wetlands are depressions without a defined bed and bank or OHWM. Seasonal wetlands within the study area primarily consist of depressions within the roadside drainage swales present along Byron Highway. The vernal pool wetland feature within the study area consists of a sparsely vegetated depression located between Bruns Road and the California Aqueduct.

Movement Corridors

Byron Highway and the intake channel both act as barriers to migration and species movements. Byron Highway has a relatively high volume of traffic, and roadkill has been observed numerous times during site visits. Flows within the intake channel vary depending on how much water is being pumped at the Harvey O. Banks Pumping Plant (BAPP). The BAPP can pump up to 10,300 cubic feet per second (cfs), making it difficult for wildlife to traverse the channel at times. Fish screens at the upstream end of the BAPP restrict fish movement into the channel.

SUMMARY:

- 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?*

The following analyzes potential impacts to special-status species. Impacts specific to sensitive natural communities are discussed in detail under subsection b, below, while impacts to wetlands are discussed in detail under subsection c, below.

Special-Status Plant Species

As discussed above, there is the potential for 32 special-status plant species to occur within the BSA. Only one special-status plant species, woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), was observed within the BSA. The Project is a covered project in the HCP/NCCP. The HCP/NCCP serves as an incidental take permit for these species provided that the specific

reporting requirements of the HCP/NCCP are followed, the specific avoidance and minimization measures dictated by the HCP/NCCP are complied with, and the appropriate mitigation fees are paid. Compliance with each of the HCP/NCCP requirements is documented in the NES (LSA Associates 2019a). Although this species is not covered by the HCP/NCCP the avoidance and mitigation measures as well as the impact fees will benefit all species. Impacts to special-status plant species could include loss of the plant species through trampling or excavation if present within the construction zone. Damage to sensitive root systems through compaction could occur outside of the construction zone. Since special-status plant species are known to occur within, or have the potential disperse to, the BSA, construction activities associated with the Project would potentially result in the loss of special-status plant species and are considered a potential significant impact. Implementation of **Mitigation Measure BIO-1** would reduce potential impacts on special-status plants to a less-than-significant level. Therefore, Projects impacts would be **less than significant with mitigation incorporated**.

IMPACT BIO-1: The project could have an impact on special status plants.

MITIGATION MEASURE BIO-1: The following measures shall be implemented to avoid impacts to special-status plants:

- Seasonally appropriate (i.e., fall and spring) surveys for special-status plants shall be conducted by a qualified botanist within one year prior to construction commencing.
- If found, special-status plant species shall be flagged and avoided to the greatest extent possible.
- If impacts are unavoidable, and mitigation is warranted by the California Department of Fish and Wildlife (CDFW), a qualified botanist shall attempt to transplant the plant into an area away from potential construction impacts or collect seeds to replant after construction is complete.

Special-Status Wildlife Species

Impacts to special-status wildlife species could include both indirect and direct harm if they were to become trapped in the construction area, come into contact with construction personnel and/or equipment, or be inhibited from movement through the construction area. Implementation of **Mitigation Measure BIO-2** would reduce potential impacts on special-status species or habitats to a less-than-significant level.

IMPACT BIO-2: The Project could cause direct impacts to special status species during construction or indirect impacts during construction through erosion or accidental spills that impact special status species, wetlands, or other aquatic habitats.

MITIGATION MEASURE BIO-2: The following measures shall be implemented to avoid impacts to special status species, wetlands and other aquatic habitats:

- Prior to the start of construction, construction personnel shall be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements.
- Trash generated by the Project shall be promptly and properly removed from the site.

- No construction or maintenance vehicles shall be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill.
- Appropriate erosion-control measures (e.g., fiber rolls, filter fences) shall be used on site to reduce siltation and runoff of contaminants into the stream. Filter fences and mesh shall be of material that will not entrap reptiles and amphibians. Erosion control blankets shall be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians.
- Fiber rolls used for erosion control shall be certified as free of noxious weed seed and will not contain plastics of any kind.
- Seed mixtures applied for erosion control shall not contain invasive nonnative species, and will be composed of native species or sterile nonnative species.
- Herbicide shall not be applied within 100 feet of wetlands, ponds, streams, or riparian woodland/scrub; however, where appropriate to control serious invasive plants, herbicides that have been approved for use by EPA in or adjacent to aquatic habitats may be used as long as label instructions are followed and applications avoid or minimize impacts on covered species and their habitats. In seasonal or intermittent stream or wetland environments, appropriate herbicides may be applied during the dry season to control nonnative invasive species (e.g., yellow star-thistle). Herbicide drift shall be minimized by applying the herbicide as close to the target area as possible.

General Measures

- Equipment storage, fueling, and staging areas shall be sited on disturbed areas or on ruderal or nonsensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types.
- No erodible materials shall be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
- All no-take species shall be avoided.
- Construction activities will comply with the Migratory Bird Treaty Act and shall consider seasonal requirements for birds and migratory non-resident species, including covered species.
- Silt fencing or other sediment trapping method shall be installed down-gradient from construction activities to minimize the transport of sediment off site.
- Barriers shall be constructed to keep wildlife out of construction sites, as appropriate.
- Onsite monitoring shall be conducted during the construction period to ensure that disturbance limits, BMPs, and HCP/NCCP restrictions are being implemented properly.
- Active construction areas shall be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted.

- Vegetation and debris shall be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and the passage through the culvert or under the bridge remains clear.
- Cut-and-fill slopes shall be revegetated with native, non-invasive nonnative, or non-reproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions.

The following provides a discussion regarding impacts to the 18 special-status wildlife species that have the potential to occur within the BSA.

Vernal Pool Fairy Shrimp and Midvalley Fairy Shrimp. While vernal pool fairy shrimp and midvalley fairy shrimp are known to occur in the vicinity of the BSA, with the closest documented occurrence being 0.19 mile north of the BSA, they were not detected within the BSA during 7 years of protocol-level surveys in 2001-2003, 2012/2013, and 2014/2015. Furthermore, existing seasonal wetlands and vernal pool habitat within the BSA is highly disturbed due to water runoff and vehicular traffic. After communication with USFWS staff regarding the negative results documented in 2012/2013, it was determined that there is enough evidence to support a determination that assumed presence is unwarranted (LSA Associates 2019a through 2019c) and therefore, the Project would have no effect on vernal pool fairy shrimp or midvalley fairy shrimp. Impacts are considered less than significant. No mitigation is required.

North American Green Sturgeon (Southern DPS). The Project would not impact the Southern DPS of green sturgeon. Installation of new bridge piers in the California Aqueduct would result in the primary mechanism of impacts to fish from the Project. The intake channel is a man-made structure that pumps water from Clifton Court Forebay into the California Aqueduct and did not historically support this species. The intake channel also does not provide suitable spawning habitat, although it is possible that some individuals do attempt spawning in the intake channel or downstream of the BAPP after becoming entrained in the California Aqueduct. In addition, the fish screens at the Skinner Fish Facility immediately upstream of the BSA do not allow fish that pass through the screens to migrate back into the Delta. Consequently, any occurrences of green sturgeon in the BSA would be by individuals considered as “lost” from the population and no longer contributing to the maintenance of the population. E-mail correspondence with NMFS on March 28, 2019 supported a “no effect” ESA determination for green sturgeon within the BSA based on the conditions and circumstances previously described (LSA Associates 2019a and 2019b). Therefore, impacts are considered less than significant. No mitigation is required.

Delta Smelt and Longfin Smelt. The Project would not impact Delta smelt or longfin smelt because the intake channel is a man-made structure that pumps water from Clifton Court Forebay into the California Aqueduct, and did not historically support this species. The intake channel also does not provide suitable spawning habitat, although it is possible that some individuals do attempt spawning in the intake channel or downstream of the BAPP after becoming entrained in the California Aqueduct. In addition, the fish screens at the Skinner Fish Facility immediately upstream of the BSA do not allow fish that pass through the screens to migrate back into the Delta. Consequently, any occurrences of Delta smelt or longfin smelt in the BSA would be by individuals considered as “lost” from the population and no longer contributing to the maintenance of the population. E-mail correspondence with USFWS on June 12, 2019 supported a “no effect” ESA

determination for Delta smelt within the BSA based on the conditions and circumstances described previously (LSA Associates 2019a and 2019b). Therefore, the Project will have no effect on Delta smelt or longfin smelt. No mitigation is required.

Steelhead (Central Valley DPS), Spring-run Chinook Salmon Evolutionary Significant Unit (ESU), and Winter-Run Chinook Salmon ESU. The Project would not impact the Central Valley DPS of steelhead, or the spring-run and winter-run Chinook salmon evolutionary significant units (ESUs) because the intake channel is a man-made structure that pumps water from Clifton Court Forebay into the California Aqueduct, and did not historically support this species. The intake channel also does not provide suitable spawning habitat, although it is possible that some individuals do attempt spawning in the intake channel or downstream of the BAPP after becoming entrained in the California Aqueduct. In addition, the fish screens at the Skinner Fish Facility immediately upstream of the BSA do not allow fish that pass through the screens to migrate back into the Delta. Consequently, any occurrences of steelhead or salmon in the BSA would be by individuals considered as “lost” from the population and no longer contributing to the maintenance of the population. Consultation with NMFS on March 28, 2019 supported a “no effect” determination for steelhead or the either salmon ESU within the BSA based on the conditions and circumstances described previously (LSA Associates 2019a and 2019b). Therefore, the Project will have no effect on steelhead or salmon. No mitigation is required.

California Tiger Salamander. While no suitable breeding habitat for California tiger salamanders is located within the BSA, the Project would permanently impact 1.37 acres and temporarily impact 4.58 acres of marginal aestivation, foraging, and movement habitat. Upland habitat within the BSA is marginal due to many potential barriers to dispersal between nearby breeding ponds, and dense vegetation which make the majority of the grassland habitat in the BSA difficult for California tiger salamanders to move through during the breeding season (LSA Associates 2019a). Planning level surveys conducted by LSA on December 7, 2018 observed no burrows in the Project area. No CTS larvae were observed during any of the surveys (LSA Associates 2019c). However, it is assumed there is at least some possibility that adult California tiger salamanders could be present in the grassland habitat of the BSA during construction (LSA Associates 2019a). Potential impacts to individuals could include injury and mortality due to construction equipment, vehicle traffic, and grading activities. Implementation of **Mitigation Measure BIO-2** would reduce the potential for the Project to impact California tiger salamander. Therefore, Project impacts would **be less than significant with mitigation incorporated**.

California Red-Legged Frog. While there is no suitable breeding habitat for CRLF within the BSA, the Project would permanently impact 1.37 acres and temporarily impact 4.58 acres of marginal aestivation, foraging, and movement habitat. In addition, Project activities could result in direct mortality or injury to individual frogs, harassment of animals, displacement, and harm through temporary loss or degradation of habitat (LSA Associates 2019a). Planning level surveys conducted by LSA on December 7, 2018 observed no burrows in the Project area. No CTS larvae were observed during any of the surveys (LSA Associates 2019c). Potential impacts include injury to and mortality of individuals due to construction equipment, vehicle traffic, and grading activities. Implementation of **Mitigation Measure BIO-2** would reduce the potential for Project impacts on CRLF to less than significant levels.

Western Pond Turtle. Western pond turtle were observed by DWR staff in a small canal that connects to Italian Slough. No western pond turtles were observed during field assessments/surveys (LSA Associates 2019a). The intake channel within the BSA is sporadically lined with riprap and has little to no vegetation, providing marginal basking habitat. Grassland habitat within the BSA may provide suitable nesting habitat if accessed by gravid females. Pile driving and other construction activities within the channel have the potential to disturb individuals if present in the area. Overall, the Project would permanently impact 1.39 acres and temporarily impact 4.75 acres of aquatic and terrestrial habitat. Impacts are considered less than significant with implementation of **Mitigation Measure BIO-2**.

Golden Eagle. There is no suitable nesting habitat within the BSA and no golden eagles were observed during surveys (LSA Associates 2019a); however, because limited suitable nesting habitat occurs within 0.5 mile of the BSA, the noise generated from construction activities over a two year period could impair mating and nesting of eagles and is considered a potential significant impact. Overall, the Project would permanently impact 3.27 acres and temporarily impact 7.18 acres of potential foraging habitat. Implementation of **Mitigation Measure BIO-3** would reduce the potential for Project impacts on golden eagle to less than significant levels.

IMPACT BIO-3: The Project could impact golden eagle, fully protected species in California.

MITIGATION MEASURE BIO-3: The following measures, extracted from the HCP/NCCP shall be implemented to reduce Project-related impacts to golden eagles:

- Prior to implementation of covered activities, a qualified biologist shall conduct a preconstruction survey to establish whether nests of golden eagles are occupied (see Section 6.3.1, *Planning Surveys*, of the HCP/NCCP). If nests are occupied, minimization requirements and construction monitoring shall be required.
- Covered activities shall be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity shall coordinate with CDFW/USFWS to determine the appropriate buffer size.
- Construction monitoring shall focus on ensuring that no covered activities occur within the buffer zone established around an active nest. Although no known golden eagle nest sites occur within or near the Urban Limit Line, covered activities inside and outside of the Preserve System have the potential to disturb golden eagle nest sites. Construction monitoring will ensure that direct effects to golden eagles are minimized.

Western Burrowing Owl. Burrowing owls have not been observed within the BSA, but are known to occur within the vicinity of the BSA. Upland habitat within the BSA is marginal because of the presence of potential barriers to dispersal from nearby populations. Tall vegetation makes the majority of the grassland habitat in the BSA unsuitable foraging habitat. As stated in the NES, the closest CNDDDB occurrence of burrowing owl is approximately 0.19 mile from the Project area.

The closest occurrence observed by DWR staff is 0.21-mile northeast of the Project area, west of Clifton Court Forebay (LSA Associates 2019a). Therefore, it is assumed there is the possibility that western burrowing owls could be present in the grassland habitat of the BSA during construction. The Project would permanently impact 1.35 acres and temporarily impact 4.58 acres of potential breeding and foraging habitat and is considered a potential significant impact. **Mitigation Measures BIO-4** would be implemented to reduce Project impacts on western burrowing owl to less than significant levels.

IMPACT BIO-4: The Project could impact western burrowing owl, a California species of Special Concern.

MITIGATION MEASURE BIO-4: The following measures shall be implemented to reduce Project-related impacts to western burrowing owls:

- Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist shall conduct a preconstruction survey in areas identified in the planning surveys as having potential burrowing owl habitat. The surveys shall establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (CDFW 2012).
- On the parcel where the activity is proposed, the biologist shall 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 shall not be surveyed. Surveys shall take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. shall will take place no more than 30 days prior to construction. During the breeding season (February 1–August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted.
- If burrowing owls are found during the breeding season (February 1-August 31), the Project proponent shall avoid all nest sites that could be disturbed by Project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1-January 31), the Project proponent shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below).
- During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur shall be established around each occupied burrow (nest site). Buffer zones of 160 feet shall be established around each burrow being used during the nonbreeding season. The buffers shall be delineated by highly visible, temporary construction fencing.

- If occupied burrows for burrowing owls are not avoided, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors shall be in place for 48 hours prior to excavation. The Project area shall be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation (CDFW 2012). Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

Swainson's Hawk. Suitable nesting habitat is not known to occur within the BSA; however, potential nesting trees are located 0.36 mile from the BSA. Project-related impacts to Swainson's hawks are not anticipated to result from construction activities because no nest trees would be removed and noise disturbance is not expected to substantially exceed baseline levels of ambient noise from Byron Highway and nearby agriculture operations. However, because potential nesting habitat occurs less than 0.5 mile from the BSA, Swainson's hawk surveys would be conducted prior to constructions. The Project would permanently impact a total of 1.35 acres and temporarily impact a total of 4.58 acres of potential foraging habitat. **Mitigation Measures BIO-5** would be implemented to reduce Project impacts to less than significant.

IMPACT BIO-5: The Project could impact Swainson's hawk, a State threatened species

MITIGATION MEASURE BIO-5: The following measures shall be implemented to reduce Project-related impacts to Swainson's hawk:

- Prior to any ground disturbance related to covered activities that occurs during the nesting season (March 15–September 15), a qualified biologist shall conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the Project site are occupied. If potentially occupied nests within 1,000 feet of the Project site, then their occupancy shall be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the Project site. If nests are occupied, minimization measures and construction monitoring shall be required (see below).
- During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction shall be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be used, the County's biologist shall coordinate with CDFW/USFWS to determine the appropriate buffer size.
- If young fledge prior to September 15, covered activities shall proceed normally. If the active nest site is shielded from view and noise from the Project site by other development, topography, or other features, the Project shall apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver shall also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer can take place.
- There are no trees in the BSA, so no mitigation will be needed for nest trees.

Northern Harrier. As stated in the NES, the closest CNDDDB occurrence for northern harrier is approximately 2.33 miles east of the BSA. The closest DWR observation of northern harrier is 1.2 miles southwest of the BSA (LSA Associates 2019a). No northern harriers were observed during the April 17, 2015 or December 7, 2018 surveys, and no suitable nesting habitat was observed within the BSA (LSA Associates 2019a). However, suitable habitat is located within 5 miles of the BSA.

Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting northern harrier. In addition, if clearing and grubbing activities begin during the breeding season (February 1 to August 31), the Project could result in mortality of young through forced fledging or nest abandonment by adult birds and is considered a potentially significant impact. **Mitigation Measures BIO-6** would be implemented to reduce impacts to less than significant levels.

IMPACT-BIO-6: The Project could have an impact on northern harrier, a California species of special concern.

MITIGATION MEASURE BIO-6: The following measures shall be implemented to reduce Project-related impacts to northern harrier:

- Preconstruction surveys shall be conducted for northern harrier within 500 feet of the BSA no more than 14 days prior to construction if work is expected to take place during the nesting season (February 1-August 31).
- If an active nest is identified within 500 feet of the BSA, an appropriate protective buffer shall be determined by a qualified biologist, in coordination with CDFW. The size of the buffer shall depend on site-specific conditions and potential disturbance levels. No work shall occur within the buffer until a qualified biologist has determined that the nesting attempt is complete.

Loggerhead Shrike. Loggerhead shrike have been observed within the BSA; however, habitat within the BSA is of poor quality for nesting due to the predominance of tall, weedy vegetation and lack of shrubs. The species has the potential to occur within the annual grassland and cropland habitat surrounding the BSA. Because loggerhead shrike have been observed within the BSA, construction activities could impact loggerhead shrike. Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting loggerhead shrike. In addition, if clearing and grubbing activities begin during the breeding season (February 1 to August 31), the Project could result in mortality of young through forced fledging or nest abandonment by adult birds and is considered a potentially significant impact. **Mitigation Measures BIO-7** would be implemented to reduce Project impacts to loggerhead shrike to less than significant levels.

IMPACT-BIO-7: The Project could have an impact on Loggerhead shrike, a California species of special concern.

MITIGATION MEASURE BIO-7: The following measures shall be implemented to reduce Project-related impacts to loggerhead shrike:

- Preconstruction surveys shall be conducted for loggerhead shrike within 100 feet of the BSA no more than 14 days prior to construction, if work is expected to take place during the nesting season (February 1-August 31).
- If an active nest is identified within 100 feet of the BSA, an appropriate protective buffer shall be determined by the biologist, in coordination with CDFW. The size of the buffer shall depend on site-specific conditions and potential disturbance levels. No work shall occur within the buffer until a qualified biologist has determined that the nesting attempt is complete.

American Badger. American badgers are not known to occur within the BSA and no suitable burrows were identified during field surveys. Additionally, soils within the BSA have low suitability to be utilized for burrowing habitat for the species. As noted in the NES, the closest CNDDDB occurrence of American badger is 0.71-mile northwest of the BSA (LSA Associates 2019a). The close proximity of a known occurrence (less than one mile from the BSA) could indicate that American Badger may traverse the Project area. Construction activities could result injury to and mortality of individuals due to construction equipment, vehicle traffic, and grading activities. Construction impacts are considered potentially significant. **Mitigation Measure BIO-8** would be implemented to reduce Project impacts to American badger to less than significant levels.

IMPACT BIO-8: The Project could have an impact on American badger, a California species of special concern.

MITIGATION MEASURE BIO-8: The following measures shall be implemented to reduce Project-related impacts to American badger:

- Preconstruction surveys shall be conducted no more than 30 days prior to construction by a qualified biologist to identify any potential American badger burrows. If large burrows are identified within 250 feet of the BSA that could have the potential to be American badger burrows, a qualified biologist shall determine if they are occupied and, if so, they will be avoided to the greatest extent feasible. If occupied burrows are found within 250 feet of construction activities, they shall be monitored by a qualified biologist during any construction activity that would have the potential to cause disturbance to the badger. During this construction monitoring, if badgers appear to be disturbed by construction activities, work shall be stopped until CDFW is notified and further minimization measures can be developed. If occupied burrows are unavoidable due to construction requirements, a qualified biologist shall coordinate with CDFW to develop an exclusion plan.

San Joaquin Kit Fox. No San Joaquin kit foxes or suitable burrowing habitat have been identified within the BSA; however, San Joaquin kit foxes have the potential to forage in or near the BSA (LSA Associates 2019a). The BSA is on the fringe of the species range and coyotes are known to

be prevalent in the area. If San Joaquin kit foxes were to forage in or near the BSA, this would occur at night when Project construction activities would be limited. Overall, the Project would permanently impact 1.35 acres and temporarily impact 4.58 acres of potential breeding, foraging, and movement habitat. This is considered a potentially significant impact. **Mitigation Measures BIO-9** would reduce Project impacts on San Joaquin kit fox to less than significant levels.

IMPACT-BIO-9: San Joaquin kit fox: The project could have an impact on the San Joaquin kit fox, a State threatened species.

MITIGATION MEASURE BIO-9: The following measures shall be implemented to reduce Project-related impacts to San Joaquin kit fox:

- Prior to any ground disturbance related to covered activities, a USFWS/CDFW– approved biologist shall conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. The surveys shall establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (U.S. Fish and Wildlife Service 1999). Preconstruction surveys shall be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership shall not be surveyed. The status of all dens shall be determined and mapped. Written results of preconstruction surveys shall be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities.
- If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described below shall be implemented:
 - If a San Joaquin kit fox den is discovered in the proposed development footprint, the den shall be monitored for 3 days by a USFWS/CDFW– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used.
 - Unoccupied dens shall be destroyed immediately to prevent subsequent use.
 - If a natal or pupping den is found, USFWS and CDFW shall be notified immediately. The den shall not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW.
 - If kit fox activity is observed at the den during the initial monitoring period, the den shall be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den shall be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it shall be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den shall

have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).

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

Other Migratory Birds and Raptors. The BSA provides potential nesting habitat for migratory birds and raptors. The BSA also provides habitat for ground nesting species within the grazed and ungrazed grasslands adjacent to Byron Highway and the California Aqueduct. Raptors may nest on transmission towers within and adjacent to the BSA. Active Cliff swallow nesting was observed on the south side of the existing bridge during DWR surveys, and old nests were observed during the LSA survey on December 7, 2018 (LSA Associates 2019a). If bridge demolition begins during the breeding season (February 1 to August 31), the Project could result in mortality of young through forced fledging or nest abandonment by adult birds. Exclusion of nesting adult birds from the underside of the bridge could potentially result in disruption of nesting activities and the loss of nesting productivity for the season for some birds that do not move to other nesting sites outside of the BSA. Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting migratory birds and raptors. In addition, if clearing and grubbing activities begin during the breeding season (February 1 to August 31), the Project could result in mortality of young through forced fledging or nest abandonment by adult birds and is considered a potentially significant impact. Implementation of **Mitigation Measures BIO-10** would result in a less than significant impact on migratory birds and raptors.

IMPACT BIO-10: The Project could impact migratory birds and raptors that are protected under CFGC.

MITIGATION MEASURE BIO-10: The following measures shall be implemented to reduce Project-related impacts to nesting migratory birds and raptors:

- Impacts to birds that may nest on the bridge shall be avoided by utilizing a combination of physical exclusion methods and monitoring by a qualified biologist. Exclusion methods shall be timed to prevent nest-building and to avoid having nesting birds present during any construction activities. Exclusion measures shall be implemented outside of the nesting season before construction is scheduled to begin and monitored throughout the nesting season (February 1 through August 31) to ensure methods are effective. If work is scheduled to take place across multiple nesting seasons, these methods shall be repeated before the subsequent nesting season begins. Methods may include removing old nests and the beginnings of new nests prior to egg-laying on a weekly basis and/or installing exclusion netting or plastic sheeting before the nesting season begins on any potential nesting habitat in the BSA.

Exclusion methods and a monitoring plan shall be developed. If at any time the qualified biologist determines that an impact to a nesting birds could occur, work shall be stopped until CDFW can be contacted.

- Preconstruction surveys shall be conducted for nesting migratory birds within the BSA no more than 14 days prior to construction for any work occurring during the nesting season.
- If an active migratory bird nest is identified within the BSA, an appropriate protective buffer shall be determined by a qualified biologist, coordination with CDFW may be necessary. The size of the buffer shall depend on site-specific conditions and potential disturbance levels. Work shall not be allowed within the buffer until a qualified biologist has determined that the nesting attempt is complete.

Roosting Bats. The Project is unlikely to affect roosting bats as the Byron Highway Bridge does not appear to provide substantial roosting habitat; however, it cannot be completely ruled out that bats could move in to roost in the bridge before construction begins. Each year of the surveys, sparse amount of guano was present in the corners of the bridge over the access road to the Skinner Fish Facility. This indicates that the bridge is being utilized as a night roost by one or a few bats (LSA Associates 2019a). Construction noise and bridge demolition could impact bats and is considered a potential significant impact. Implementation of **Mitigation Measures BIO-11**, which are proposed to avoid impacts to other migratory birds and raptors on the bridge, would also avoid impacts to bats that might begin to roost in the bridge before the start of construction. Implementation of mitigation would result in a less than significant impact on roosting bats.

Night roosting bats would not be impacted because they are using this type of habitat temporarily while actively foraging and are not likely to be injured or displaced by construction activities. Also, other structures in close proximity (Pacific Railroad Bridge) would still be available for this type of roosting while construction is taking place. There would be no net loss of night roosting habitat as the bridge would be replaced with a similar structure that could be utilized for night roosting in the future.

IMPACT BIO-11: The Project could impact roosting bats and their habitat

MITIGATION MEASURE BIO-11: The following measures shall be implemented to reduce Project-related impacts to roosting bats:

- A preconstruction survey shall be conducted no more than 30 days prior to installing exclusion measures targeted at nesting birds to confirm there are no day roosting bats that could be impacted by the installation. This would include emergence surveys conducted starting 2 hours before sunset and continuing through 2 hours after sunset with qualified biologists stationed on either side of the bridge scanning to identify any bat that may exit from underneath the bridge.
- If bats are determined to be using the bridge as a day roost, exclusionary measures shall be implemented, maintained, and monitored in accordance with measures approved by CDFW.

Mitigation Measures BIO-1 through BIO-11 would reduce impacts to special status species to less than significant levels. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

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

The Project is a covered activity under the HCP/NCCP. The HCP/NCCP includes goals for the protection of five sensitive natural communities: wetlands and ponds, grassland, oak woodland, chaparral/scrub, and riparian woodland/scrub. The BSA contains both grassland and wetland communities. Impacts specific to specific special-status species are discussed in detail under subsection a, above, while impacts to wetlands are discussed in detail under subsection c, below. The construction of the new bridge and approaches would result in temporary and permanent direct impacts to annual grassland and alkali grassland habitats. **Table 8** provides a summary of temporary and permanent effects by habitat type. The implementation of **Mitigation Measure BIO-1 through BIO-11 (listed above)** would ensure that impacts to sensitive natural communities within the BSA would be **less than significant with mitigation incorporated**.

Table 8. Summary of Temporary and Permanent Effects by Terrestrial Habitat Type

Habitat Community	Permanent (acres)	Temporary (acres)	Totals (acres)
Alkali Grassland	0.000	0.041	0.041
Annual Grassland	1.142	4.151	5.293
Cropland	0.122	0.295	0.417
Ruderal	0.033	0.097	0.130
Vineyard	0.000	0.000	0.000
Urban	1.903	2.592	4.495
Total	3.200	7.176	10.376

Source: DHA 2019

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

Approximately 2.624 acres of potentially jurisdictional aquatic features were identified within the BSA (DHA 2019), refer to **Figure 5**. The California Aqueduct intake channel, a vernal pool, and multiple agricultural and seasonal wetlands and drainages within the BSA were determined to be potential waters of the U.S.

Construction of the new bridge and roadway alignment would permanently impact approximately 0.056 acres of seasonal wetland features and 0.013 acres of permanent wetland features, refer to **Table 7**. Permanent impacts to the California Aqueduct intake channel would result from the installation of four piles for the new bridge span. Impacts to the agricultural drainage would result from recontouring and culverting a portion of the channel due to the roadway realignment.

Impacts to the affected seasonally inundated drainages would result from the realignment of the roadway and the need to recontour waterways and extend existing culverts.

Other wetlands in the Project area would be protected. No other potentially jurisdictional waters of the U.S. are expected to be impacted due to the construction and staging of the Project. However, if unanticipated impacts to wetlands occur, the Project would be required to pay the applicable HCP/NCCP fees for those impacts. Implementation of **Mitigation Measure BIO-2** (listed above) would ensure that impacts to wetlands would be less than significant.

The Project would require the necessary permits from the Corps, CDFW, East Contra Costa County Habitat Conservancy as related to the HCP/NCCP, and the SFRWQCB. Impacts would be reduced by the implementation of **Mitigation Measures BIO-1 through BIO-11 (listed above)**, as well as complying with the terms incorporated into the agency permits. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

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

For aquatic species, the California Aqueduct intake channel is a man-made structure that pumps water from Clifton Court Forebay into the California Aqueduct, and fish screens at the Skinner Fish Facility immediately upstream of the BSA do not allow fish that pass through the screens to migrate back into the Delta. The California Aqueduct intake channel does not provide dispersal habitat or suitable spawning habitat for fish that become entrained in the California Aqueduct, although it is possible that some individuals do attempt spawning in the intake channel or downstream of the BAPP. For terrestrial species, the annual grasslands that dominate the BSA have the potential to serve as necessary movement corridors for sensitive wildlife species.

The Project would not remove, degrade, or otherwise interfere substantially with the structure or function of these wildlife movement corridors. Temporary disruption of wildlife movement would occur during the construction period; however, this temporary disruption would cease upon construction completion, which is anticipated to take approximately two years. Project impacts to movement of native resident wildlife species would be **less than significant**. No mitigation measures are required.

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

The Project would not conflict with any local policies or ordinances protecting biological resources. Tree removal is not necessary; therefore, the Project would not conflict with the local tree ordinance. The Project is a covered activity under the HCP/NCCP, which protects biological resources, (See discussion under subsections a through d, above, and subsection f, below). With the implementation of **Mitigation Measures BIO-1 through BIO-11 (listed above)**, the Project would be compliant with the HCP/NCCP and result in less-than-significant impacts to special-status species and sensitive natural communities covered by the HCP/NCCP. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

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

The Project is a covered activity under the HCP/NCCP. The HCP/NCCP includes goals and policies for the protection of multiple special-status species and sensitive natural communities. All special-status species and sensitive natural communities protected under the HCP/NCCP are discussed above, under subsections a through c, and are evaluated in detail in the NES documented for the Project (LSA Associates 2019a). The Project has been designed to avoid potential impacts to both HCP/NCCP-covered species and species protected only under CEQA. Project timing, preconstruction surveys, and implementation of buffers around any potential nests or occupied dens would avoid potential impacts to these species. Compensatory mitigation for HCP/NCCP-covered species would provide for loss of habitat for species protected under CEQA. With the implementation of **Mitigation Measures BIO-1 through BIO-11 (listed above)**, the Project would result in less-than-significant impacts to special-status species and sensitive natural communities covered by the HCP/NCCP. The Project would comply with the provisions of the HCP/NCCP, therefore impacts would be **less than significant with mitigation incorporated**.

SOURCES OF INFORMATION

- DHA. 2019. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Preliminary Aquatic Resource Delineation Report. July 2019.
- DHA 2020. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Wetland Only Practicable Findings Report. January 2020.
- LSA Associates. 2019a. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Natural Environment Study. October 2019.
- LSA Associates. 2019b. Byron Highway Bridge Replacement Project (BRLS-5928(104)) HCP/NCCP Summary Biological Assessment. October 2019.
- LSA Associates. 2019c. Planning Survey Report for the Byron Highway Bridge Replacement Project. October 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING:

An Historic Properties Survey Report (HPSR) (DHA 2019a), which includes an Historical Resources Evaluation Report (HRER; LSA Associates 2019) and Archaeological Survey Report (ASR; DHA 2019b), was prepared for the Project. The HPSR, HRER, and ASR provide information and analysis regarding the Project site's potential to contain historical or cultural resources, and the potential of the Project to effect those resources.

A cultural resource includes archaeological and historic sites, architectural resources, and traditional cultural properties, as well as the physical evidence of past human activity on the landscape. Cultural resources, along with Native American and historic human remains and associated grave goods, must be considered under various federal, state, and local regulations, including CEQA and the National Historic Preservation Act of 1966 (NHPA). In general, any trace of human activity more than 50 years in age is required to be treated as a potential cultural resource.

A cultural resource that is listed in, or eligible for inclusion in the National Register of Historic Places (National Register) are also considered eligible for listing in the California Register of Historical Resources (California Register). A resource may be eligible for inclusion in the California Register if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

The General Plan includes several goals and policies related to the protection and preservation of Cultural Resources. Specific policies include the protection of historic buildings or structures (Policy 9-33) and compatibility of development in surrounding areas of historical significance (Policy 9-34).

The area of potential effect (APE) encompasses all areas that have the potential to be directly and indirectly affected by the Project. The 20.8-acre APE extends a total length of 3,970 feet, with a variable width of 130 to 400 feet. Three staging areas total 2.57 acres.

The records search was conducted at the Northwest Information Center (NWIC) of the California Historical Resource Information System (CHRIS) located at Sonoma State University, Rohnert Park on November 5, 2014 (RS#14-0444) and a supplemental records search was conducted on October 30, 2018 (NWIC File No. 18-0717). Additional background research, records reviews and coordination to identify known cultural resources included a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and outreach to the Native American tribes, individuals, or organizations that may have knowledge about the area or concerns about the Project. Pedestrian surveys were conducted in 2014 and 2018 (DHA 2019a and 2019b). The combined NWIC 2014 and 2018 records search, background research, and field surveys did not identify any known archaeological resources in the APE or within a 0.5-mile radius. In addition, local historical societies, the Contra Costa Historical Society and the East Contra Costa Historical Society were contacted On January 8, 2019 (LSA Associates 2019). See Section 18 Tribal Cultural Resources for a summary of Native American consultation including AB52 according to California PRC section 21080.3.1(b).

SUMMARY:

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?*

Substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource, or its immediate surroundings, such that the significance would be materially impaired. The HPSR, HRER, and ASR were completed in order to identify potentially significant historical resources in the APE. The investigation included records searches of the CHRIS NWIC, field surveys, background research, and Native American consultation.

The records search did not identify any National Register-listed or-eligible properties within 0.5 mile of the APE. The records search did not identify any California Register-eligible properties within 0.5 mile of the APE. The Byron Highway Bridge over the California Aqueduct is identified as a Category 5 structure on the Caltrans Historic Bridge Inventory, indicating that the bridge is not National Register-eligible (LSA Associates 2019).

The HRER identified six previously identified and evaluated built environment cultural resources 45 years of age or older within the APE. One built-environment cultural resource located in the APE, Intake Channel for the California Aqueduct, is assumed eligible for inclusion in the National Register or the California Register for the purposes of the Project and is a historical resource for the purposes of CEQA. No other built environment resources appear eligible for inclusion in the National Register, nor do they qualify as historical resources for the purposes of CEQA.

The Intake Channel for the California Aqueduct (P-07-003091) is a 695-foot, earthen and rock-lined segment of the California Aqueduct Intake Channel. It begins at the Frank Skinner facility and extends under the Byron Highway Bridge to the BAPP. This resource is assumed eligible for

the National Register for the purposes of this Project per Caltrans Cultural Studies Office approval (LSA Associates 2019).

The HPSR determined a finding of No Historic Properties Affected for the Project (DHA 2019a; LSA Associates 2019). The 2.4-mile Intake Channel to California Aqueduct would not be affected by the Project, as no Project elements are physically touching the resource. The Project's impact on the known historical resource is considered less than significant. However, as discussed below in 5 (b), there is a possibility to uncover unknown resources during Project construction. Impacts to unidentified and unknown historical resources would be less than significant with the implementation of **Mitigation Measure CUL-1**. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

IMPACT CUL-1a and 1b: The project could impact previously unidentified cultural resources during ground disturbing activities.

MITIGATION MEASURE CUL-1a:

A program of on-site education to instruct all demolition personnel in the identification of prehistoric and historic deposits shall be conducted prior to the start of any grading or construction activities.

MITIGATION MEASURE CUL-1b

If archaeological materials are uncovered during grading, trenching, or other onsite excavation, all work within 50 feet of these materials shall be stopped until a professional archaeologist who is certified by the Society for California Archaeology (SCA) and meets the Secretary of Interior Standards (SOIS) and the Native American tribe that has requested consultation and/or demonstrated interest in the Project site, have had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s) if deemed necessary.

- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?*

An ASR was prepared for the Project and included a records search at the CHRIS NWIC, background research, outreach to interested parties or individuals, and a buried site sensitivity analysis (DHA 2019b). No potentially significant prehistoric or historically significant archaeological resources were observed to be located within the APE (DHA 2019b). Background research indicated there is a low probability that potentially significant prehistoric or historically significant archaeological resources would be encountered during Project activities.

Given the results of the field investigation, the lack of any previous documentation of significant archaeological resources in the APE, and the highly disturbed nature of the Project area, which is the result of longstanding and ongoing agricultural and water conveyance practices, it is highly unlikely that historic or precontact archaeological properties are present. Impacts to known cultural resources would be less than significant.

In order to facilitate demolition and construction activities for the Project, excavations below existing grades would be performed. Excavations for the approach roadway would generally be 5 feet or less; however, excavations for drainage pipe, drainage inlets, and utilities could be up to 20 feet deep. Excavations at the existing and proposed abutment locations would be up to 20 feet

deep. Since the existing bent locations would be underwater there is no anticipated excavations for footing construction or removal at the existing bents. Pile drilling/excavations at the proposed abutment and bent locations would be more than 50 feet deep per pile.

While buried cultural resources are not anticipated to be present within the Project APE, there is a chance that unidentified and unknown buried resources exist. Impacts to unidentified and unknown cultural resources would be less than significant with the implementation of **Mitigation Measure CUL-1**. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

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

No formal cemeteries or human remains were identified during the field investigation and no burial sites are likely to be encountered during construction activities (DHA 2019a and 2019b). However, in the event of an unanticipated discovery of human remains, Implementation of **Mitigation Measure CUL-2** would reduce this potential impact to less than significant. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

IMPACT CUL-2: The Project could impact previously undiscovered human remains and grave goods.

MITIGATION MEASURE CUL-2: Should human remains be uncovered during grading, trenching, or other on-site excavation(s), earthwork within 50 feet of these materials shall be stopped until the County coroner has had an opportunity to assess the human remains and determine the proper treatment and disposition of the remains. Pursuant to California Health and Safety Code Section 7050.5, if the coroner determines the remains may be those of a Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public Resources Code Section 5097.98, the NAHC will then determine a Most Likely Descendant (MLD) tribe and contact them. The MLD tribe has 48 hours from the time they are given access to the site to make recommendations to the landowner for treatment and disposition of the ancestor's remains. The landowner shall follow the requirements of Public Resources Code Section 5097.98 for the remains.

SOURCES OF INFORMATION

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- LSA Associates. 2019. Byron Highway Bridge Replacement Project (BRLS-5928 (104)) Historic Resource Evaluation Report. April 2019.
- Contra Costa County. 2005. General Plan, Conservation Element. Online:
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Accessed August 29, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

In 1975, the California State Legislature adopted Assembly Bill (AB) 1575 in response to the oil crisis of the 1970s. Public Resources Code Section 21100(b)(3) and CEQA Guidelines Appendices F and G require a description of the wasteful, inefficient, and unnecessary consumption of energy caused by a Project. CEQA Guidelines **Appendix F** provides guidance for assessing potential impacts, within an Environmental Impact Report (EIR), that a project could have on energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently. CEQA Guidelines **Appendix G** provides guidance related to energy resources within the context of the Initial Study (IS).

The following policies from the General Plan apply to energy use resulting from road and bridge development, and apply to the Project

1. Policy 8-98: Development and Roadway improvements shall be phased to avoid congestion.
2. Policy 8-100: Vehicular emissions shall be reduced throughout the County.
3. Policy 8-104: Projects shall be reviewed for their potential to generate hazardous air pollutants.

The production of electricity requires the consumption or conversion of energy stored in natural resources such as water, wind, oil, gas, coal, solar radiation, certain minerals (for nuclear power), and geothermal energy. Production of energy and energy use both result in pollution and in depletion of these renewable and nonrenewable resources. The Project is located in unincorporated Contra Costa County, approximately 3.6 miles southeast of the census designated place (CDP) of Byron. A majority of County residents are served by MCE, a nonprofit Community Choice Aggregation (CCA). The total estimated energy use from both residential and nonresidential uses for the County was estimated to be 2,838.5 GWh (gigawatt hours) in 2018, according to the California Energy Commission (CEC 2016).

Energy resources include electricity, natural gas, fossil fuels, and other fuels. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. Energy production and energy use both result in the depletion of nonrenewable resource, such as oil, natural gas, coal, and emission of pollutants. The Project site does not currently produce energy. The Project site's use of energy is currently caused by

vehicles traveling along Byron Highway or maintenance vehicles and crews conducting upkeep activities such as pavement overlay, restriping, bridge painting, and other such maintenance.

SUMMARY:

- a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

The Project is a bridge replacement project and would not create new energy demand beyond the construction period. The Project would not require creation of new energy sources. Operation of the Project would be similar to existing conditions. The Project, upon completion, would not increase energy use at the Project site. The Project would not result in a change in traffic patterns, increase in average daily trips (ADT) per vehicle, or increase in vehicle miles traveled (VMT). Maintenance activities for the road and the bridge would be similar to pre-project conditions. Therefore, once completed, the Project would have no impact on energy use.

Resources consumed during construction would include materials, electricity, and fossil fuels. Construction would also require the demolition of the existing bridge and erecting the new bridge and the temporary work trestle; thus, construction would require the manufacture of new materials, some of which would not be recyclable, that require energy use for the production of these materials. The temporary work trestle is necessary to provide crane access to accommodate the installation of pile installation. Traffic control may temporarily increase use of energy by resulting in minor delays or increases in travel time for motorists. Energy consumption during construction would be temporary and would cease upon the completion of the Project. Impacts related to vehicle delay would be temporary and less than significant. No mitigation is required.

The main energy use would occur from the operation of heavy equipment during construction activities. Diesel equipment would be used during construction; however, compliance with local, State, and Federal regulations (e.g., limit engine idling times, require the recycling of construction debris, etc.) would reduce short-term energy demand during the Project's construction. Construction equipment would operate using standard BMPs that limit idling times and require equipment to meet current standards. This allows the equipment to be more fuel efficient as well as not waste fuel while idling. Construction of the Project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources during construction. Impacts are considered **less than significant** in this regard. No mitigation is required.

- b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Although the Project will result in a temporary increase in energy usage during construction, the operation of the Project would not require change from the existing condition. As such, the Project does not have potential to conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, Project impacts will be **less than significant**. No mitigation is required.

SOURCES OF INFORMATION

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Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING:

Geology and Soils

The Project site is located on the western edge of the Great Valley geomorphic province of California in an area of relatively flat topography with an elevation of approximately 18 feet above mean sea level. The Project site is not identified as being within a landslide hazard zone in the General Plan. This geomorphic province is generally seismically inactive, with active faults located to the west, in the Coast Mountain Range, or to the east, in the Sierra Nevada Mountain Range. The nearest earthquake hazards fault zone is the Greenville Fault Zone, located approximately seven miles southwest of the Project site (USGS 2018). There are three faults within 15 miles of the Project site that are capable of producing seismic ground shaking (**Table 9**) (USGS 2018).

Table 9. Quaternary Faults within 15-miles of the Project

Fault Name	Age	Mmax	Fault Type	Slip Rate (mm/year)
Greenville fault zone	Holocene	6.9	Strike Slip	0.3
Midland fault zone (Great Valley)	Holocene	6.8	Reverse	0.4
Orestimba (Great Valley)	Holocene	6.7	Reverse	0.5

Source: USGS 2018

The Project site is underlain by Quaternary-aged alluvium geologic formations comprised of loam, silt, and clay (Contra Costa County 2005). The *Soil Survey of Contra Costa County, California* identified two soil types within the Project site: San Ysidro loam, 0 to 5 percent slopes, and Solano loam (NRCS 2019). Characteristics of these soil types are included in **Table 10**. The soils in the Project site have a high expansive soil potential. The soils have a highly fragile and fragile rating, meaning they are vulnerable to degradation and are moderately susceptible to erosion (DHA 2019) The Project site does not include zones designated as being potentially susceptible to liquefaction (CDOC).

Table 10. Characteristics of Soils at the Project Site

Soil Series Name	Shrink-swell Potential	Drainage	Runoff Potential	T Erosion Factor	Percent (%) Clay
San Ysidro loam, 0 to 5 percent slopes, dry, MRLA 17	High	Moderately Well Drained	High	5	37.8
Solano loam	High	Somewhat Poorly Drained	High	5	28.6

Source: NRCS 2019

Paleontological Resources

Paleontological resources are the fossilized evidence of organisms preserved in the geologic (rocks) record. Fossils are considered nonrenewable resources that are protected by federal, state, and local environmental laws and regulations. The Project site is underlain by Cenozoic fill of the Great Valley, which include narrow deposits of Holocene (less than 10,000 years ago) and late Pleistocene alluvium (125 to 10 thousand years ago), composed of loose gravels, sands, and silts that have been shed off of the surrounding uplands. Over the Project site, the rock type primarily consists of nonmarine, unconsolidated alluvium.

Regionally, the University of California Museum of Paleontology (UCMP) database lists 2,568 fossil localities in the County, of which 270 are vertebrates. Several fossil localities occur along Vasco Road, Marsh Creek, Kellogg Creek and numerous other unnamed localities located north and west of the Project site (UCMP 2019). These localities occur within early Pleistocene- and Tertiary-age (10,000 to 65 million years ago) sedimentary rocks, not the Cenozoic fill of the Great Valley that underlies the Project site. The Holocene- and late Pleistocene aged deposits that line the valley floor and underlie the Project site are geologically immature and have low potential to contain fossilized remains of organisms. Four Holocene-age fossils and 76 late Pleistocene aged fossils have been identified within the County. However, these localities are not within the Project vicinity.

SUMMARY:

- ai) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: 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?*

No active faults are shown that cross the Project site, nor is the site within or adjacent to an Alquist-Priolo Earthquake Fault Zone (USGS 2018). There are three active faults within 15 miles of the Project site (refer to **Table 9**). The nearest fault zone, the Greenville Fault Zone, is located approximately 7 miles southwest of the Project.

The General Plan shows the Project area as having a moderately-low potential for seismic ground shaking.

The Project would remove the existing obsolete bridge and replace it with a new bridge that is consistent with current structural and geometric standards including the current Caltrans Seismic Design Criteria. Therefore, the risk of the Project causing loss, injury or death involving rupture of a known earthquake fault would be improved over existing conditions. Impacts would be **less than significant** in this regard and no mitigation measures are required.

- aii) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: strong seismic ground shaking?*

As a whole, the County is located within a region of high seismicity. The General Plan shows the Project area as having a moderately-low potential for seismic ground shaking. There are three active faults within 15 miles of the Project site (refer to **Table 9**), the nearest being the Greenville Fault Zone, located approximately seven miles southwest of the Project. The Project would remove the existing obsolete bridge and replace it with a new bridge that is consistent with current structural and geometric standards including the current Caltrans Seismic Design Criteria. Therefore, the risk of the Project causing loss, injury or death involving ground shaking would be similar to existing conditions. Impacts would be **less than significant** in this regard and no mitigation measures are required.

- aiii) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: seismic-related ground failure, including liquefaction?*

Liquefaction of granular soils can be caused by strong, vibratory motion due to earthquakes. Soils that are highly susceptible to liquefaction are medium to fine grained, loose, granular and saturated at depths of less than 50 feet below the ground surface. Liquefaction of soils causes surface distress, loss of bearing capacity and settlement of structures that are found on soils. The Project site is underlain by San Ysidro loam, 0 to 5 percent slope, and solano loam. Geotechnical borings taken at the Project site by the Department of Water Resources in 2015 indicate potentially liquefiable soils are locally present, however such soils are isolated, discontinuous, and of limited horizontal/vertical extent (DWR 2015). Based on the known soil and groundwater conditions throughout the area, the potential for liquefaction or seismically induced settlement at this site is very low.

The Project site is in an area that is comprised of Quaternary Alluvium consisting of surficial sediments of alluvial pebble gravel, sand and clay of valley areas that have moderate to low liquefaction potential (Contra Costa County 2005).

The Project would remove the existing obsolete bridge and replace it with a new bridge that is consistent with current structural and geometric standards including the current Caltrans Seismic Design Criteria. Therefore, the risk of the Project causing loss, injury or death involving seismic-related ground failure, including liquefaction, would be similar to existing conditions. Impacts would be **less than significant** in this regard. No mitigation is required

- aiv) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: landslides?*

Landslides typically occur in areas with steep terrain when the ground becomes saturated, causing slope instability. The CDOC California Geological Society (CGS) provides maps that show landslides and geomorphic features related to landslides and delineates potential slope-stability problem areas (CDOC 2002). The CGS broadly categorizes two types of landslide materials, rock or soil, or a combination of the two, and are further categorized as falls, topples, spreads, slides, or flows. The five most common combination of material/movement for landslides are rock slides, earth flows, debris slides, debris flows, and rock falls. Potential hazards from landslides typically occur along hillsides and slopes and areas subjected to wildfire or heavy water inundation have a higher potential for landslides. The Project area is located on flat valley floor with a 0-5 percent slope. The Project site is not identified as being within a landslide hazard zone (Contra Costa County 2005). Because the Project site is flat and is not located in close proximity to any steep hillsides where landslides would occur, the potential for substantial adverse effects, including the risk of loss, injury, or death involving landslides would be **less than significant**. No mitigation is required.

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

The Project contains two soil types in the Project area: Solano loam and San Ysidro loam. These soils are moderately susceptible to erosion. **Table 10** provides a summary of the soil characteristics in the Project area. The Project would remove the existing Byron Highway Bridge over the California Aqueduct and construct a new bridge designed to current structural and

geometric standards. Construction activities involving soil disturbance which includes, excavation, cutting/filling, demolition, paving, and grading activities have the potential for to result in erosion or loss of topsoil. Project operations would not result in a significant increase in the potential for soil erosion as compared to existing conditions. A Storm Water Protection Plan (SWPPP) will be prepared for this Project and will contain measures to reduce erosion impacts from construction activities. Therefore, the potential erosion impacts from construction activities would be **less than significant**. No mitigation is required.

- 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 Project design and construction will take the existing soil conditions into consideration and the Project will be designed in accordance with local design practice. Moreover, the Project is limited to replacement of an existing bridge, which will not introduce new land uses that could be impacted by unstable soil. Therefore, Project impacts will be **less than significant** no mitigation is required. Refer to subsections a)iii and a)iv, above, for additional details.

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

As identified in **Table 10**, both the Solano loam and San Ysidro loam soils series that underlie the Project site have a high expansive soil potential (NRCS 2019).

The Project would remove the existing obsolete bridge and replace it with a new bridge designed to current structural and geometric standard including the current Caltrans seismic design criteria. The risk to life or property related to expansive soil and liquification potential would be similar to existing conditions. Therefore, the Project would not create a risk of life or property due to being located on expansive soils. Impacts would be **less than significant** and no mitigation measures are required.

- e) *Would the project 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?*

The Project would remove the existing obsolete bridge and replace with a new bridge. The Project does not involve construction of septic tanks, alternative wastewater disposal systems, or connection to sewer systems. There would be **no impact** as a result of the Project and no mitigation measures are required.

- f) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The Project site is located within the Great Valley Geomorphic Province, in an area of relatively flat topography. The Project does not contain unique geologic features. Therefore, no impact would occur in this regard.

The Project area has undergone extensive disturbance from agricultural and irrigation use, and the construction of the surrounding California Aqueduct, Byron Highway, and UPRR developments. As mentioned above, the Project site is underlain by Quaternary aged alluvium which is

geologically immature and unlikely to contain fossilized organisms. Multiple localities have been identified within the County. However, these localities occur within early Pleistocene and Tertiary sedimentary rocks (10,000 to 6.5 million years ago). The fossil localities within the County that have been discovered in Holocene and late Pleistocene geologic formations are not within the Project vicinity.

The Project is not anticipated to encounter unique paleontological resources; however, construction of the Project has the potential to disturb unknown paleontological resources due to the depth of construction. **Mitigation Measure GEO-1** would be implemented to reduce potential impacts on unknown unique paleontological resources to a less than **significant level**. Therefore, impacts would be **less than significant with mitigation incorporated**.

IMPACT-GEO 1: The Project could impact directly or indirectly a unique paleontological resource or site or unique geologic feature

MITIGATION MEASURE GEO-1: If paleontological resources are encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately and a qualified paleontologist shall be notified regarding the discovery. The paleontologist shall determine whether the resource is potentially significant and develop the appropriate plan for handling the resource in accordance with the Society of Vertebrate Paleontology guidelines. The plan would include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and/or a report of findings. The plan shall be implemented by the qualified paleontologist before construction activities can resume in the vicinity of the field.

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Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The earth's atmosphere naturally contains a number of compounds collectively referred to as greenhouse gases (GHGs), including CO₂, methane (CH₄), and nitrous oxide (N₂O). These gases trap solar radiation and the earth's own radiation, preventing it from passing through the earth's atmosphere and into space. GHGs are vital to life on earth; however, increasing GHG concentrations are causing an increase in average global temperatures.

In general, CH₄ has 21 times the warming potential of CO₂, and N₂O has 310 times the warming potential of CO₂. CO₂e represents CO₂ plus the additional warming potential from CH₄ and N₂O. The common unit of measurement for CO₂e is metric tons (MTCO₂e)

As the average temperature of the earth increases, climate patterns may be affected, including changes in precipitation patterns, accumulation of snowpack, and intensity and duration of spring snowmelt, as well as increased in intensity in low precipitation and droughts. Human-made GHG emissions occur primarily through the combustion of fuels, mainly associated with transportation, residential energy, and agriculture.

California's primary legislation for reducing GHG emissions is the California Global Warming Solutions Act (AB 32), which set a goal for the state to reduce GHG emissions to 80 percent of 1990 emission levels by 2050. The CARB, among other state agencies, has enacted regulation in order to achieve these targets. In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 21.7 percent from the State's projected 2020 CO₂e emission levels under a business-as-usual scenario (CARB 2008). In November 2017, CARB adopted the second update; the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update), lays out the framework for achieving the 2030 reductions as established in more recent legislation (CARB 2017). The 2017 Scoping Plan Update identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level that is 40 percent below 1990 levels before 2030.

The Contra Costa Climate Action Plan (CAP) was adopted in December 2015. The CAP identifies how the County will achieve the AB 32 GHG emissions reduction target of 15 percent below baseline levels by the year 2020. Most of the measures identified in the Climate Action Plan consist of programs and incentives to be implemented by the County and are not applicable to the Project (CCCCD 2015). In addition, the BAAQMD does not have adopted thresholds of significance for construction related (2017).

SUMMARY:

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

The Project would replace the existing, obsolete Byron Highway Bridge. The replacement bridge would not add additional lanes for automobiles or change long term traffic patterns. The Project would not create new demand for energy, alter any surrounding land use, or create any other permanent source of GHG emissions. Therefore, the Project would not change operational GHG emissions compared to existing conditions and there would be no impact associated with Project operations.

Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the Project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

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 Caltrans Roadway Construction Emissions Modeling tool was used to estimate construction emissions produced by the Project (**Appendix C**). The assumptions that were made during modeling include: 1) the types and quantities of construction equipment typical of bridge Projects would be used; 2) all on-road equipment used for the Project would be year 2010 or newer models; and 3) all construction equipment would meet CARB Tier 4 requirements; see **Appendix C** for the full Emissions model.

The model projected that a maximum of approximately 15,695 pounds of CO₂e would be emitted per day, totaling approximately 2,530 MTCO₂e over a two-year construction period. Therefore, GHG emissions would not exceed the 10,000 MTCO₂e per year threshold (BAAQMD, 2017).

The Project construction is considered small, short-term in nature, and would not generate substantial air quality pollutant concentrations, including GHG emissions, as discussed under Section 3, Air Quality, above. In addition, the construction GHG emissions associated with the Project would not exceed the 10,000 MTCO₂e threshold. Even though impacts would be less than significant, construction activities would be subject to the implementation of BMPs, as well as

requirements from the County Code and the BAAQMD. Therefore, equipment efficiency would be maximized during Project construction. Impacts from the Project would be **less than significant**, and no mitigation measures are required.

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

As discussed in Section 3, Air Quality, above, the Project would not exceed the BAAQMD project-level construction related thresholds for emissions for certain criteria pollutants (refer to Tables 2 and 3, above). As discussed in subsection a, above, the Project would result in a maximum of approximately 15,695 pounds of CO₂e per day, totaling approximately 2,530 MTCO₂e over a two-year construction period. This is below the typically assumed threshold of 10,000 MTCO₂e per year. Given the levels of emissions during construction, and the implementation of BMPs, along with compliance with federal, State, and local regulations and policies, the Project would be consistent with the County Climate Action Plan. The Project would not conflict with any identified plans adopted for the reduction of GHG emissions. Impacts are **less than significant**, and no mitigation is required.

SOURCES OF INFORMATION

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Sacramento Metropolitan Air Quality Control District (SMAQCD). 2018. Roadway Construction Emissions Model Version 9.0.0. Online www.aqmd.gov/home/rules-compliance/ceqa/air-quality-modeling. Accessed September 26, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING:

An Initial Site Assessment (ISA) was prepared for the Project and is available for review at the CCCPWD (DHA 2019). The ISA was performed in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E 1527-05. The ISA identifies

Recognized Environmental Conditions (RECs¹) for the Project site that may adversely affect roadway and/or bridge construction or right-of-way acquisition. A database report was obtained from Environmental Database Resources, Inc. (EDR) consisting of information compiled from various government records, such as Geotracker, National Priorities List, and EnviroStor, for information regarding the Project area. Based on the results of the records review, no potential RECs have been found in the Project site (Caltrans 2019).

The Occupational Safety & Health Administration (OSHA) requires that all thermal systems insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered Presumed Asbestos Containing Materials (ACM) and treated accordingly. Bridges built prior to 1981 sometimes have ACMs within their rail shim sheet packing, bearing pads, support piers, and/or expansion joint materials. Structures constructed prior to 1978 are presumed to contain lead-based paint (LBP) unless proven otherwise, although structures constructed after 1978 may also contain lead-based paints.

An Asbestos and Lead-Containing Paint Survey Report and a Soil Sampling and Analysis Report were completed for the Project and are available for review at the CCPWD ([Geocon Consultants, Inc.] 2019a and 2019b). Soil samples from eight soil borings were collected and tested for hazardous materials including lead and petroleum products (Geocon 2019a). An asbestos and Lead Containing Paint (LCP) survey was conducted at the Project site on January 22, 2019 (Geocon 2019a). Nine bulk asbestos samples representing four suspect components were collected and tested, while six bulk paint samples were collected from suspect LCP observed at the Project site (Geocon 2019). No asbestos sheet packing on the bridge barriers was observed; however, potential asbestos sheet packing may be encased in the bridge expansion hinge assemblies.

Aerially Deposited Lead (ADL) is commonly located adjacent to heavily traveled roadways in service prior to 1987 as lead has been used as a gasoline additive prior to this time. Based on review of aerial photos and topographical maps, Byron Highway was built prior to 1987 and has served as a major transportation corridor for the region. Therefore, the potential exists for the Project site to contain elevated levels of ADL.

The Project is located approximately 1.10 miles east of the Byron Airport and is located within the Contra Costa County Airport Land Use Compatibility Plan (ALUCP) (Contra Costa County 2000). The Byron Airport is a public airfield that provides general aviation facilities for skydivers, gliders and recreational flight activities. The Byron Airport does not provide commercial flights.

¹ RECs are defined by the ASTM Practice E 1527-05 as: “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

SUMMARY:

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

As the Project is a replacement bridge, it would not be a facility that generates or emits hazardous materials upon construction completion. There would be no increased likelihood the routine transport, use, or disposal of hazardous materials once the Project is complete.

Construction of the Project would potentially require the use of various types and quantities of hazardous materials. Hazardous materials that are typically used during construction include, but are not limited to, hydraulic oil, diesel fuel, grease, lubricants, solvents, and adhesives. Although equipment used during construction activities could contain various hazardous materials, these materials would be used in accordance with the manufacturer's specifications and all applicable regulations. Minor fuel or oil spills could occur during construction activities. The release, even if accidental, of hazardous materials into the environment is regulated through existing federal, State, and local laws. These regulations require emergency response from local agencies to contain hazardous materials in the event of an accidental release. The use of handling of hazardous materials during construction activities would occur in accordance with applicable federal, state, and local laws, including the California OSHA (CalOSHA) requirements. Implementation of construction BMPs, compliance with vehicle manufacturer's specifications, and compliance with applicable regulations would result in impacts that are **less than significant**. No mitigation is required.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?*

The Project would remove the existing bridge along Byron Highway and construct a new bridge designed to current structural and geometric standards. Operation of the Project would be similar to existing conditions. The Project would not change the use of Byron Highway, nor would it increase the number of vehicles using the roadway. The potential for release of hazardous materials into the environment upon Project completion would be similar to existing conditions and impacts would be less than significant. No mitigation is required.

The Project has the potential to use a variety of hazardous materials during construction activities. These materials would be stored, handled, and transported per federal, State, and local regulatory requirements. Implementation of construction BMPs, compliance with vehicle manufacturer's specifications, and compliance with applicable regulations would result in impacts that are less than significant with implementation of mitigation measures as described below.

Asbestos

New uses of ACM's were banned by the U.S. EPA in 1989. The existing bridge was originally built in 1964. Based on the results of the Asbestos and Lead Containing Paint Survey Report, it was concluded that asbestos was not present in the samples of suspect material. However, there is potential for ACM within the sheet packing (a Category I nonfriable/nonhazardous material) to be encased within the bridge expansion hinge assemblies. No asbestos sheet packing on the bridge

barriers was observed; however, potential asbestos sheet packing may be encased in the bridge expansion hinge assemblies. Implementation of **Mitigation Measures HAZ-1 and HAZ-2** would reduce impacts related to the uncovering of ACMs during the demolition of the existing Byron Highway Bridge to less than significant levels. New uses of ACMs were banned by the USEPA in 1989, thus new ACMs would not be used in construction of the replacement bridge.

Lead

Lead has been used in commercial, residential, roadway, and ceramic paint; in electric batteries and other devices; as a gasoline additive; for weighing; in gunshot; and other purposes. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Structures constructed prior to 1978 are presumed to contain LCP unless proven otherwise, although structures constructed after 1978 may also contain LCP. The gray paint used on the utility pipes under the bridge did show the presence of LCP. The yellow striping on the bridge would not be classified as California or Federal hazardous based on lead content. Implementation of **Mitigation Measures HAZ-1 and HAZ-2** would reduce impacts related to the removal of LBP on the utility pipes under the bridge to less than significant levels.

Due to the age of the Byron Highway, the potential exists for the Project site to contain elevated levels of ADL. Analysis of the soil samples tested for lead identified a maximum lead level of 44 milligrams per kilogram (mg/kg) at the Project site (Geocon 2019b). Based on these results, onsite reuse of soils within the Project limits would not be restricted. Soil would be retested for offsite disposal and are likely to be classified as non-hazardous.

IMPACT HAZ-1, HAZ-2: The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

MITIGATION MEASURE HAZ-1: *Development of a Health and Safety Plan (HASP).* A HASP shall be developed for the Project. The HASP shall describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled and disposed of in accordance with appropriate federal, state and local regulations.

MITIGATION MEASURE HAZ-2: *Asbestos and Lead Containing Materials.* A California-licensed abatement contractor will conduct a survey for lead containing materials prior to demolition (including concrete elements) and contractor will submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification. Per Section 14-9.02 of the asbestos NESHAP regulation, all “demolition activity” requires written notification even if there is no asbestos present. This notification should be typewritten and postmarked or delivered no later than ten days prior to the beginning of the asbestos demolition or removal activity.

If lead containing materials are found, the following will be required:

- Building materials associated with paint on structures, and paint on utilities should be abated by a California-licensed abatement contractor and disposed of as a hazardous waste in

compliance with Standard Special Provisions (SSP) 14-11.13 and other federal and state regulations for hazardous waste.

- A Lead Compliance Plan should be prepared by the contractor for the disposal of lead-based paint. The grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with Standard Special Provision (SSP) 36-4 - Residue Containing High Lead Concentration Paints. In addition, the Lead Compliance Plan will also contain the following provision to address aerially-deposited lead: Caltrans Standard Specifications 7-1.02K (6)(j)(iii) – Earth Material Containing Lead.
- A California-licensed lead contractor should be required to perform all work that will disturb any lead-based paint as a result of planned or unplanned renovations in the Project area, including the presence of yellow traffic striping and pavement markings that may contain lead-based paint. All such material must be removed and disposed of as a hazardous material in compliance with Caltrans Standard Specifications 14-11.12.

If ACMs are found during bridge demolition, the following is recommended:

- The materials shall be assumed hazardous and handled as such until testing is completed.
- Samples of suspect materials shall be collected for laboratory analysis, and all activities that may impact the materials shall cease until results are reviewed.
- Removal, disposal, storage and transportation of materials from the bridge structure that contain asbestos shall be performed in compliance with Caltrans Standard Specifications 14-11.16, and other federal and State regulations for hazardous waste.

With implementation of mitigation measures HAZ-1 and HAZ-2, Project impacts would be **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?*

The Project site is not located within 0.25 miles of a school. The Mountain House Elementary School is located approximately 2.2 miles southeast of the Project and is the nearest school to the Project site and. **No impacts** would occur in this regard and no mitigation measures are required.

- d) *Would the project 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?*

The Project is not included in the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (DHA 2019). **No impacts** would occur. No mitigation measures are required.

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

The Project is a bridge replacement that would not result in the generation of a safety hazard or excessive noise that would interfere with the operations of the Byron Airport. The proposed bridge would be similar in height to the existing bridge and would not interfere with flight patterns. The number of people residing or working within the vicinity of the Project site would remain similar to existing condition because the Project would replace the existing Byron Highway Bridge. The Project would result in less than significant impacts to the Byron Airport and no mitigation measures are required.

The Project is within Zone B2 of the Byron Airport compatibility zones. This zone restricts the number of people that use the Project site to no more than 100 people per acre and restricts the height of an object to no more than 70 feet in height. During construction, it is not anticipated that more than 100 workers would be at the Project site at any given time. The average would be approximately 15 workers. The construction equipment could be approximately 120 feet in height. The Contra Costa Airport Land Use Compatibility Plan (ALUCP) will be notified of construction and the construction equipment would be equipped with appropriate lighting as required for equipment that is over 70 feet in height. The Project would adhere to the Contra Costa County ALUCP and FAA policies and regulations (Contra Costa County 2000). Therefore, the Project, during construction, would not result in a safety hazard or excessive noise for people residing or working in the Project area. Impacts would be **less than significant**. No mitigation measures are required.

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

The CCCDPW is proposing to replace the existing Byron Highway Bridge with a new concrete bridge that would be wider as well as longer than the existing bridge. In its final configuration, the new bridge would accommodate two lanes of vehicular traffic (one in each direction). The Project would leave the existing bridge in place while the new bridge is constructed immediately to the south in order to maintain vehicular traffic during construction.

There would be approximately 1,350 linear feet of roadway approach work east of the bridge and approximately 1,350 linear feet of roadway approach work west of the bridge. The construction process would begin with constructing the new bridge and roadway approaches on the realigned southern alignment. During this time traffic would remain open on the existing bridge and roadway. The construction is proposed to take approximately two years. Once the new roadway and bridge are constructed, traffic would be cutover to the new bridge. The cutover process would require traffic control and temporary short-term impacts to traffic circulation due to construction equipment and personnel in the area. Once the cutover is complete, traffic would pass over the newly constructed road and bridge while the existing road and bridge are demolished.

No detours would be necessary because the existing bridge would be available for traffic while the new bridge is being built. Access for emergency vehicles would be maintained throughout construction; however, there is potential for minor delays during the cutover process. Construction traffic control is not anticipated to significantly interfere with emergency response times or emergency evacuation plans. Information regarding emergency response times is available in Section 15, Public Services, and Section 17, Transportation, below. The Project would be coordinated with the East Contra Costa County Fire Protection District (ECCFPD), as well as the County's Sheriff Office and other law enforcement or emergency service providers within the area. Upon construction completion, the new bridge and roadway would be built to current structural and geometric standards. Byron Highway would continue to be a two-lane facility and operations of the roadway would be similar to existing conditions. The Project would not interfere with emergency evacuation plans upon construction completion therefore impacts are **less than significant**, and no mitigation measures are required.

- g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

The Project would remove the existing bridge along Byron Highway over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. The Project would not result in new additional structures, nor would it increase the number of people within the Project site once construction is complete. Therefore, Project operations would not expose people or structures to a significant risk from wildland fires, beyond what is currently present. Impacts would be less than significant in this regard. No mitigation is required.

During construction, workers would be present on site; however, this increase in workers would be temporary in nature. The Project site is served by ECCFPD. The ECCFPD operates 3 fire stations staffed by 3 firefighters, for a total of 9 firefighters staffed per day (ECCFPD 2019). The Project would be coordinated with the ECCFPD, as well as school districts and bus services that use Byron Highway, as well as the County's Sheriff's Office and other law enforcement or emergency service providers within the Project area. With the implementation of Mitigation Measure FIRE-01, impacts would be **less than significant with mitigation incorporated** regarding wildland fire threat.

IMPACT HAZ-3: The Project could expose people or structures to a significant risk of loss, injury or death involving wildland fires during construction.

Implement **MITIGATION MEASURE FIRE-1**, as described in Section 20, Wildfire below.

SOURCES OF INFORMATION

- Contra Costa County. 2000. Contra Costa County Airport Land Use Compatibility Plan. December 2000. Online <https://www.contracosta.ca.gov/DocumentCenter/View/851/Cover-Introduction-and-County-wide-Policies?bidId=> Accessed November 2019.
- DHA. 2019. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Initial Site Assessment. August 2019.
- East Contra Costa Fire Protection District (ECCFPD). 2019. About The District. Online <https://www.eccfpd.org/about-the-district>. Accessed November 8, 2019.
- Geocon Consultants, Inc. (Geocon). 2019a. Asbestos and Lead-Containing Paint Survey Report. Project No. E9113-02-01. February 2019.
- Geocon. 2019b. Soil Sampling And Analysis Report Byron Highway Bridge Replacement Project. Project No. E9113-02-01. February 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

A Location Hydraulic Study Report (Avila 2019) and a Water Quality Technical Memorandum (DHA 2019) were prepared for the Project and are available for review at the CCCPWD. These studies provide information regarding the hydraulic characteristics at the Project site, scour potential for the proposed bridge, design flow characteristics, hydrologic information, and water quality analysis for the Project.

Hydrology (surface water)

At a regional level, the Project spans the California Aqueduct and is located in the San Joaquin Delta hydrologic unit (HU) within the San Joaquin hydrologic region (HR). It is located in the Clifton Court Forebay sub-watershed (180400030604) within the Old River watershed (1804000306). The San Joaquin Delta HU drains an area of approximately 677 square miles while the San Joaquin HR drains an area of approximately 15,314 square miles. The Clifton Court Forebay sub-watershed drains an area of approximately 25 square miles while the Old River watershed drains an area of approximately 243 square miles (DHA, 2019).

The California Aqueduct is a 400-mile system of canals, tunnels, and pipelines that conveys water collected from the Sierra Nevada Mountains and valleys of northern and central California to southern California. The California Aqueduct begins at the Harvey O. Banks Pumping Plant (BAPP) which pumps water from the Clifton Court Forebay at the southwestern corner of the Sacramento-San Joaquin River Delta. The California Aqueduct then heads south, eventually splitting into three branches: Coastal Branch, ending at Lake Cachuma in Santa Barbara County; West Branch, conveying water to Castaic Lake in Los Angeles County; and East Branch, connecting Silverwood Lake in San Bernardino County (DHA 2019). A typical section has a concrete-lined channel 40 feet deep at the base and an average water depth of approximately 30 feet. The widest section of the California Aqueduct is 110 feet and the deepest is 32 feet. Channel capacity is 13,100 cfs. The portion of the California Aqueduct within the Project site is considered to be the BAPP intake channel (intake channel) and has a trapezoidal-shaped cross section but is not concrete-lined.

The California Aqueduct in the Project area is a perennial drainage on the Clifton Court Forebay CA USGS 7.5-minute Quadrangle and is classified as riverine, lower perennial, unconsolidated bottom, permanently flooded, and excavated (R2UBHX) on the current National Wetland Inventory (NWI) map (USFWS 2019).

Groundwater

The Project site lies within the San Joaquin Valley Groundwater Basin and the Tracy Subbasin. The San Joaquin Valley comprises the southernmost portion of the Great Valley Geomorphic Province of California (DHA 2019). The Great Valley is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The Tracy Subbasin is defined by the areal extent of unconsolidated to semi-consolidated sedimentary deposits that are bounded by the Diablo Range on the west; the Mokelumne and San Joaquin Rivers on the north; the San Joaquin River to the east; and the San Joaquin-Stanislaus County line on the south (DWR, 2018). The Tracy Subbasin is located adjacent to the Eastern San Joaquin Subbasin on the east and the Delta-Mendota Subbasin on the south. All of the above mentioned subbasins are located within the larger San Joaquin Valley Groundwater Basin. The Tracy Subbasin also lies to the south of the Sacramento Valley Groundwater Basin, Solano Subbasin.

The Tracy Subbasin is drained by the San Joaquin River and one of its major westside tributaries; Corral Hollow Creek (DHA 2019). The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into the San Francisco Bay. Annual precipitation within the subbasin ranges from approximately 11 inches in the south to about 16 inches in the north (DHA 2019).

Review of hydrographs for the Tracy Sub basin indicate that except for seasonal variation resulting from recharge and pumping, the majority of water levels in wells have remained relatively stable over at least the last 10 years (Avila 2019).

Water Quality

Surface Water

At the Project site, Byron Highway, Union Pacific Railroad (UPRR), and the surrounding agricultural practices influence water quality in the California Aqueduct. Vehicles traveling on Byron Highway, as well as trains travelling along the railroad, are sources of diesel fuel, oil, grease, gasoline, heavy metals, and combustion byproducts. Pollutants associated with agriculture in the watershed include pesticides, herbicides, nutrients from fertilizers, salts leached from soils, and animal waste. The California Aqueduct is included in the 2014 to 2016 California 303(d) list of impaired waters and is a waterbody subject to Total Maximum Daily Load (TMDL) requirements (DHA 2019). The list of pollutants and sources, as well as pollutants with TMDLs for the Delta Waterways (export area), which includes the California Aqueduct, include, but are not limited to, chlorpyrifos, DDT (Dichlorodiphenyltrichloroethane), diazinon, electrical conductivity, Group A pesticides, and mercury (DHA 2019). Water quality objectives for surface waters in the region have been set for bacteria, bioaccumulation, biostimulatory substances, mercury and methylmercury, chemical components, color, dissolved oxygen (DO), floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, and turbidity (DHA 2019).

Groundwater

Areas of poor water quality exist throughout the subbasin. Elevated chloride levels occur in several areas including the western side of the subbasin; in the vicinity of the City of Tracy; and along the San Joaquin River. Elevated nitrate occurs in the northwestern part of the subbasin and in the vicinity of the City of Tracy. Elevated boron levels occur over a large portion of the subbasin from south of Tracy and extending to the northwest side of the subbasin.

Beneficial Uses

Beneficial uses are established for the California Aqueduct and include municipal and domestic supply; agricultural irrigation and stock watering; industry process, service, and power; water contact recreation, and other noncontact recreation; and wildlife habitat (DHA 2019).

SUMMARY:

- a) *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

The Project would remove the existing bridge along Byron Highway over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. The Project would not increase the use of Byron Highway and operations of the road would be similar to existing conditions. Therefore, the Project, once completed, would not result in any violations of water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant. No mitigation is required.

Construction of the Project has the potential to expose bare soil and potentially generate other water quality pollutants that could be exposed to precipitation and subsequent entrainment in surface runoff to the California Aqueduct or roadside drainage features. Construction activities involving soil disturbance, excavation, cutting/filling, and grading activities could result in increased erosion and sedimentation to the California Aqueduct and waters downstream. Construction materials, such as asphalt and concrete, and equipment fluids could be exposed to precipitation and subsequent runoff. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution) and contribute to the degradation of surface water and groundwater quality.

Proposed channel disturbance during construction, including installation of temporary support piles could result in a temporary increase in turbidity and suspended solids in and around the area of the in-channel construction. Dewatering would occur during the installation of the CISS piles in which a temporary casing would be installed and the casing would be dewatered. Dewatering discharge could result in an adverse effect to water quality if the effluent contains chemical pollutants or high levels of sediment and is accidentally discharged prior to being cleaned. While sediment in the primary pollutant of concern, all dewatering effluents would be required to be tested for trace pollutants by an EPA certified laboratory prior to discharge into receiving waters according to the General Water Discharge Requirements/NPDES Permit for Dewatering and Other Low Threat Discharges to Surface Waters. Effluent samples would be tested for total suspended solids (TSS), total nitrogen, oil and grease, total petroleum hydrocarbons, and sulfides. Discharge effluent would be required to be visibly clear and sediment control BMPs would be implemented.

The use of construction equipment could result in minor fuel or oil spills could occur during construction activities. The release, even if accidental, of hazardous materials into the environment is regulated through existing federal, state, and local laws. These regulations require emergency response from local agencies to contain hazardous materials in the event of an accidental release. The use of handling of hazardous materials during construction activities would occur in accordance with applicable federal, State, and local laws, including the CalOSHA requirements. Implementation of construction BMPs, compliance with vehicle manufacturer's

specifications, and compliance with applicable regulations would reduce the chances of impacting surface water and groundwater quality.

The California Building Code (CBC) compliance is a condition of approval set forth in the County Code. Adherence to the building and grading standards of the County Code is indicative of adherence to the standards of the CBC. The proposed Project would implement construction BMPs, as discussed in Section 4, Biological Resources, and Section 9, Hazards and Hazardous Materials, above. The Project would also be required to obtain and comply with the necessary permits, including NPDES General Construction, Section 404, and Section 401 permits. Adherence to these permitting requirements and building/grading standards would include incorporation of appropriate, site-specific BMPs. Implementation of **Mitigation Measure HYD-1** would ensure that Project construction adheres to waste discharge requirements and would not substantially degrade surface or ground water quality. With implementation of appropriate BMPs and mitigation measures construction impacts to surface water and groundwater quality would be **less than significant with mitigation incorporated**.

IMPACT HYD-1: Construction of the Project has the potential to violate water quality or waste discharge requirements, or otherwise substantially degrade surface quality through discharges of contaminated dewatering effluents.

MITIGATION MEASURE HYD-1: All dewatering effluents shall be required to be tested for trace pollutants by an EPA certified laboratory prior to discharge into the receiving waters of the California Aqueduct, per the General Water Discharge Requirements/NPDES Permit for Dewatering and Other Low Threat Discharges to Surface Waters. Effluent samples will be tested for total suspended solids (TSS), total nitrogen, oil and grease, total petroleum hydrocarbons, and sulfides. Discharge effluent shall be required to be visibly clear and sediment control BMPs will be implemented.

- b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The Project site is not actively used for groundwater recharge. The Project is similar in size and scale as the existing bridge and roadway approaches. No wells would be constructed nor would new connections to existing water facilities be required. Construction activities would not intercept or alter groundwater recharge, discharge, or flow conditions, as the Project would replace the existing bridge. Any increase in impervious surface as a result of the Project would be negligible in association with groundwater recharge. Construction activities may require the use of water for dust control or other activities. Water used during construction would not include groundwater and would be trucked to the Project site. Water use at the Project site would cease upon completion of construction. Therefore, the Project would not substantially decrease water supply or reduce groundwater recharge. Impacts would be **less than significant**. No mitigation is required.

- c) *Would the project substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- i) *Result in substantial erosion or siltation on- or off-site?*

The Project would remove the existing bridge and construct a new bridge designed to current structural and geometric standards. Operation of the Project would be similar to existing conditions. The Project would not alter the course of the California Aqueduct nor would it alter the existing drainage pattern of the site.

Construction activities involving soil disturbance, excavation, cutting/filling, and grading activities could result in increased erosion and sedimentation to the California Aqueduct and waters downstream. In addition, the use of large construction equipment may compress soil within the staging areas, which could lead to a redirection in permeability, an increase in site water runoff, and an increase in erosion or siltation to occur. The Project would comply with County, the California Building Code (CBC) standards, and BMPs pertaining to erosion control prevention, such as the use of silt fencing and fiber rolls, through the development of a Project SWPPP. The Project SWPPP would also comply with NPDES General Construction, Section 404, and Section 401 permitting requirements for preventing erosion and siltation at the construction site. Any temporary construction areas would be revegetated, as required through **Mitigation Measures BIO-2**. Therefore, adherence to, and implementation of, permitting requirements, building/grading standards, site-specific BMPs, and mitigation measures, the Project would result in less than significant impacts in this regard. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

IMPACT HYD-2: Construction activities involving soil disturbance, excavation, cutting/filling, and grading activities could result in increased erosion and sedimentation to the California Aqueduct and waters downstream

MITIGATION MEASURE HYR-2: Implement **MITIGATION MEASURE BIO-2**, as described in Section 4, Biological Resources, above.

- ii) *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

The Project would construct a new bridge designed to current structural and geometric standards, thus, there would be an increase in impervious surfaces, when compared to existing conditions. The Project would increase impervious surfaces by approximately 1.2 acres, which could cause an increase in surface water runoff leaving the Project site. Stormwater runoff currently drains to agricultural and roadside drainages along Byron Highway. Modifications to the drainage features, including culvert extensions, would be conducted to handle the incremental increase in runoff. No additional source of runoff would be created as a result of the Project. During construction, standard erosion and stormwater BMPs, such as silt fence and fiber rolls, would be implemented to reduce any runoff that could occur during a rain event. Therefore, the Project would not result

in flooding on- or off-site. Impacts would be **less than significant** in this regard. No mitigation is required.

- iii) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

The Project would construct a new bridge designed to current structural and geometric standards, thus, there would be an increase in impervious surfaces, when compared to existing conditions. The Project would increase impervious surfaces by approximately 1.2 acres, which would cause an increase in surface water runoff leaving the Project site. Stormwater runoff currently drains to agricultural and roadside drainages along Byron Highway. Modifications to the drainage features, including culvert extensions, would be conducted to handle the incremental increase in runoff. No additional source of polluted or unpolluted runoff would be created as a result of the Project. During construction, standard erosion and stormwater BMPs, such as silt fence and fiber rolls, would be implemented to reduce any runoff that could occur during a rain event. Therefore, the Project would not contribute to exceeding the capacity of the existing stormwater drainage system. Impacts would be **less than significant** in this regard. No mitigation is required.

- iv) *Impede or redirect flood flows?*

The Project would construct a new bridge designed to current structural and geometric standards. The Project would not alter the course of the California Aqueduct nor would it alter the existing drainage pattern of the site. Therefore, impacts would be considered **less than significant** and no mitigation is required.

- d) *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

The Project site is not located within a tsunami or seiche zone; therefore, no impacts would occur in this regard during operations or construction. The Project is within flood hazard area Zone A. The Federal Emergency Management Agency (FEMA 2019) defines Zone A areas to be areas with 1% annual chance of flooding, or the 100-year floodplain. The Project would remove the existing bridge and construct a new bridge designed to current structural and geometric standards. Operation of the Project would be similar to existing conditions. The risk of release of pollutants due to inundation of the Project site would be similar to existing conditions. Impacts would be **less than significant** in this regard and no mitigation is required.

Construction of the Project has the potential to expose bare soil and potentially generate other water quality pollutants that could be released into the California Aqueduct during a flood event. Construction materials, such as asphalt and concrete, and equipment fluids could be exposed during a flood event. A flood event could result in the release of pollutants due to project inundation. The California Building Code (CBC) compliance is a condition of approval set forth in the County Code. Adherence to the building and grading standards of the County Code is indicative of adherence to the standards of the CBC. The Project would implement construction BMPs, as discussed in Section 4, Biological Resources, and Section 9, Hazards and Hazardous

Materials, above. The Project would also be required to obtain and comply with the necessary permits. Adherence to these permitting requirements and building/grading standards would include incorporation of appropriate, site-specific BMPs. Therefore, the Project would not result in the release of pollutants due to inundation. Impacts would be **less than significant**. No mitigation is required.

- e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The Project would construct a new bridge designed to current structural and geometric standards along an adjacent alignment to the existing bridge and then remove the existing Byron Highway Bridge over the California Aqueduct. Operation of the Project would be similar to existing conditions. During construction, the Project would adhere to, and implement, permitting requirements, building/grading standards, and site-specific BMPs.

The Project would meet the water treatment requirements as set forth in the “Contra Costa Clean Water Program – Stormwater C.3 Guidebook” (C3 manual) through the use of the existing drainage facilities and new retention basins. The Project would not be required to implement hydromodification flow control measures identified in the C3 manual, as the Project qualifies under two established exemptions: 1) The Project is located in a catchment that drains to pipes, hardened channels, or tidally influenced channels that extends continuously to the Bay, Delta, or flow-controlled reservoir, and 2) the Project is located in a catchment or sub watershed that is highly developed. Additionally, the high groundwater table and impervious soils at the Project site would make hydromodification flow control measures identified in the C3 manual unsuitable for the Project.

Therefore, the Project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. The Project would result in **no impact**. No mitigation is required.

SOURCES OF INFORMATION

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Federal Emergency Management Agency (FEMA). 2019. FEMA Flood Map Service Center: Search by Address. Online <https://msc.fema.gov/portal/search>. Accessed January 30, 2020.

United States Fish and Wildlife Service (USFWS). 2019. National Wetland Inventory Map. Online <https://www.fws.gov/wetlands/data/mapper.html>. Accessed November 8, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

The Project is located in the unincorporated portion of the County approximately 3.6 miles of Byron, CA. The County designated zoning classifications in the Project vicinity include Heavy Agriculture – Railroad Corridor (A-3-X), General Agriculture (A-2), and Agriculture Preserve (A-4). The General Plan designates the land surrounding the Project site as AL (Agricultural Land), PS (Public/Semi-Public), DR (Delta Recreation), and WA (Water). The General Plan Land Use Element identifies the PS land use designation within and adjacent to the Project site as “California Aqueduct”, DR² land use designation as the Byron Tract, and WA land use designation as Clifton Court Forebay.

The existing Byron Highway provides access from the City of Tracy northwest to the community of Byron.

SUMMARY:

- a) *Would the project physically divide an established community?*

The Project would replace an existing obsolete bridge located over the California Aqueduct. Operation of the Project would be similar to existing conditions. The Project would not physically divide an established community. Thus, the Project would have **no impact** and no mitigation measures are required.

- b) *Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The Project would replace an existing obsolete bridge located over the California Aqueduct. The Project would construct a new bridge designed to current structural and geometric standards. Operation of the Project would be similar to existing conditions.

The Project would not conflict with the County General Plan, County Zoning Ordinance, Contra Costa County Airport Land Use Compatibility Plan (ALUCP), or the East Contra Costa County

² The DR (Delta Recreation) land use designation is different than the traditional PR (Parks and Recreation) land use designation in that DR lands are primarily used for agricultural production and processing activities allowed in the AL (Agricultural Land) designation, and recreation activities are often secondary uses in this lands designation.

Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). The Project is consistent with the Transportation and Circulation Element goals and policies of the County General Plan (Contra Costa County 2005), including:

- Roadway and Transit Goal #5-A: To provide a safe, efficient and integrated multimodal transportation system.
- Roadway and Transit Goal #5-D: To maintain and improve air quality above air quality standards.
- Roadway and Transit Goal #5-K: To provide basic accessibility to all residents, which includes access to emergency services, public services and utilities, health care, food and clothing, education and employment, mail and package distribution, freight delivery, and a certain amount of social and recreational activities.
- Roadway and Transit Policy #5-9: Existing circulation facilities shall be improved and maintained by eliminating structural and geometric design deficiencies.
- Roadway and Transit Policy #5-14: Physical conflicts between pedestrians, bicyclists, and vehicular traffic, bicyclists, and pedestrians shall be minimized.
- Roadway and Transit Policy #5-23: All efforts to develop alternative transportation systems to reduce peak period traffic congestion shall be encouraged.

According to the ALUCP, the Project is not located within a runway approach zone for a planned or establish airport. The Project is located within Zone B2 for the Byron Airport and policies applicable to this airport compatibility zone limit the development of noise-sensitive residential and non-residential developments (ALUC 2000). This zone restricts the number of people that use the Project site to no more than 100 people per acre. Development within this zone would also need approval from the Airport Land Use Commission if the proposed development is taller than 70 feet. The Project would not introduce new noise-sensitive developments in the vicinity of the Bryon Airport and would not introduce more than 100 people per acre. The proposed bridge replacement would be less than 70 feet in height and the ALUC would be notified of construction equipment greater than 70 feet in height, including crane equipment need to construct the replacement bridge. Therefore, the Project is consistent with the ALUCP.

The Project is a covered activity under the HCP/NCCP. The HCP/NCCP includes goals and policies for the protection of multiple special-status species and sensitive natural communities. All special-status species and sensitive natural communities protected under the HCP/NCCP are discussed above, under the Biological Resources section of this review, and are evaluated in detail in the NES documented for the Project (LSA Associates 2019). The Project has been designed to avoid potential impacts to both HCP/NCCP-covered species and species protected only under CEQA. The Project has been approved by the East Contra Costa County Habitat Conservancy; therefore, the Project would be consistent with HCP/NCCP.

The Project would comply with federal, State, and local policies and regulations. The Project would not conflict with any existing land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating and environmental effect. **No impact** would occur in this regard and no mitigation measures are required.

SOURCES OF INFORMATION

Contra Costa County. 2005. General Plan (2005-2020) Land Use Element. Online.
<https://www.contracosta.ca.gov/4732/General-Plan>. Accessed October 15, 2019.

Contra Costa County. 2020. GIS Interactive Map, CCMAP. Online
<https://gis.cccounty.us/Html5/index.html?viewer=CCMAP>. Accessed January 31, 2020.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

The County's top mined mineral resources are crushed rock near Mt. Zion, on the north side of Mt. Diablo, in the Concord area; shale in the Port Costa area; and sand and sandstone deposits, mined from several locations, but focused in the Byron area (Contra Costa County 2005). The Project site is not mapped for mineral resources and is not within the vicinity of current mining operations within the County.

Mineral Resource Zone (MRZ) categories are used to classify which land has potential significant mineral resources, based on geologic factors, regardless of current or existing land use. The County does not contain MRZs within, or adjacent to, the Project site. The closest identified mineral resource area to the Project site is located approximately 3.5 miles to the northwest and is classified as MRZ-2 for domengine sandstone. The MRZ-2 classification includes areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood of their presence exists. (Contra Costa County 2005).

SUMMARY:

- 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?*

The Project would remove the existing Byron Highway Bridge over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. There are no mining operations within the Project vicinity. The Project site does not include regional or statewide significant mineral lands. The closest MRZ zone is a MRZ-2 for domengine sandstone located approximately 3.5 miles northwest of the Project site. Construction activities would be temporary in nature and would not conflict with or limit access to mineral resources. Operation of the Project would be similar to existing conditions. The Project would have **no impact** to known mineral resources. No mitigation is required.

- 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?*

The Project is not located near a mineral resource recovery site delineated by the General Plan or any other applicable land use plan. The closest MRZ zone is a MRZ-2 zone for domengine sandstone located approximately 3.5 miles northwest of the Project site. Construction activities would be temporary in nature and would not conflict with or limit access to mineral resources. Operation of the Project would be similar to existing conditions. There would be **no impact** to locally important mineral resource recovery site. No mitigation is required.

SOURCES OF INFORMATION

Contra Costa County. 2005. General Plan (2005-2020) Chapter 8. Conservation Element. Online. <https://www.contracosta.ca.gov/DocumentCenter/View/30918/Ch8-Conservation-Element?bidId=>. Accessed October 15, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. NOISE – Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

A Noise Technical Memorandum (DHA 2019) was prepared for the Project and is available for review at the CCPWD offices. The Memorandum was prepared to discuss the Project's potential noise related impacts to the surrounding community and potentially sensitive land use in the vicinity of the Project site. The Project study area for the noise environment includes approximately one-half-mile of roadway to the northwest and southwest of the bridge and approximately three acres of land to the southwest of the bridge, to be used primarily for staging area purposes (**Appendix A: Figure 6**). Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, transient lodging, schools, rest homes, and hospitals are generally more sensitive to noise than commercial and industrial land uses. Sensitive receptors in the vicinity of the Project include single-family residences on Bruns Way (approximately 900 feet west of the Project). (**Appendix A: Figure 6**).

The UC Davis Fish Conservation and Culture Laboratory is located on the south side of the aqueduct and is approximately 420 feet northeast of the project site and the John E. Skinner Delta Fish Protective Facility is located on the north side of the aqueduct and is approximately 750 feet to the northeast of the project site. These two facilities are considered a Category F land use that includes industrial/

maintenance facilities and does not have an established noise impact criterion for this type of land use (DHA 2019).

Noise is defined as unwanted sound; thus, it is a subjective reaction to characteristics of a physical phenomenon. A frequency weighting measure that simulates human perception is commonly used to describe noise environments and to assess impacts on noise-sensitive areas. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. The decibel (dB) notation used for sound levels describes a logarithmic relationship of acoustical energy, for example, a doubling of acoustical energy results in an increase of three dB, which is considered barely perceptible. A 10-fold increase in acoustical energy equals a 10-dB change, which is subjectively like a doubling of loudness. **Table 11**, Typical Noise Levels, identifies decibel levels for common sounds heard in the environment.

Table 11 Typical Noise Levels

Common Outdoor Activity	Noise level (dBA)	Common Indoor Activity
Jet flyover at 1,000 feet	110	Rock band
Gas lawnmower at three feet	100	
Diesel truck at 50 feet at 50 mph	90	Food blender at three feet
Noisy urban area, daytime	80	Garbage disposal at three feet
Gas lawnmower, 100 feet	70	Vacuum cleaner at ten feet
Commercial area		Normal speech at three feet
Heavy traffic at 300 feet	60	Large business office
Quiet urban daytime	50	Dishwasher next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
Quiet rural nighttime	30	Library
	20	Bedroom at night, concert hall (background)
	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans, 2013

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are: equivalent A-weighted sound level over a given time period (Leq); average day-night 24 hour average sound level with a nighttime increase of 10 dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL), a 24-hour average that includes both an evening and a nighttime weighting. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Although people often accept the higher levels associated with very noisy urban residential and

residential-commercial zones, they nevertheless are considered to be adverse levels of noise with respect to public health because of sleep interference if these levels occur during nighttime hours.

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.

The most common descriptor used to quantify construction vibration amplitude in relation to impacts to the structures is the peak particle velocity (PPV), defined as the maximum instantaneous peak velocity of the vibratory motion in inches per second (in/sec). According to Caltrans Transportation and Construction Vibration Guidance Manual (2013), PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. The Federal Transit Administration (FTA) recommends a PPV threshold of 0.5 in/sec for residential and commercial structures (FTA, 2018). While PPV levels are generally measured in in/sec, for aquatic noise, the noise levels are measured in dB. When a pile driving hammer strikes a pile, a sound pulse is created that propagates through the pile and radiates sound into the water and the ground substrate, as well as the air. Peak sound refers to the maximum intensity of that pulse and is measured in dB. The agreed-upon threshold criteria for impulse-type noise have been set at 206 dB peak, 187 dB accumulated SEL for fish over 2 grams, and 183 dB for fish less than 2 grams (DHA 2019).

SUMMARY:

- a) *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The Project would remove the existing Bryon Highway Bridge over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that may increase ambient noise levels. The Project would not permanently increase the noise levels in the area. No impact would occur in this regard.

Noise from construction activities generally attenuate at a rate of 6 dBA per doubling distance.

The primary source of noise from the Project would result from construction activities. **Table 12** lists general construction phases for typical roadway projects and their estimated average noise levels.

Table 12. Typical Construction Phases and Noise Levels

Construction phase	Noise level (dBA, Leq)
Pile Driving	100
Ground clearing	84
Excavation	88/78
Foundations	88
Erection	79/78
Finishing	84

Source: U.S. EPA, 1971.

Noise at the construction site would be intermittent and its intensity would vary depending on the type and location of construction equipment being used. The degree of construction noise impacts may vary for different areas of the Project area and also vary depending on the construction activities.

Table 13 Summarizes noise levels produced by construction equipment types that are commonly used on roadway projects and are representative of the equipment necessary for this Project. The majority of Project construction noise would result from pile driving activities. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 13 Typical Construction Equipment Noise Levels

Construction equipment	Noise level (dBA, Leq at 50 feet)
Scrapers	85
Bulldozers	85
Heavy trucks	85
Pneumatic tools	85
Concrete pump	82
Backhoe	80

Source: Federal Transit Administration, 2018

Noise from construction activities is anticipated to temporarily increase ambient noise levels in the vicinity of the Project. Construction activity noise levels would fluctuate depending on the particular type, number, and duration of uses of construction equipment, as well as vary depending on the type of construction activity or phase. Noise from construction activities may intermittently dominate the noise environment with varying levels of intensity. Driven piles are the preferred piling method due to site constraints and difficult construction conditions. Pile driving is the loudest construction noise source for the Project.

The nearest sensitive receptor is located approximately 900 feet from the Project construction area and over 1,700 feet from the greatest noise source, pile driving, which will occur at the bridge site (**Appendix A: Figure 6**). The sensitive receptor is a rural residential property located along North Bruns Road and is zoned A-3-X (Heavy Agricultural – Railroad Corridor Combining District). Assuming an attenuation rate of 6 dBA per doubling distance, typical noise levels from the loudest Project construction activities would be no more than 71 dB (approximately 71 dB for impact pile drivers and 65 dB for sonic pile drivers). Construction activities, including the pile driving, would occur during daytime hours, between 7 AM and 6 PM. No construction activities would occur on holidays.

Ambient noise levels from construction will be temporary, ceasing upon construction completion. With the implementation of BMPs and compliance with federal, State and local policies, regulations and standards and the implementation of Mitigation Measure NOI-1, the Project would have a less than significant impact with respect to ambient noise levels. Therefore, the Project impacts would be **less than significant with mitigation incorporated**.

IMPACT NOI-1: Required Project construction activities, such as pile driving, would temporarily generate high levels of ambient noise.

MITIGATION MEASURE NOI-1a: Noise generating construction activities shall take place during times of least sensitivity to receptors (7:00 AM. and 6:00 PM., Monday through Friday). Weekend work shall generally be discouraged and, if necessary, only take place between the hours of 9:00 AM. and 5:00 PM. No construction would occur on state or federal 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.

MITIGATION MEASURE NOI-1b: The Project Contractor shall employ the following noise-reducing practices during Project construction:

- Use newer equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment would generally be quieter in operation than older equipment. Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. All construction equipment would be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).
- Utilize construction methods or equipment that provides the lowest level of noise and ground vibration impact. Utilize quiet air compressors and other stationary noise-generating equipment where appropriate technology exists.
- Keep noise levels relatively uniform and avoid impulsive noises.
- Maintain good public relations with the community to identify objectionable sources of noise. The County will provide a Project description and Project updates including the construction schedule on their website.

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

Construction of the Project is anticipated to use pile drivers for the construction of the temporary trestle because of the site constraints and difficult construction conditions. Pile driving would generate groundbourne vibration levels of 0.644 in/sec (impact) and 0.170 in/sec (sonic) at 25 feet from the source. The greatest groundbourne vibration and noise levels would occur from the pile driving activities. As mentioned above, the FTA recommends a PPV threshold of 0.5 in/sec for residential and commercial structures. Given that PPV levels decrease over distance, and the nearest residence is located 1,700 feet northwest of the existing bridge, this threshold would not be exceeded as a result of the Project. There are no commercial structures located within the Project area.

It is anticipated that that large-diameter (approximately 60-inch) Cast-in-Steel-Shell (CISS) piles would be utilized for the construction of the new bridge. The CISS piles would be driven deep into the ground and require no additional foundation construction at the bottom of the channel. A pile driver would drive the cylindrical steel shells to the required depth and the inside of the shell would be excavated of soil. Reinforcing steel would be placed in the shell and the steel shells filled with concrete. The CISS piles would be framed into a concrete bent cap beam which would support the bridge superstructure.

The UC Davis Fish Conservation and Culture Laboratory and the John E. Skinner Delta Fish Protective Facility are both located on the northeast side of the project site. These two research facilities are approximately 470 and 750 feet, respectively, from the greatest noise source, pile driving. At a distance of 470 and 750 feet from the pile driving activity, typical noise levels from pile driving will be no more than 80 dB. The UC Davis Fish Lab is a research facility that conducts research on fish confined in containers onsite. Groundborne vibrations caused from pile driving makes a negligible contribution to underwater sound levels because of the attenuation at the air/water interface. The fish are not located within the California Aqueduct nor are they connected to the California Aqueduct.

Juvenile fish and larva get through the fish screens and can potentially make it through the pumping plant; however, there is no information to suggest that there are persistent populations of fish living in this portion of the California aqueduct. The only flow in the channel is caused by the pumps, thus any fish in the channel would be pulled towards the pumps. The project includes the use of oversized steel casing on the bridge piles to reduce sound and vibration in the water, it would also force pile driving noise to be pushed up through the casing opposed to the sound traveling laterally. This would further reduce potential for noise to travel through the water in the California aqueduct. Piles driven for the temporary trestle are smaller and noise levels to install these piles is expected to be less than the main piles.

The Project construction would take approximately two years, and any groundbourne noise and vibrations levels would be temporary in nature, ceasing upon construction completion. With the implementation of BMPs and compliance with the federal, State and local policies, regulations, and standards and the implementation of **Mitigation Measures NOI-1a and NOI-1b, and the addition of NOI-2**, the Project would have a less than significant impact with respect to

groundbourne vibration and noise levels. Therefore, the Project impacts would be **less than significant with mitigation incorporated**.

IMPACT NOI-2: Required Project construction activities, such as pile driving, would temporarily generate high levels of groundborne vibration and groundborne noise which could affect nearby fish facilities.

MITIGATION MEASURE NOI-2: Onsite monitoring shall be conducted by a qualified biologist during first day of pile driving for the temporary trestle and for the bridge to monitor fish behavior. If there are signs of distress, the qualified biologist will notify the County and the Resident Engineer. The Qualified Biologist will provide weekly on-site monitoring during the pile driving activity. The Resident Engineer will continue to monitor and will contact the qualified biologist if a change in fish behavior is noted. The Resident Engineer will coordinate with the UC Davis Fish Conservation and Culture Laboratory and the John E. Skinner Delta Fish Protective Facility regarding fish behavior.

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

The Project is located approximately 1.10 miles east of the Byron Airport and is located within the County Airport Land Use Compatibility Plan (ALUCP), Byron Airport (Contra Costa County 2000). The Project is within Zone B2 of the Byron Airport compatibility zones. This zone restricts the number of people that use the Project site to no more than 100 people per acre and restricts the height of an object to no more than 70 feet in height. Operations would be similar to existing conditions upon construction completion. The Project would not increase the number of people residing in an area within 2 miles of an airport. Therefore, the Project would not permanently expose people residing in the area to excessive noise levels generated from the airport. No impact would occur in this regard.

During construction, it is not anticipated that more than 100 workers would be at the Project site at any given time. The average would be approximately 15 workers. Thus, the Project would comply with the ALUCP. In addition, construction activities would be temporary in nature, thus when construction is complete, the workers would leave the Project site and go to their next location. Therefore, during construction, the Project would not result in the exposure of people in the Project area to excessive noise levels generated by the airport. Impacts would be **less than significant**. No mitigation measures are required.

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Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

The County's total population was estimated to be 1.15 million in 2017 (Contra Costa County 2019). The proposed Project is located in a rural setting, outside of any established residential communities. The nearest residential community of Mountain House, CA is located approximately 3.2 miles southeast of the Project, along Byron Highway. Mountain House has a population of approximately 9,675 people in 2010 and a 5-year population estimate of approximately 15,010 people in 2017 (U.S. Census 2010, U.S. Census 2017b). The community of Byron, CA, is located approximately 3.5 miles northwest of the Project. Byron had a population of approximately 1,277 people in 2010 and a 5-year population estimate of approximately 1,480 people 2017 (U.S. Census 2010, U.S. Census 2017c).

Within the County, the Project site is located within the U.S. Census Bureau census tract (CT) 3040.02. CT 3040.02 had a population of approximately 1,426 people in 2010 and a 5-year population estimate of approximately 1,647 people in 2017 (U.S. Census 2010, U.S. Census 2017a).

There are three residences within 0.5 mile of the proposed Project. The first residence is located approximately 2,400 feet south of the proposed Project, along Bruns Road. The second and third residences are located on North Bruns Way approximately 2,000 feet southeast and northeast of the Project site, respectively.

SUMMARY:

- a) *Would the project induce substantial unplanned 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 would remove the existing Bryon Highway Bridge over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that may encourage population growth within the surrounding

communities. The Project would not permanently increase the population in the area either directly or indirectly. **No impact** would occur in this regard. No mitigation is required.

Because of the temporary nature of construction, it is assumed that these employees would come from the nearby and surrounding areas and would not relocate to the area for work. The Project would not temporarily increase the population in the surrounding area. **No impact** would occur in this regard. No mitigation is required.

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

No Impact. There are three residences within one-half mile of the Project; however, these residences would not be directly impacted by the Project. Operations would be similar to existing conditions upon construction completion. The new bridge would not displace housing units or people within the Project area and replacement housing would not be required. There would be no impact in this regard. No mitigation is required.

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Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. PUBLIC SERVICES – <i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
a) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The Project site is served by the East Contra Costa Fire Protection District (ECCFPD). The ECCFPD is a rural funded fire district that protects approximately 249 square miles and over 115,000 residents. The ECCFPD operates 3 fire stations staffed by 3 firefighters, for a total of 9 firefighters staffed per day. The ECCFPD responds to more than 7,700 calls per year, resulting in approximately 9,590 fire engine responses (ECCFPD 2019).

The Project site is served by the Contra Costa County Sheriff's Department (CCCSD), which serves unincorporated portions of the County. The nearest CCCSD station is located at 200 O'Hara Avenue in Oakley CA, approximately 13 miles northwest of the Project site (CCCSD 2019).

The Project site is within the Byron Union Elementary School District (BUESD) and the Liberty Union High School District (LUHSD) boundaries (BUSD 2019; LUHSD 2019). The Project site is served by Timber Point Elementary School (Grades K-5), Excelsior Middle School (Grades 6-8), and Liberty Union High School (Grades 9-12).

The Project is not in close proximity to any public parks. The nearest public park, Bethany Reservoir State Recreation Area, is located approximately 3 miles south of the Project site. The Questa Village Community Park is also located approximately 3.3 miles southeast of the Project site (CCC 2005). The Project site is within close proximity to the DR (Delta Recreation) land use designation identified as the Byron Tract; however, allowable land uses within this designation are primarily agricultural and not recreational.

SUMMARY:

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

a) *Fire Protection?*

The Project would remove the existing Byron Highway Bridge over the California Aqueduct and replace and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that could increase traffic and congestion. The Project would not increase the need for fire protection, as service needs would be similar to existing conditions. Therefore, the Project would have no impact to fire protection services upon the completion of construction.

Access along Byron Highway would be maintained during construction. The Project would leave the existing bridge in place while the new bridge is constructed in order to maintain two lanes of vehicular traffic (one in each direction) during the duration of construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with fire response times.

Construction of the Project could result in accident or emergency incidents that would require emergency response, such as fire, police, medical, or hazardous waste services; however, construction activities would be short in duration. Traffic control would be present while traffic is moved onto the new alignment. Basic safety measures and best management practices (BMPs) would be implemented to reduce impacts to **less than significant** levels.

b) *Police Protection?*

The Project would remove the existing Byron Highway Bridge over the California Aqueduct and replace and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that could increase traffic and congestion. The Project would not increase the need for police protection, as service needs would be similar to existing conditions. Therefore, the Project would have no impact to CCCSD protection services upon the completion of construction.

Access along Byron Highway would be maintained during construction. The Project would leave the existing bridge in place while the new bridge is constructed in order to maintain two lanes of vehicular traffic (one in each direction) during the duration of construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with CCCSD response times.

During construction, construction workers would be present on site, which could result in the need for public services. Construction of the Project could result in accident or emergency incidents that would require emergency response, such as CCCSD; however, construction activities would be short in duration. Any increase in CCCSD services due to construction activities would be temporary, ceasing upon completion of the Project.

Potential impacts would be mitigated through the coordination with the CCCSD would ensure that the proposed project would not increase the need for police protection services and impacts would be **less than significant**.

c) *Schools?*

The Project would not increase the population, refer to Section 14, Population and Housing, and thus, would not result in an increase in school age children beyond what the BUESD and LUHSD currently provides. Construction workers are anticipated to come from the surrounding areas, and thus would not relocate to the Project vicinity. Therefore, temporary increase in school services would not occur. No impact would occur with respect to school service needs and no mitigation measures are required.

Access along Byron Highway would be maintained during construction. The Project would leave the existing bridge in place while the new bridge is constructed in order to maintain two lanes of vehicular traffic (one in each direction) during the duration of construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with bus routes and times. Potential impacts would be **less than significant**.

d) *Parks?*

The Project would leave the existing bridge in place while the new bridge is constructed to the south in order to maintain two lanes of vehicular traffic during construction. Operations would be similar to existing conditions upon completion of construction. The demands on park services upon completion of construction would be similar to existing conditions. No impact would occur in this regard.

The Project would not directly impact parks, as there are no parks within one mile of the Project site. The nearest public recreation facility, Bethany Reservoir State Recreation Area, is located approximately 3 miles southeast of the Project site (Contra Costa County 2005). While construction workers would be brought to the area during the construction season, they are anticipated to come from the surrounding area, and thus would not relocate. Construction workers would be on the Project site during construction hours and would return home in the off hours. Therefore, and increased demand on park services resulting in the need for new or improved facilities would not occur. **No impact** would result during construction of the Project.

e) *Other public facilities?*

The Project would remove the existing Byron Highway Bridge over the California Aqueduct and replace and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that could increase traffic and congestion. The Project would not increase the need for other public services, as service needs would be similar to existing conditions. Therefore, the Project would have no impact to other public services upon the completion of construction.

Access along Byron Highway would be maintained during construction. The Project would leave the existing bridge in place while the new bridge is constructed in order to maintain two lanes of vehicular traffic (one in each direction) during the duration of construction. Temporary lane

closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with emergency response times or public transportation routes.

During construction, construction workers would be present on site, which could result in the need for public services. Construction of the Project could result in accident or emergency incidents that would require emergency response, such as medical and ambulance services; however, construction activities would be short in duration. Any increase in emergency services due to construction activities would be temporary, ceasing upon completion of the Project.

The Project would not increase the population, refer to Section 14, Population and Housing, and thus, would not result in an increase in the number of people that would use other public services such as libraries, public transportation, and other County services. Construction workers are anticipated to come from the surrounding areas, and thus would not relocate to the Project vicinity. Therefore, temporary increase in other public services would not occur and potential impacts would be **less than significant**.

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Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING:

The nearest public recreation facility, Bethany Reservoir State Recreation Area, is located approximately 3 miles southeast of the Project site (Contra Costa County 2005). The nearest County maintained parks and recreation facilities are as follow:

- Hap Magee Ranch Park- approx. 22.9 miles west
- Livorna Park- approx. 23 miles northwest
- Rancho Romera Sports Field and Park- approx. 23.5 miles northwest
- Alamo School sports field and batting cages- approx. 23.8 miles northwest
- Andrew H. Young Park- approx. 23.9 miles northwest

The Project site is located within close proximity to the DR (Delta Recreation) land use designation; however, the DR (Delta Recreation) land use designation is different than the traditional recreation land use designation in that the primary uses that are allowed in are those agricultural production and processing activities allowed in the AL (Agricultural Land) designation.

SUMMARY:

- 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 would replace the existing Byron Highway Bridge over the California Aqueduct with a new bridge designed to be consistent with County, American Association of State Highway and Transportation Officials (AASHTO), Federal Highway Administration (FHWA), California Department of Water Resources (DWR), and Caltrans design criteria and standards. Operations would be similar to existing conditions upon construction completion. The Project would not directly impact parks, as there are no parks adjacent to the Project site or within the Project

vicinity. The Project would not contribute to an increase in population, nor would it result in an increase in demand on existing neighborhood or regional parks. The Project would not result in increased use of existing regional or neighborhood parks and recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated. **No impact** would occur in this regard.

While construction workers would be brought to the area during the construction season, based on the temporary nature of construction, workers are anticipated to come from the surrounding area and thus would not need to migrate to the Project site area. Therefore, the Project would not result in increased use of existing regional or neighborhood parks and recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated. **No impacts** would occur in this regard. No mitigation is required.

- 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?*

The Project does not include the creation of recreational facilities. The Project would replace the existing Byron Highway Bridge over the California Aqueduct with a new bridge designed to be consistent with County, AASHTO, FHWA, DWR, and Caltrans design criteria and standards. Operations would be similar to existing conditions upon construction completion. The Project would not contribute to an increase in population, nor would it result in an increase in demand on existing recreational facilities. No additional recreational facilities would be required to be created as a result of the Project. While construction workers would be brought to the area during the construction season. Based on the temporary nature of construction, they are anticipated to come from the surrounding area, and thus would not relocate. Therefore, an increased demand on recreational facilities resulting in the need for new or improved facilities would not occur. The Project would have **no impact** in this regard and no mitigation measures are required.

SOURCES OF INFORMATION

Contra Costa County (CCC). 2005. Contra Costa County General Plan. Open Space Element.
Available: <http://www.co.contra-costa.ca.us/4732/General-Plan>.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The Project is located along Byron Highway in western Contra Costa County. The County is located within the jurisdiction of the Metropolitan Transportation Commission (MTC), the regional transportation planning agency that serves the nine-county San Francisco Bay Area region. Byron Highway is classified as an arterial road in the General Plan. The existing roadway runs in the northeast-southwest direction at the Project site. The corridor connects the communities in San Joaquin County to the south to Contra Costa County and is also important to goods movement in the region. According to MTC, the average daily traffic (ADT) along Byron Highway in 2017 was approximately 11,000 vehicles a day; approximately 8 percent of the ADT consisted of truck traffic (MTC 2017).

The Surface Transportation Assistance Act (STAA) of 1982 allows these trucks to operate on the interstates and certain primary routes (such as Byron Highway), which are collectively called the National Network. Byron Highway is part of the National Network, which consists of routes on which STAA trucks, which have a wide turn radius, can safely travel. STAA trucks are longer than California legal trucks and have a larger turning radius than most local roads can accommodate.

The Contra Costa Transportation Authority (CCTA) functions as the County's principal transportation planning agency and Congestion Management Agency. The applicable plans adopted by CCTA are the *2017 Update of the Contra Costa Congestion Management Program* (CCTA 2017) and the *2018 Countywide Bike and Pedestrian Plan* (CCTA 2018). In addition, the Transportation and Circulation Element of the General Plan includes transportation goals and policies (CCC 2005a). There are no public transportation bus routes along Byron Highway within the Project site.

SUMMARY:

- a) *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

The Project would remove the existing Byron Highway bridge over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. The new structure would remain an arterial as designated in the General Plan. Operations would remain similar to existing conditions upon construction completion. The Project would not increase the capacity of Byron Highway. The eight-foot shoulders would meet AASHTO minimums and would be consistent with the Countywide Bicycle and Pedestrian Plan that would accommodate a class 2 facility with buffer striping. Therefore, the Project, upon completion, would be consistent with programs, plans, ordinances, and policies related to circulation.

Temporary lane closures and one-way traffic control may be required to complete construction. A traffic control plan will be prepared by the contractor to address operations during construction. The traffic control plan will be reviewed and approved by the County prior to construction. In addition, access for through traffic, pedestrians, and bicyclists along Byron Highway would be maintained throughout the construction period. Any potential conflicts would cease upon construction completion. Therefore, Project impacts would be **less than significant**, and no mitigation measures are required.

- b) *Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?*

Senate Bill 743 (Steinberg, 2013), which enacted Public Resources Code section 21099, required changes to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts. Contra Costa County Board of Supervisors approved a transportation analysis guideline for the implementation of SB 743, which includes Vehicle Miles Travelled (VMT) metrics for evaluating transportation impacts of proposed projects under CEQA in the unincorporated area. These County Guidelines provide, as approved by the Board of Supervisors on 6/23/2020, provide technical guidance regarding assessment of VMT, thresholds of significance, and mitigation measures for land development and transportation projects in the unincorporated area. If a transportation project would likely lead to a measurable and substantial increase in vehicle travel (i.e. increase total VMT), it is presumed to be a significant impact and an analysis assessing the amount of vehicle travel the project will induce shall be conducted.

Transportation projects that can be presumed to lower VMT or have no effect on it, such as bike and pedestrian projects, transit improvements, and minor operational improvements, as defined in the State of California Governor's Office of Planning and Research (OPR) Technical Advisory (OPR 2018), should be expected to cause a less-than-significant impact under CEQA and would not require further VMT analysis. The OPR Technical Advisory lists projects that would not likely lead to a substantial or measurable increase in VMT, one of which includes:

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts;

Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity

The Project would remove the existing Byron Highway bridge and construct a new structure designed to current structural and geometric standards. Operations would be similar to existing conditions upon completion of construction. The Project would not increase or decrease future vehicle capacity or create long-term changes to traffic patterns or VMT. Roadway users would continue to be similar as those currently using Byron Highway. No change in traffic patterns, VMT or ADT would result from the Project. No mitigation measures are required.

During construction, Byron Highway would remain open in the existing alignment to vehicular traffic, pedestrian and bicyclists. Once construction of the new bridge is complete, traffic will undergo a slight shift onto the new bridge, while the existing bridge is demolished. This slight shift in traffic would not result in a change in VMT, as it is adjacent to, and parallel with, the existing Byron Highway alignment. Therefore, pursuant to Section 15064.3(b), the Project would have a **less than significant** impacts on transportation and no mitigation measures are required.

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

The Project would remove the existing Byron Highway bridge and replace it with a structure that is consistent with County, FHWA, AASHTO, and Caltrans current structural and geometric standards. The Project would also include approximately 1,350 linear feet of roadway approach work east of the bridge and approximately 1,350 linear feet of roadway approach work west of the bridge. This work is warranted for the safe realignment of the road and the Project would not increase hazardous conditions due to geometric design. The Project would have **no impact** in this regard and no mitigation measures are required.

- d) *Would the project result in inadequate emergency access?*

The Project would remove the existing Byron Highway Bridge over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Access along Byron Highway would be maintained during construction. The Project would leave the existing bridge in place while the new bridge is constructed in order to maintain two lanes of vehicular traffic (one in each direction) during the duration of construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to interfere with police and fire response times or school bus routes. The Project would be coordinated with the ECCFPD, CCCSD, other law enforcement or emergency service providers within the area, BUESD, and LUHSD; therefore, Project impacts would be **less than significant**, and no mitigation measures are required.

SOURCES OF INFORMATION

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Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. TRIBAL CULTURAL RESOURCES – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING:

A Tribal Cultural Resource (TCR) is defined as a site, feature, place, cultural landscape, or sacred place or object that has cultural value to California Native American tribes (Public Resource Code [PRC] § 21073, 21074). In order to be considered a TCR, the resource must be included in or determined eligible for inclusion in the California Register or is included in a local register of historical resources. As stated in the Cultural Resources section, to be considered a historical resource, for the purposes of a TCR, the resource must meet the criteria for listing in the California Register.

AB 52 went into effect on July 1, 2015 and establishes a consultation process with all California Native American Tribes on the Native American Heritage Commission (NAHC) List for federal and non-federal tribes (PRC § 21080.3). Once the tribe is notified of the proposed project, the tribe has 30 days to request consultation. The consultation process ends when either the parties agree to mitigation measures or avoid a significant effect on tribal cultural resources or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. The Wilton Rancheria submitted a general request letter to be notified of Projects within Contra Costa County under AB52. CCCPWD initiated contact with Wilton Rancheria on July 5, 2018 regarding the Project (**Appendix B**). No response was received from Wilton Rancheria within 30 days of receipt of this formal notification, therefore no AB52 consultation was initiated as per California PRC section 21080.3.1(b).

An Historic Property Survey Report (HPSR), Historical Resources Evaluation Report (HRER), and Archaeological Survey Report (ASR) were prepared for the Project (DHA 2019a, DHA 2019b; LSA Associates 2019). The HPSR, HRER, and ASR are available for review at the Contra Costa County Public Works Department (CCCPWD). Some information from the HPSR, HRER, and ASR is considered confidential under the California Public Resources Code (PRC) and the Code of Federal Regulations (CFRs) in compliance to the Freedom of Information Act and the California Public Records Act in order to protect the integrity of tribal cultural resources, and, thus, would not be available to the public (7 PRC 21082.3 and 36 CFR 800.11).

To support the HRER and ASR, a cultural resources investigation was conducted for the Project, which included a record search at the California Historical Resources Information System (CHRIS) Northwest Information Center (NWIC), background research, and pedestrian survey. In addition, as part of the effort to identify any TCRs, a Sacred Lands File search was conducted by the NAHC in 2018. The Sacred Lands File search found no known TCRs in or near the Project site. Formal notification and invitation to consult letters were sent on behalf of the County to six identified tribes. Native American consultation efforts are documented in the ASR (DHA 2019b).

The Project area is within territory traditionally occupied by the Ohlone/Costanoan, Northern Valley Yokuts, and Miwok. In the early 1990s, prior to the construction of the Los Vaqueros Reservoir, extensive ethnographic background research was conducted for the Los Vaqueros project, located approximately 7 miles northwest of the APE. As a result of the Los Vaqueros studies, a Community Distribution Model (CDM), that includes the tribes of the study area, is available at the Bancroft Library, UC Berkeley. The CDM is a digital atlas and encyclopedia that models the socio-political landscape of these native Californians at the time of first contact with the Spanish, a rolling moment from the 1770s through the 1830s (DHA 2019b).

Non-native settlement and development began in the area when Antonio M. Pico was granted the 35,546-acre Rancho El Pescador in 1843 (DHA 2019b). By the mid-1800's, the early settlers in the Delta realized the value of its rich farmlands. A year-round supply of water and ready transportation along waterways to expanding markets provided settlers with the incentive to develop agriculture. Further impetus was provided by the U.S. Congress, which ceded all swamp and overflow lands to the state in the Swamp and Overflowed Land Act of 1850. Islands in the Project vicinity were covered under this act and were made available through land patents to individuals who would be responsible for reclamation and development of the property into productive farmland. At first, the patents were set at 320 acres; they were raised to 640 acres in 1859, to increase demand (DHA 2019b).

SUMMARY:

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

- a) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

A letter was sent to the NAHC requesting a search of the Sacred Lands File and a list of contacts with individuals of Native American descent who might hold information concerning the Project and its vicinity. The NAHC responded on October 30, 2018, and the County provided their AB 52 contacts, resulting in a list of six individuals and Native American organizations who were contacted via letter and electronic mail (e-mail) on January 2, 2019. A search of the NAHC's Sacred Lands File came back negative for potential tribal cultural resources within the Project site.

Of the six Native American individuals contacted, one responded: the Wilton Rancheria. The Wilton Rancheria stated that the only concern is with ground disturbance. The Wilton Rancheria stated that "even in areas of existing or prior development, there is a possibility that Native American artifacts and/or human remains may be uncovered. Therefore, [if artifacts or human remains are uncovered] the Applicant should immediately stop construction and notify Wilton Rancheria and the appropriate Federal and State Agencies." Refer to the ASR for documentation of consultation efforts and results (DHA 2019b).

No known ethnographic, traditional or contemporary Native American sites of religious or cultural significance have been identified in or adjacent to the Project site. No known listed or eligible tribal cultural resources were identified, nor is the site located in a local register of historical resources as defined in Public Resources Code section 5020.1(k). This impact would be **less than significant**, and no mitigation measures are required.

- b) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision of Public Resources Code Section 5024.1?*

As discussed in subsection a, above, the Wilton Rancheria stated that the that "even in areas of existing or prior development, there is a possibility that Native American artifacts and/or human remains may be uncovered. Therefore, [if artifacts or human remains are uncovered] the Applicant should immediately stop construction and notify Wilton Rancheria and the appropriate Federal and State Agencies." Refer to the ASR for documentation of consultation efforts and results (DHA 2019b).

Undiscovered subsurface tribal cultural deposits that may be present in the area could be disturbed by ground disturbing Project activities. The potential to uncover unknown or undocumented subsurface tribal cultural deposits would be a potentially significant impact. Implementation of **Mitigation Measures CUL-1** and **CUL-2**, discussed in Section 5, Cultural Resources and **Mitigation Measure TCR-1** would reduce impacts on tribal cultural resources to **less than significant with mitigation incorporated**.

IMPACT TCR-1: Undiscovered subsurface tribal cultural deposits may be present in the area and could be disturbed by ground disturbing Project activities.

MITIGATION MEASURE TCR-1: *Follow Protocol for the Unanticipated Discovery of a Tribal Cultural Resources or Human Remains.* If buried tribal cultural or tribal materials are encountered during construction, cease all work within 50 feet until of a qualified cultural resources specialist and Native American Representatives determined by the Native American Heritage Commission assess the significance of the find and make recommendations for further evaluation and treatment as necessary. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, returning objects to a location within the Project area where they will not be subject to future impacts. Any permanent curation shall only be conducted in coordination with the traditionally and culturally affiliated Native American Tribes. Treatment that preserves or restores the cultural character and integrity of a Tribal Cultural Resource may include Tribal Monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or soil containing cultural deposits. These recommendations will be documented by the qualified cultural resources specialist and provided to the County for inclusion in the Project record. For any recommendations made by traditionally and culturally affiliated Native American Tribes that are not implemented, the qualified cultural resources specialist shall provide a written justification for why the recommendation was not followed to the County for including in the Project record.

Implement **MITIGATION MEASURE CUL-1**, as described in Section 5, Cultural Resources section of this document, above.

Implement **MITIGATION MEASURE CUL-1**, as described in Section 5, Cultural Resources section of this document, above.

SOURCES OF INFORMATION

- DHA. 2019a. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Historic Property Survey Report. August 2019.
- DHA. 2019b. Byron Highway Bridge Replacement Project (BRLS-5928(104)) Archaeological Survey Report June 2019
- LSA Associates. 2019. Byron Highway Bridge Replacement Project (BRLS-5928 (104)) Historic Resource Evaluation Report. April 2019.
- Contra Costa County. 2005. General Plan, Conservation Element. Online: <https://www.contracosta.ca.gov/DocumentCenter/View/30918/Ch8-Conservation-Element?bidId=> Accessed August 29, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The Project is located in an unincorporated area of the County. The Project site is within the service area of the Byron-Bethany Irrigation District (BBID), a special district providing water and irrigation to Byron, CA and nearby rural communities. BBID also provides management services as well as operations and maintenance support to the Byron Sanitary District, which provides wastewater and sewer services to the community of Byron, CA. BBID offices are located at 7995 Bruns Road, Byron, CA, approximately one mile southwest of the Project site. Stormwater drainage at the Project site and surrounding area is collected in roadside ditches and agricultural drains. MCE Community Choice Energy is the main provider of electricity in the region and is located at 2300 Clayton Rd, Suite 1150, Concord, CA. Solid waste services are provided by Republic Services 441 N Buchanan Cir. Pacheco, CA 94553.

Existing overhead utilities at the site include communication lines on both the upstream and downstream sides of the existing bridge. The upstream side of the existing bridge also has overhead electric lines. Overhead electric transmission lines run parallel to Byron Highway but are approximately 150 ft south of the proposed bridge and 200 ft south of the existing bridge. The overhead transmission lines do cross Byron Highway, but about 750 feet west of the bridge work. The overhead transmission lines are not anticipated to conflict with construction of the bridge or roadway and therefore are not anticipated to be relocated prior or during construction. The overhead electric lines just upstream of the existing bridge, however, would be in conflict with any removal of the existing bridge. They would likely need to be relocated before any demolition of the existing bridge begins and relocated after the new bridge is built. Underground utilities at the site include an 8-inch Chevron oil pipeline, a 12-inch California Resources Company (CRC) natural gas pipeline, a 3-inch CRC electrical conduit, and two 8-inch abandon Tidewater oil pipelines. These utilities cross the existing bridge and will be relocated prior to construction.

SUMMARY:

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?*

The Project would construct a new bridge and associated roadway improvements and then demolish and remove the existing, obsolete Byron Highway Bridge. Byron Highway would continue to serve as a local arterial.

Operations would be similar to existing conditions upon construction completion. The Project would result in an increase impervious surfaces which could cause an increase in surface water runoff leaving the Project site. Modifications to the existing drainage features, including culvert extensions, would be conducted to make them suitable for the new roadway alignment and to handle the incremental increase in runoff. The Project would not generate wastewater nor increase water demand and therefore would not require the construction of additional wastewater or water treatment facilities. Operations would not increase the demand for water, electrical power, natural gas, or other telecommunication facilities; thus, the Project would not require the expansion or construction of new facilities. Operation impacts would be less than significant and no mitigation measures are required.

Non-potable water use would be required for fugitive dust control during the construction of the Project. See the Section 3, Air Quality, for more information regarding fugitive dust control BMPs. Water supplies during construction are typically trucked to the site from outside sources that supply water for construction activities. This use of water would occur during the construction period of the Project and would cease upon construction completion. Potable water would be required during construction for workers. Typically, potable water is brought to the site in bottles or other potable water vessels. Water use at the Project site would cease upon completion of construction. No new or expanded water facilities would be required.

During construction, port-a-potties are typically used at construction sites; however, they are removed once construction is completed. These facilities are operated by private companies that provide cleaning services; thus, the Project would not increase wastewater service demand during construction. No new or expanded facilities would be required.

Construction of the Project would require extension of existing culverts, as well as modifications to drainage features such as ditches and swales in order to accommodate the new bridge structure and roadway approaches. Additionally, the Project would increase impervious surfaces by approximately 1.2 acres, which could cause an increase in surface water runoff leaving the Project site. The proposed modifications to the existing drainage features and the addition of retention basins would be constructed to handle the incremental increase in runoff as a result of the Project. Thus, construction of the Project would not result in the need for new or expanded stormwater drainage facilities over and above the modifications necessary to accommodate the new bridge that have been described and analyzed herein.

Relocation of underground and overhead utilities is anticipated to occur concurrently with the construction of the new bridge and associated roadway improvements. Trenching is anticipated to be required for relocation of underground utilities to conform to new roadway alignments. Overhead electrical utility relocations would occur in conjunction with roadway improvements and new bridge construction. These relocations are necessary to accommodate the new bridge and associated roadway approaches. No increased demand on utilities would occur during construction or once construction is completed such that new or expanded facilities would be required.

The Project would not result in the need for new or expanded water, wastewater treatment, or other utility facilities. Impacts from the Project would be **less than significant**. No mitigation is required.

- b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

The Project would construct a new bridge and approximately 2,500 feet of associated roadway improvements on either end of the bridge, and then demolish and remove the existing, obsolete Byron Highway Bridge. The Project would not result in new, permanent water demand directly or indirectly. Use of non-potable water would be used for fugitive dust control measures (see Section 3, Air Quality, for more information regarding dust control). Potable water supplies during construction are used for construction workers. Water supplies during construction are typically trucked to the site from outside sources that supply water to construction activities. This use of water would occur during the construction period of the Project and would cease upon construction completion. **No impact** would occur to existing water supplies. No mitigation is required.

- c) *Would the project 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?*

The Project would construct a new bridge and associated roadway improvements and then demolish and remove the existing, obsolete Byron Highway Bridge. Upon construction completion, the Project would not generate wastewater; thus, it would not require wastewater treatment services. During construction, port-a-potties are typically used at construction sites; however, they are removed once construction is completed. These facilities are operated by private companies that provide cleaning services; thus, the Project would not increase wastewater service demand during construction. There would be **no impact** and no mitigation measures are required.

- d) *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

The Project would construct a new bridge and associated roadway improvements and then demolish and remove the existing, obsolete Byron Highway Bridge. The Project would generate waste from construction activities, the temporary trestle, and bridge demolition; however, the Project would not result in long-term demands for solid waste disposal services, as operations of Byron Highway would be similar to existing conditions. Solid Waste associated with construction activities would be handled by the Byron Sanitary District (BBID 2019). The nearest landfill is the Altamont Landfill, located at 10840 Altamont Pass Road, Livermore, CA 94550 (Waste Management 2019). This landfill is managed by Waste Management, Inc. and is located approximately six miles south of the Project site. The facility has the capacity to accept waste generated by the Project. Solid waste generation would cease upon completion of the Project. The Project's impact on solid waste generation would be **less than significant** and no mitigation measures are required.

- e) *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The Project would comply with all federal, State, and local statutes and regulations related to solid waste, including compliance with the 1989 California Integrated Waste Management Act (AB 939) requiring specific waste diversion goals for local agencies. All recyclables and organics collected from the Project site by the Byron Sanitary District would be taken to the appropriate facilities. The Project would comply with all federal, State, and local statutes and regulations related to solid waste, therefore, impacts in this regard are **less than significant** and no mitigation measures are required.

SOURCES OF INFORMATION

Byron-Bethany Irrigation District (BBID). 2019. About Byron-Bethany Irrigation District. Online: <http://bbid.org/about-bbid/>. Accessed November 11, 2019.

Contra Costa County. 2005. Utility Verification for the Byron Highway Bridge Replacement Project. September 24, 2019.

Pacific Gas and Electric (PG&E). 2014. PG&E's Electric Service Territory. Online: https://www.pge.com/tariffs/tm2/pdf/ELEC_MAPS_Service_Area_Map.pdf. November 2014. Accessed November 8, 2019.

Waste Management, Inc. 2019. Our Services. Online: <https://www.wm.com/us/en/services>. Accessed November 11, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
20. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING:

The Project site is served by the East Contra Costa Fire Protection District (ECCFPD). The ECCFPD is a rural funded fire district that protects approximately 249 square miles and over 115,000 residents. The ECCFPD operates 3 fire stations staffed by 3 firefighters, for a total of 9 firefighters staffed per day. The ECCFPD responds to over 7,700 calls a year, resulting in approximately 9,590 fire engine responses (ECCFPD 2019). The closest station to the Project is ECCFPD Fire Station 59, which is located approximately 6 miles northwest of the Project site (ECCFPD 2019).

The Project is located within a Local Responsibility Area (LRA) (CalFire 2007a). The nearest State Responsibility Area (SRA) is located approximately 0.75 miles west of the Project (CalFire 2007b). The Project area has been designated within a moderate fire hazard severity zone (CalFire 2007a).

SUMMARY:

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

- a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

The Project would remove the existing bridge along Byron Highway over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not increase capacity along Byron Highway that could increase traffic and congestion. The Project would not impair an adopted emergency response plan or emergency evacuation plan, as Byron Highway would remain open throughout construction of the Project, and operations of the replacement bridge would be similar to existing conditions. Therefore, the Project would have no impact to emergency response plans or emergency evacuation plans upon the completion of construction.

Access along Byron Highway would be maintained during construction along the existing Byron Highway Bridge over the California Aqueduct. Upon completion of the new bridge and approaches, minor traffic control is anticipated to transition traffic to the new bridge. This minor traffic control would result in minor traffic delays and temporary impacts to circulation; however, it is not anticipated to significantly interfere with an emergency response plan or emergency evacuation plan. The Project would be coordinated with the ECCFPD, Contra Costa County Sheriff's Office (CCCSO), other law enforcement or emergency service providers within the area, the Byron Unified Elementary School District (BUESD), and the Liberty Union High School District (LUHSD). Project impacts would be **less than significant**.

- b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

The Project would remove the existing bridge along Byron Highway over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project site's slope, prevailing winds, or other factors that exacerbate wildfire risks and expose the Project site and surrounding area to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire would be similar to existing conditions upon completion of construction. Therefore, operation of the Project would have no impact in this regard.

Construction activities involving vehicles, heavy machinery, and personnel smoking at the Project site could result in the ignition of a fire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers and improper disposal of cigarettes could potentially ignite surrounding vegetation. Implementation of **Mitigation Measure FIRE-1** would reduce the potential for construction activities to result in severe fires by requiring fire-safe construction and maintenance practices. Therefore, Project impacts would be **less than significant with mitigation incorporated**.

IMPACT FIRE-1: Construction activities involving vehicles, heavy machinery, and personnel smoking at the Project site could result in the ignition of a wildfire.

MITIGATION MEASURE FIRE-1: Prior to construction, the contractor shall prepare a Fire Safety Plan for use during construction. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:

- Dry grass shall be cut low or removed from construction equipment staging areas.
- All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
- Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.
- Equipment parking areas (staging areas) shall be cleared of all extraneous flammable materials.
- Smoking shall be limited to paved areas or areas cleared of all vegetation.

- c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less than significant impact with mitigation incorporated. See discussion under subsection b, above.

- d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The Project would remove the existing bridge along Byron Highway over the California Aqueduct and construct a new bridge designed to current structural and geometric standards. Operations would be similar to existing conditions upon construction completion. The Project would not substantially increase stormwater runoff, result in drainage pattern changes, or result in a population increase that would ultimately expose people or structures to significant risks. During construction, construction workers would be present on site; however, this increase in workers would be temporary in nature. The risks associated with runoff, slope instability, and drainage changes within the Project site during construction would be similar to existing conditions. Therefore, the Project would have a **less than significant impact** in this regard and no mitigation measures are required.

SOURCES OF INFORMATION

East Contra Costa Fire Protection District (ECCFPD). 2019. About The District. Online <https://www.eccfpd.org/about-the-district>. Accessed November 8, 2019.

California Department of Forestry and Fire Protection (CalFire). 2005. Statewide Map of Wildland Fire Threat Data. Online: <https://frap.fire.ca.gov/mapping/maps/>. Accessed November 11, 2019.

California Department of Forestry and Fire Protection (CalFire). 2007a. Contra Costa County Fire Hazard Severity Zones in Local Responsibility Areas. Online: <https://frap.fire.ca.gov/mapping/maps/>. Accessed November 11, 2019.

California Department of Forestry and Fire Protection (CalFire). 2007b. Contra Costa County Fire Hazard Severity Zones in State Responsibility Areas. Online: <https://frap.fire.ca.gov/mapping/maps/>. Accessed November 11, 2019.

Environmental Issues	Less Than Significant			
	Potentially Significant Impact	With Mitigation Incorporated	Less Than Significant Impact	No Impact
21. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUMMARY:

Per CEQA regulations and guidelines, the Lead Agency must summarize the finding of significance from earlier sections and must consider potential cumulatively considerable effects for environmental impact reports (EIRs) and in the discussion section below. Even though this environmental document is an IS/MND and not an EIR, the potential for cumulatively considerable effects are analyzed below.

SUMMARY:

- a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

Per the impact discussions in the Biological, Cultural Resources, and Tribal Cultural Resources sections, the potential of the Project to substantially degrade the environment or eliminate major periods of California history or prehistory would be **less than significant with mitigation incorporated; Mitigation Measures BIO-1 through BIO-11, CUL-1a, CUL-1b, and TCR-1.**

- 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.)*

The Project is located in Contra Costa County. The purpose of the Project is to provide adequate and safe public access that is consistent with County, FHWA, AASHTO, and Caltrans design criteria and standards. The Project would remove the existing Bryon Highway bridge over the California Aqueduct and construct a new bridge designed to current federal, State and local structural and geometric standards. Operations would be similar to existing conditions upon construction completion. All Project impacts were found to be less than significant or less than significant with mitigation incorporated.

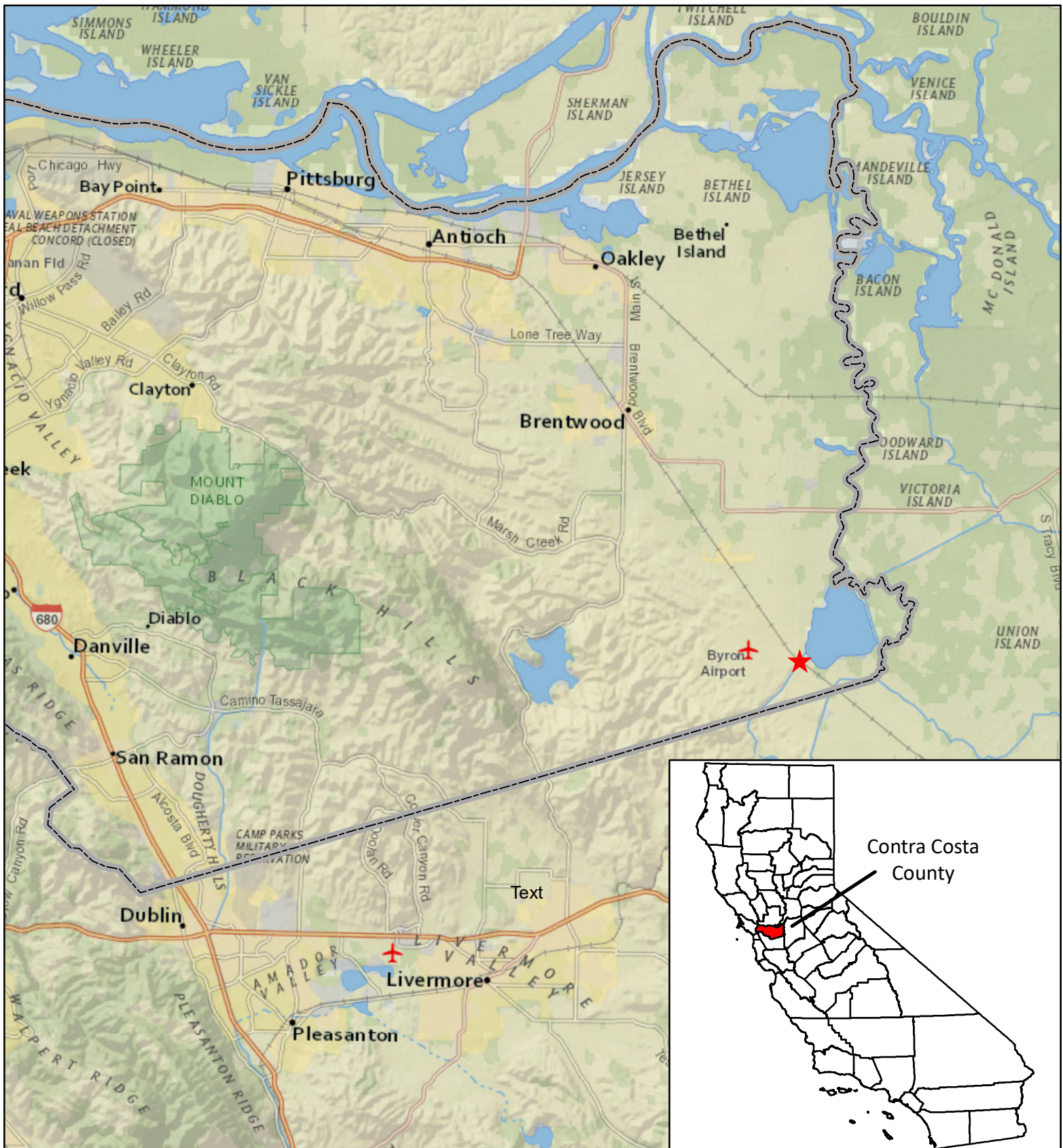
DWR is currently working on the Waterfix project, now called Delta Conveyance. The Delta Conveyance project proposes to install tunnels to convey water from the upper reaches of the Delta to a new Forebay adjacent to Clifton Court Forebay and then via dual tunnels (38-foot or 40-foot diameter) under UPRR and Byron Highway to connect with the California Aqueduct south of the proposed project. The Delta Conveyance project will accommodate 3000 to 7500 cfs (up to 5 intakes) and involves a couple study corridors outside of the County. The tunnels will be approximately 80 feet to 100 feet deep (to top of tunnel). The depth of the tunnels would negate any conflict with the proposed project (or future project on Byron Highway). In addition, it is not anticipated that the proposed project and the Delta Conveyance project would have cumulative construction impacts because the construction timing is different. The proposed project would go to construction in 2022, while the draft EIR for the Delta Conveyance project is anticipated to be available for public review in 2021, with project approvals by the end of 2022, and construction would begin in 2026. No other projects are known that could result in cumulative construction impacts. Therefore, impacts would be **less than significant**, and no mitigation measures are required.

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

The Project would remove the existing Byron Highway bridge over the California Aqueduct and construct a new bridge designed to current federal, State and local structural and geometric

standards. Operations would be similar to existing conditions upon construction completion. The Project would not cause substantial adverse effects on human beings. As discussed in the Public Services, Transportation, and Wildfire sections, the potential impacts to human beings during construction would be mitigated to a less than significant level. Effects related to biological resources, cultural resources, hazards and hazardous materials, noise, public services, transportation and traffic, and tribal cultural resources are discussed above, and would be temporary in nature and would incorporate mitigation measures. Impacts would be **less than significant** with **mitigation incorporated**.

APPENDIX A



Legend

★ Project Location



County Boundary

0 2.5 5 10 Miles



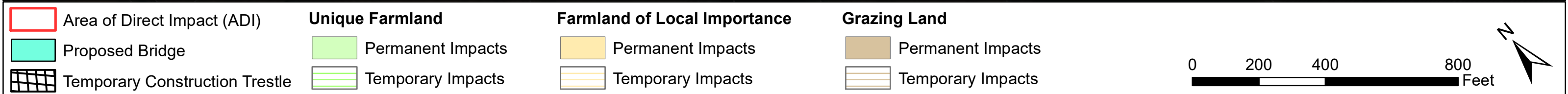


Legend

Project Location
 Proposed Bridge
 Temporary Construction Trestle

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Ft





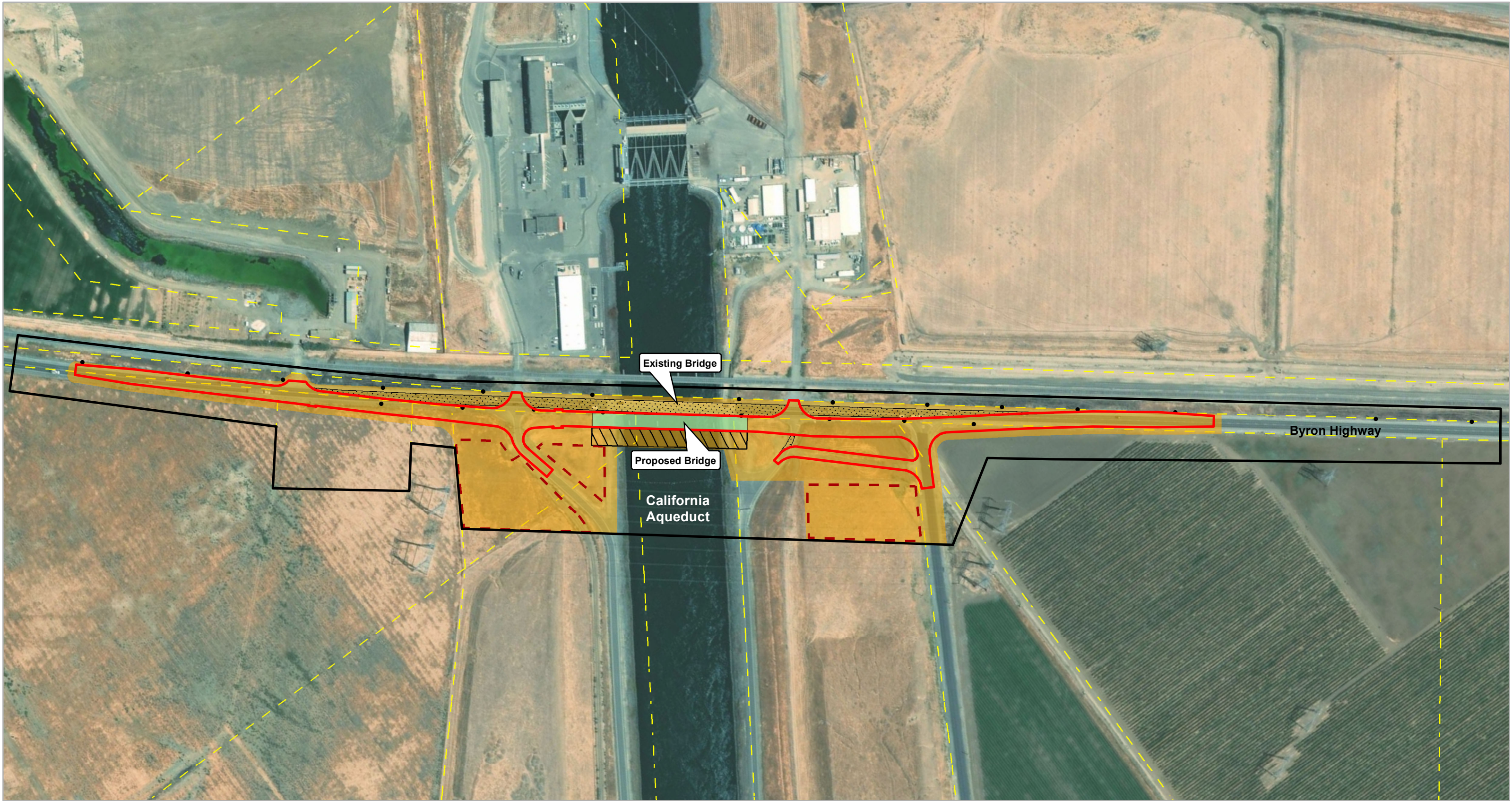
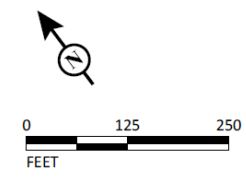


FIGURE 4

LSA



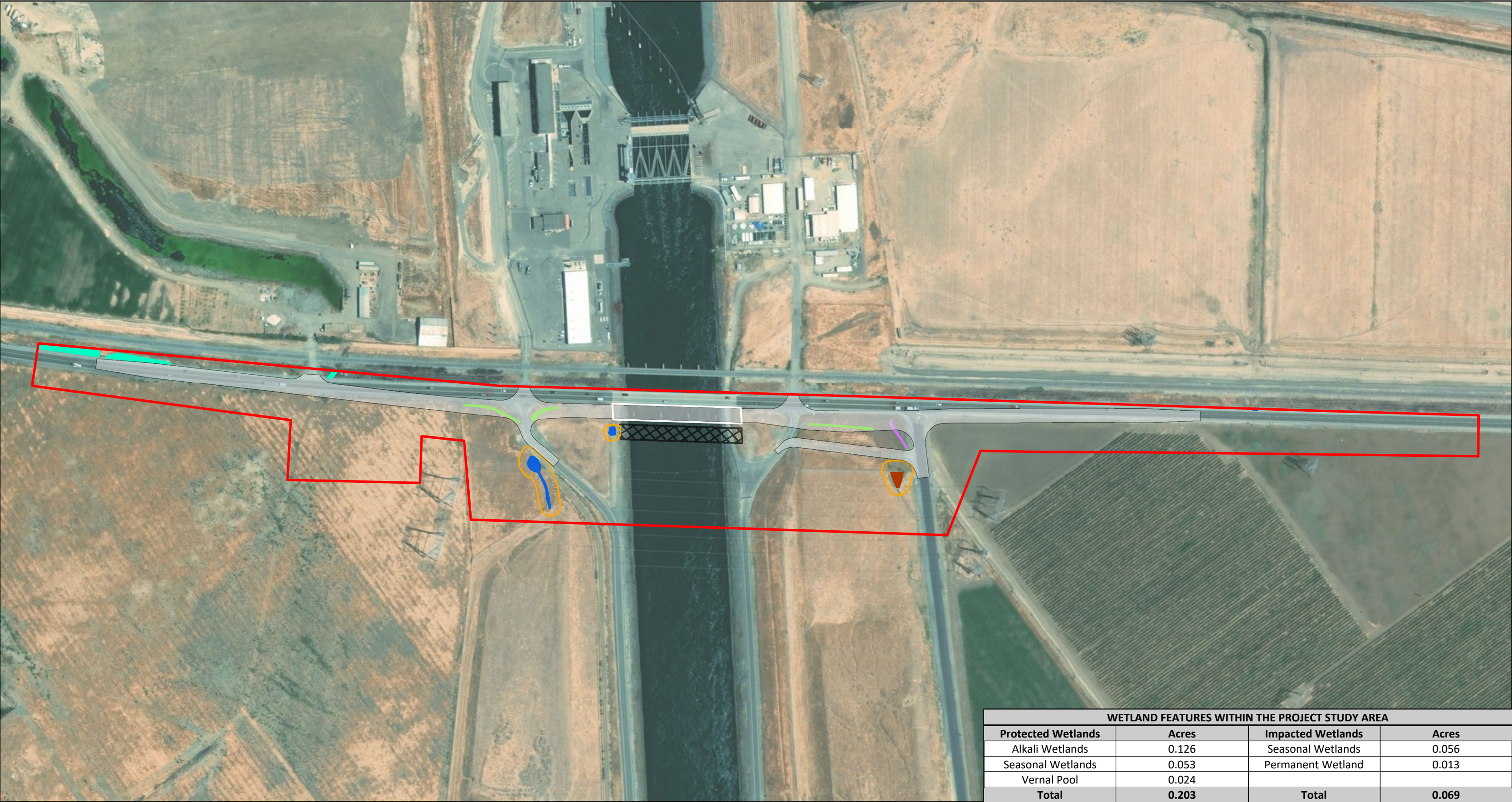
SOURCE: Drake Haglan & Assoc (02/2019)
I:\DHG1801\GIS\Map\BA\Figure 2_Proposed Project and Biological Study Area.mxd (2/25/2019)

LEGEND

- | | | |
|----------------------------------|--|--|
| Biological Study Area (23.17 ac) | New Roadway/Pavement | Potential Utility Pole to be Relocated |
| Proposed Bridge | Pavement to be Removal | |
| Parcel Line | Potential Temporary Construction Trestle | |
| Project Impact Area | Potential Staging Area | |

*Byron Highway Bridge (29C-0121)
Replacement Project
Federal Project No.: BRLS-5928(104)
Contra Costa County, CA*

Biological Study Area and Proposed Project



WETLAND FEATURES WITHIN THE PROJECT STUDY AREA			
Protected Wetlands	Acres	Impacted Wetlands	Acres
Alkali Wetlands	0.126	Seasonal Wetlands	0.056
Seasonal Wetlands	0.053	Permanent Wetland	0.013
Vernal Pool	0.024		
Total	0.203	Total	0.069

Legend

Project Study Area

Proposed Roadway

Proposed Bridge

Temporary Construction Trestle

Environmentally Sensitive Area (ESA)

Impacted Wetland Features

Permanently Impacted Seasonal Wetland

Permanently Impacted Permanent Wetland

Protected Wetland Features

Alkali Wetlands

Vernal Pool

Seasonal Wetlands

0

200

400

800 Feet

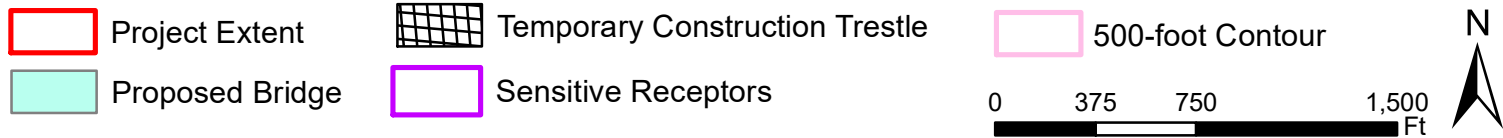
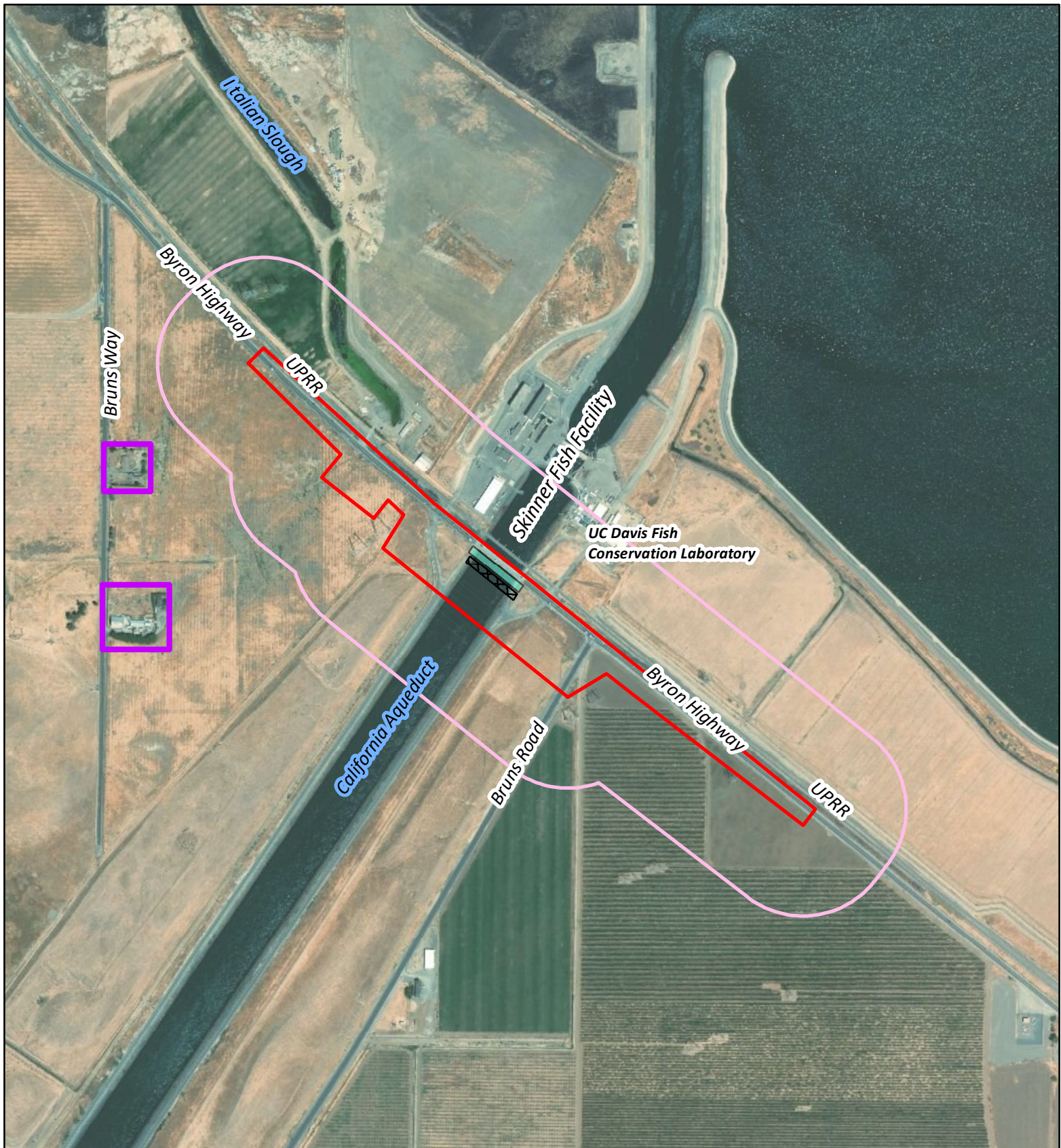
Source: ESRI Online Basemap, Aerial Imagery and Topo Map; Contra Costa County Coordinate System NAD 83 State Plane California III FIPS 0402 Feet

Notes: This map was created for informational and display purposes only

Byron Highway Bridge (29C-0121)
Replacement Project
Contra Costa County, CA

Wetland Features

Figure
5



APPENDIX B



Contra Costa County
Public Works
Department

Brian M. Balbas, Director

Deputy Directors

Stephen Kowalewski, Chief

Mike Carlson

Carrie Ricci

Joe Yee

July 5, 2018

Antonio Ruiz Jr., Cultural Resources Officer
Wilton Rancheria
Cultural Preservation Department
9728 Kent Street
Elk Grove, CA 95624

RE: Notice of Opportunity to Consult for the
Byron Highway Bridge Replacement Project
Project No.: 0662-6R1048

Dear Mr. Ruiz:

Contra Costa County has initiated environmental review under the California Environmental Quality Act (CEQA) for the Byron Highway Bridge Replacement Project. The County is proposing to replace the Byron Highway Bridge over the California Aqueduct, specifically located approximately 11 miles northwest of Tracy and 4 miles southeast of Byron in Contra Costa County. A project location map is attached and a brief project description are included for your information.

The proposed bridge replacement project will include a widened bridge to meet current American Association of State Highway Officials (AASHTO) and Caltrans standards for lane and shoulder widths. Alignment of the new bridge is expected to be parallel to the existing bridge and will provide two 12-foot wide traffic lanes, two 8-foot wide shoulders, and two 17-inch wide concrete barriers. The project will also require re-working of the bridge approaches and may require utility relocation or adjustments.

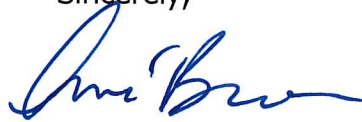
In accordance with Assembly Bill 52 (AB 52) and Section 21080.3.1(d) of the California Public Resources Code (PRC), we are responding to your request to be notified of projects in our jurisdiction that will be reviewed under CEQA. Your name was provided to us as the point of contact for your tribe. We are hereby notifying you of an opportunity to consult with us regarding the potential for this project to impact Tribal Cultural Resources, as defined in Section 21074 of the PRC. The purposes of tribal consultation under AB 52 are to determine, as part of the CEQA review process, whether or not Tribal Cultural Resources are present within the project area, and if so, whether or not those resources will be significantly impacted by the project. If Tribal Cultural Resources may be significantly impacted, then consultation will also help to

determine the most appropriate way to avoid or mitigate those impacts.

In accordance with Section 21080.3.1(d) of the PRC, you have 30 days from the receipt of this letter to either request or decline consultation in writing for this project. Please send your written response before August 4, 2018 to Ave' Brown, 255 Glacier Drive, Martinez California 94553 or by email to ave.brown@pw.cccounty.us. In your response, please reference the following project number: 0662-6R1048. If we do not receive a response within 30 days, we will proceed. Thank you and we look forward to your response.

Should you have any questions, please contact me at (925) 313-2311.

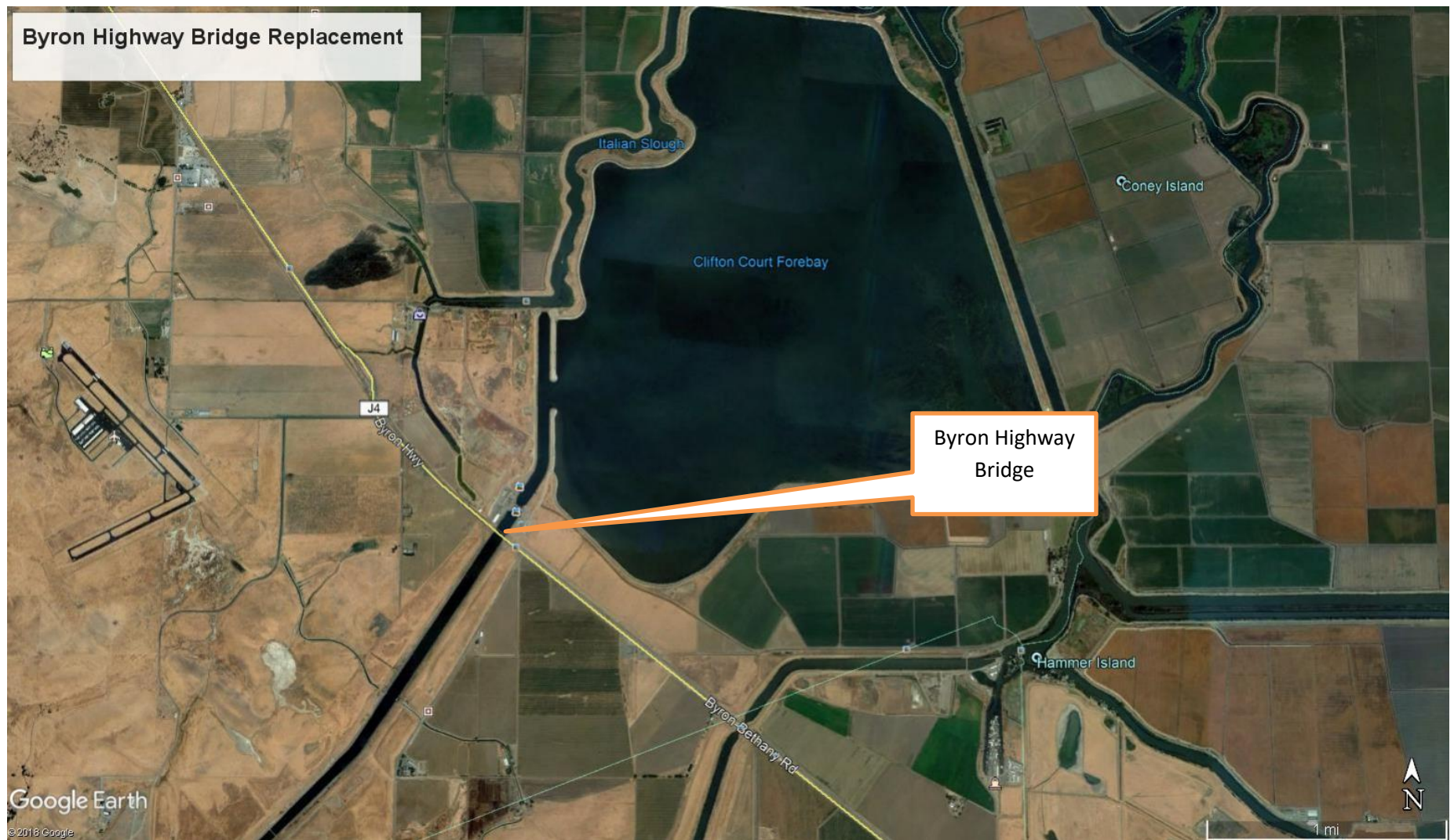
Sincerely,

A handwritten signature in blue ink, appearing to read 'Ave' Brown', written in a cursive style.

Ave' Brown
Principal Analyst
Environmental Division

AB:Clerical:JT
Enclosures: Project location maps

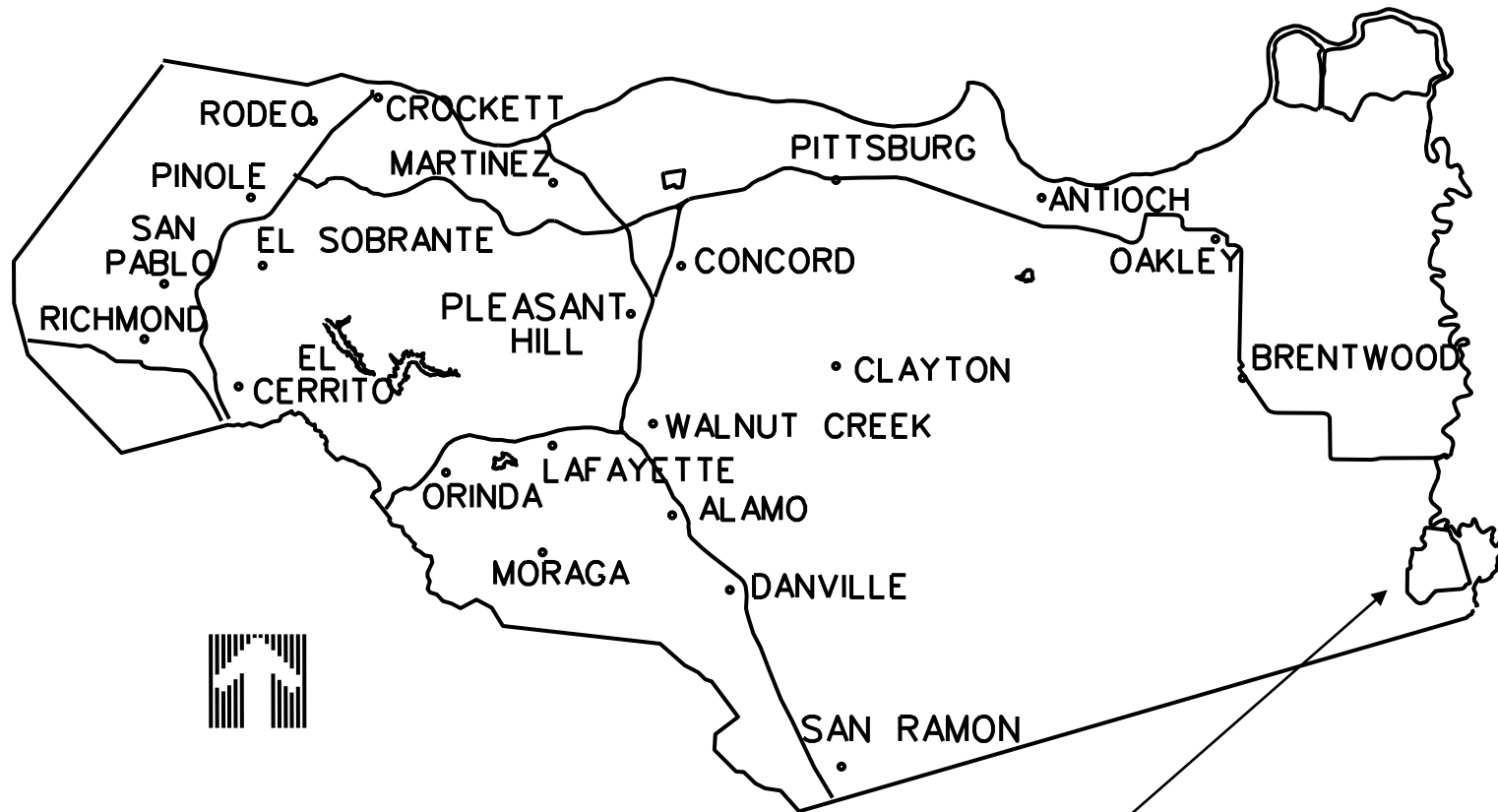
c: N. Leary, Design/Construction
\\PW-DATA\grpdata\engsvc\ENVIRO\TransEng\Byron Highway Bridge - DWR\2018\AB52\Byron Highway Bridge Replacement - AB52 Offer to Consult.docx



Contra Costa County Public Works Department

Byron Highway Bridge Replacement

CONTRA COSTA COUNTY CALIFORNIA



PROJECT LOCATION

LOCATION MAP

APPENDIX C

Daily Emission Estimates for -> Byron Hwy														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.67	13.82	2.56	20.15	0.15	20.00	4.28	0.12	4.16	0.02	2,220.97	0.58	0.05	2,249.61
Grading/Excavation	4.82	91.16	10.79	20.64	0.64	20.00	4.69	0.53	4.16	0.16	15,528.97	4.70	0.18	15,699.63
Drainage/Utilities/Sub-Grade	3.18	60.40	7.74	20.46	0.46	20.00	4.54	0.38	4.16	0.11	10,543.86	2.72	0.12	10,648.86
Paving	0.65	15.24	2.43	0.15	0.15	0.00	0.12	0.12	0.00	0.02	2,212.53	0.57	0.05	2,240.61
Maximum (pounds/day)	4.82	91.16	10.79	20.64	0.64	20.00	4.69	0.53	4.16	0.16	15,528.97	4.70	0.18	15,699.63
Total (tons/construction project)	0.85	16.18	2.02	4.61	0.12	4.49	1.03	0.10	0.93	0.03	2,760.36	0.79	0.03	2,789.95
Notes: Project Start Year -> 2022														
Project Length (months) -> 24														
Total Project Area (acres) -> 12														
Maximum Area Disturbed/Day (acres) -> 2														
Water Truck Used? -> Yes														
Total Material Imported/Exported Volume (yd³/day)														
Daily VMT (miles/day)														
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck								
Grubbing/Land Clearing	0	0	0	0	280	40								
Grading/Excavation	0	0	0	0	1,160	40								
Drainage/Utilities/Sub-Grade	0	0	0	0	760	40								
Paving	0	0	0	0	360	40								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
Total Emission Estimates by Phase for -> Byron Hwy														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.02	0.36	0.07	0.53	0.00	0.53	0.11	0.00	0.11	0.00	58.63	0.02	0.00	53.88
Grading/Excavation	0.51	9.63	1.14	2.18	0.07	2.11	0.49	0.06	0.44	0.02	1,639.86	0.50	0.02	1,504.02
Drainage/Utilities/Sub-Grade	0.29	5.58	0.72	1.89	0.04	1.85	0.42	0.03	0.38	0.01	974.25	0.25	0.01	892.64
Paving	0.03	0.60	0.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00	87.62	0.02	0.00	80.49
Maximum (tons/phase)	0.51	9.63	1.14	2.18	0.07	2.11	0.49	0.06	0.44	0.02	1639.86	0.50	0.02	1,504.02
Total (tons/construction project)	0.85	16.18	2.02	4.61	0.12	4.49	1.03	0.10	0.93	0.03	2760.36	0.79	0.03	2,531.03
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
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The CO2e emissions are reported as metric tons per phase.														

Daily Emission Estimates for -> Byron Hwy															
Project Phases (Pounds)		ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing		1.07	10.19	10.80	20.47	0.47	20.00	4.57	0.41	4.16	0.02	2,220.97	0.58	0.05	2,249.61
Grading/Excavation		8.29	66.72	88.63	23.64	3.64	20.00	7.45	3.29	4.16	0.16	15,528.97	4.70	0.18	15,699.63
Drainage/Utilities/Sub-Grade		5.48	47.10	55.59	22.28	2.28	20.00	6.25	2.09	4.16	0.11	10,543.86	2.72	0.12	10,648.86
Paving		0.99	13.23	9.31	0.48	0.48	0.00	0.42	0.42	0.00	0.02	2,212.53	0.57	0.05	2,240.61
Maximum (pounds/day)		8.29	66.72	88.63	23.64	3.64	20.00	7.45	3.29	4.16	0.16	15,528.97	4.70	0.18	15,699.63
Total (tons/construction project)		1.45	12.19	15.15	5.11	0.63	4.49	1.50	0.57	0.93	0.03	2,760.36	0.79	0.03	2,789.95
Notes:		Project Start Year -> 2022													
		Project Length (months) -> 24													
		Total Project Area (acres) -> 12													
		Maximum Area Disturbed/Day (acres) -> 2													
		Water Truck Used? -> Yes													
		Total Material Imported/Exported Volume (yd³/day)		Daily VMT (miles/day)											
Phase		Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck								
Grubbing/Land Clearing		0	0	0	0	280	40								
Grading/Excavation		0	0	0	0	1,160	40								
Drainage/Utilities/Sub-Grade		0	0	0	0	760	40								
Paving		0	0	0	0	360	40								
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Total Emission Estimates by Phase for -> Byron Hwy															
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)		ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing		0.03	0.27	0.29	0.54	0.01	0.53	0.12	0.01	0.11	0.00	58.63	0.02	0.00	53.88
Grading/Excavation		0.88	7.05	9.36	2.50	0.38	2.11	0.79	0.35	0.44	0.02	1,639.86	0.50	0.02	1,504.02
Drainage/Utilities/Sub-Grade		0.51	4.35	5.14	2.06	0.21	1.85	0.58	0.19	0.38	0.01	974.25	0.25	0.01	892.64
Paving		0.04	0.52	0.37	0.02	0.02	0.00	0.02	0.02	0.00	0.00	87.62	0.02	0.00	80.49
Maximum (tons/phase)		0.88	7.05	9.36	2.50	0.38	2.11	0.79	0.35	0.44	0.02	1639.86	0.50	0.02	1,504.02
Total (tons/construction project)		1.45	12.19	15.15	5.11	0.63	4.49	1.50	0.57	0.93	0.03	2760.36	0.79	0.03	2,531.03
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.															
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The CO2e emissions are reported as metric tons per phase.															

APPENDIX D

Mitigation Monitoring and Reporting Plan

The following Mitigation Monitoring and Reporting Program (MMRP) identifies the Mitigation Measures that will be implemented as part of the Byron Highway Bridge (Bridge No. 28C-0121) Replacement Project. The Contra Costa County Public Works Department (CCCPWD) 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
AIR QUALITY					
AQ-1: Increase in Air Quality Thresholds established by the BAAQMD	MITIGATION MEASURE AQ-1: Air Quality Criteria				
	All off-road construction equipment used on site, greater than 25 horsepower, shall meet U.S. EPA Tier 4 emission standards. If Tier 4 is not available, the constructor must demonstrate that good faith effort was made to provide Tier 4 equipment to the Resident Engineer.	During Construction	CCCPWD, Construction Contractor	CCCPWD	
BIOLOGICAL RESOURCES					
BIO-1: Disturbance to special-status plant species	MITIGATION MEASURE BIO-1: Special-Status Plant Species Protective Measures				
	<p>The following measures shall be implemented to avoid impacts to special-status plants:</p> <ul style="list-style-type: none"> Seasonally appropriate (i.e., fall and spring) surveys for special-status plants shall be conducted by a qualified botanist within one year prior to construction commencing. If found, special-status plant species shall be flagged and avoided to the greatest extent possible. If impacts are unavoidable, and mitigation is warranted by the California Department of Fish and Wildlife (CDFW), a qualified botanist shall attempt to transplant the plant into an area away from potential construction impacts or collect seeds to replant after construction is complete. 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Botanist	CCCPWD	

BIO-2: Disturbance to special status species	MITIGATION MEASURE BIO-2: Special Status Species				
	<p>The following measures shall be implemented to avoid impacts to special status species, wetlands and other aquatic habitats:</p> <ul style="list-style-type: none"> • Prior to the start of construction, construction personnel will be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements. • Trash generated by the project will be promptly and properly removed from the site. • No construction or maintenance vehicles will be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill. • Appropriate erosion-control measures (i.e., fiber rolls, filter fences) will be used on site to reduce siltation and runoff of contaminants into the stream. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control blankets shall be used as a last result because of their tendency to biodegrade slowly and to trap reptiles and amphibians. • Fiber rolls used for erosion will be certified as free of noxious weed seed and will not contain plastics of any kind. • Seed mixtures applied for erosion control will not contain invasive nonnative species, and will be composed of native species or sterile nonnative species. • Herbicide will not be applied within 100 feet of wetlands, ponds, streams, or riparian woodland/scrub; however, where appropriate to control serious invasive plants, herbicides that have been approved for use by the EPA in or 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD	

	<p>adjacent to aquatic habitats may be used as long as label instructions are followed and applications avoid or minimize impacts on covered species and their habitats. In seasonal or intermittent stream or wetland environments, appropriate herbicides may be applied during the dry season to control nonnative invasive species (i.e., yellow star-thistle). Herbicide drift will be minimized by applying the herbicide as close to the target area as possible.</p> <p><u>General Measures</u></p> <ul style="list-style-type: none"> • Equipment storage, fueling, and staging areas will be sited on disturbed areas or on ruderal or nonsensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types. • No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks. • All no-take species will be avoided. • Construction activities will comply with the Migratory Bird Treaty Act and will consider seasonal requirements for birds and migratory non-resident species, including covered species. • Silt fencing or other sediment trapping method will be installed down-gradient from construction activities to minimize the transport of sediment off site. • Barriers will be constructed to keep wildlife out of construction sites, as appropriate. • Onsite monitoring will be conducted throughout the construction period to ensure that disturbance limits, BMPs, and 				
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	<p>HCP/NCCP restrictions are being implemented properly.</p> <ul style="list-style-type: none"> • Active construction areas will be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted. • Vegetation and debris must be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and the passage through the culvert or under the bridge remains clear. • Cut-and-fill slopes will be revegetated with native, non-invasive nonnative, or non-reproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions. 				
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BIO-3: Disturbance to Golden Eagles	MITIGATION MEASURE BIO-3: Golden Eagle Protective Measures				
	<ul style="list-style-type: none"> Prior to implementation of covered activities, a qualified biologist will conduct a preconstruction survey to establish whether nests of golden eagles are occupied. If nests are occupied, minimization requirements and construction monitoring will be required. Covered activities will be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (i.e., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size. Construction monitoring will focus on ensuring that no covered activities occur within the buffer zone established around an active nest. Although no known golden eagle nest sites occur within or near the Urban Limit Line, covered activities inside and outside of the Preserve System have the potential to disturb golden eagle nest sites. Construction monitoring will ensure that direct effects of golden eagles are minimized. 	Prior to and during construction	Construction Contractor; Qualified Biologist	CCCPWD; CDFW	
BIO-4: Disturbance to Western Burrowing Owl	MITIGATION MEASURE BIO-4: Western Burrowing Owl Protective Measures				
	<ul style="list-style-type: none"> Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

BIO-4: Disturbance to Western Burrowing Owl	<p>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 (CDFW 2012).</p> <ul style="list-style-type: none"> 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 should 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. If burrowing owls are found during the breeding season (February 1 – August 31), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a non- 	<p>Prior to and during construction</p>	<p>CCCPWD; Construction Contractor; Qualified Biologist</p>	<p>CCCPWD; CDFW</p>	
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	<p>disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nests and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 – January 31), the project proponent should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone (described below).</p> <ul style="list-style-type: none"> • During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur will be established around each occupied burrow (nest site). Buffer zones of 160 feet will be established around each burrow being used during the nonbreeding season. The buffers will be delineated by highly visible, temporary construction fencing. • If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project areas should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. 				
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BIO-5: Disturbance to Swainson's Hawk	MITIGATION MEASURE BIO-5: Swainson's Hawk Protective Measures				
	<ul style="list-style-type: none"> • Prior to any ground disturbance related to covered activities that occurs during the nesting season (March 15–September 15), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests within 1,000 feet are off the project site, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the project site. If nests are occupied, minimization measures and construction monitoring are required (see below). • During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be used, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size. • If young fledge prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

	features, the project applicant can apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer can take place.				
BIO-6: Disturbance to Northern Harrier	MITIGATION MEASURE BIO-6: Northern Harrier Protective Measures				
	<ul style="list-style-type: none"> Preconstruction surveys will be conducted for northern harrier within 500 feet of the BSA no more than 14 days prior to construction if work is expected to take place during the nesting season (February 1 – August 31) If an active nest site is identified within 500 feet of the BSA, an appropriate protective buffer will be determined by a qualified biologist, in coordination with CDFW. The size of the buffer will depend on site-specific conditions and potential disturbance levels. No work will occur within the buffer until a qualified biologist has determined that the nesting attempt is complete. 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	
BIO-7: Disturbance to Loggerhead Shrike	MITIGATION MEASURE BIO-7: Loggerhead Shrike Protective Measures				
	<ul style="list-style-type: none"> Preconstruction surveys will be conducted for loggerhead shrike within 100 feet of the BSA no more than 14 days prior to construction, if work is expected to take place during the nesting season (February 1 – August 31). If an active nest is identified within 100 feet of the BSA, an appropriate protective buffer will be determined by the biologist, in coordination with CDFW. The size of the buffer will depend on site-specific conditions and potential disturbance levels. 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

	No work will occur within the buffer until a qualified biologist has determined that the nesting attempt is complete.				
BIO-8: Disturbance to American Badger	MITIGATION MEASURE BIO-8: American Badger Protective Measures				
	<ul style="list-style-type: none"> Preconstruction surveys will be conducted no more than 30 days prior to construction by a qualified biologist to identify any potential American badger burrows. If large burrows are identified within 250 feet of the BSA that could have the potential to be American badger burrows, a qualified biologist will determine if they are occupied and, if so, they will be avoided to the greatest extent feasible. If occupied burrows are found within 250 feet of construction activities, they will be monitored by a qualified biologist during any construction activity that would have the potential to cause disturbance to the badger. During this construction monitoring, if badgers appear to be disturbed by construction activities, work will be stopped until CDFW is notified and further minimization measures can be developed. If occupied burrows are unavoidable due to construction requirements, a qualified biologist will coordinate with CDFW to develop an exclusion plan. 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	
BIO-9: Disturbance to San Joaquin Kit Fox	MITIGATION MEASURE BIO-9: San Joaquin Kit Fox Protective Measures				
	<ul style="list-style-type: none"> Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. The surveys will 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

<p>BIO-9: Disturbance to San Joaquin Kit Fox</p>	<p>establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines. Preconstruction surveys will be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities.</p> <ul style="list-style-type: none"> • If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described below will be implemented. <ul style="list-style-type: none"> ○ If a San Joaquin kit fox den is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFW– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. ○ Unoccupied dens should be destroyed immediately to prevent subsequent use. ○ If a natal or pupping den is found, 	<p>Prior to and during construction</p>	<p>CCCPWD; Construction Contractor; Qualified Biologist</p>	<p>CCCPWD; CDFW</p>	
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<p>BIO-9: Disturbance to San Joaquin Kit Fox</p>	<p>USFWS and CDFW will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW.</p> <ul style="list-style-type: none"> ○ If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities). ● If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No 	<p>Prior to and during construction</p>	<p>CCCPWD; Construction Contractor; Qualified Biologist</p>	<p>CCCPWD; CDFW</p>	
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	covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.				
BIO-10: Disturbance to Nesting Migratory Birds and Raptors	MITIGATION MEASURE BIO-10: Nesting Migratory Bird and Raptors Protective Measures				
	<ul style="list-style-type: none"> Impacts to birds that may nest on the bridge shall be avoided by utilizing a combination of physical exclusion methods and monitoring by a qualified biologist. Exclusion methods shall be timed to prevent nest-building and to avoid having nesting birds present during any construction activities. Exclusion measures shall be implemented outside of the nesting season before construction is scheduled to begin and monitored throughout the nesting season (February 1 through August 31) to ensure methods are effective. If work is scheduled to take place across multiple nesting seasons, these methods shall be repeated before the subsequent nesting season begins. Methods may include removing old nests and the beginnings of new nests prior to egg-laying on a weekly basis and/or installing exclusion netting or plastic sheeting before the nesting season begins on any potential nesting habitat in the BSA. Exclusion methods and a monitoring plan shall be developed in coordination with and approved by CDFW. If at any time the qualified biologist determines that an impact to a nesting birds could occur, work shall be stopped until CDFW can be 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

	<p>contacted.</p> <ul style="list-style-type: none"> • Preconstruction surveys will be conducted for nesting migratory birds within the BSA no more than 14 days prior to construction for any work occurring during the nesting season. • If an active migratory bird nest is discovered within the BSA, an appropriate protective buffer will be determined by a qualified biologist, coordination with CDFW may be necessary. The size of the buffer will depend on site-specific conditions and potential disturbance levels. Work will not be allowed within the buffer until a qualified biologist has determined that the nesting attempt is complete. 				
BIO-11: Disturbance to Roosting Bats	MITIGATION MEASURE BIO-11: Roosting Bat Protective Measures				
	<ul style="list-style-type: none"> • A preconstruction survey should be conducted no more than 30 days prior to installing exclusion measures targeted at cliff swallows to confirm there are no day roosting bats that could be impacted by the installation. This would include emergence surveys conducted starting 2 hours before sunset and continuing 2 hours after sunset with qualified biologists stationed on either side of the bridge scanning to identify any bat that may exit from underneath the bridge. • If bats are determined to be using the bridge as a day roost, exclusionary measures may be implemented, maintained, and monitored in accordance with measures approved by CDFW. 	Prior to and during construction	CCCPWD; Construction Contractor; Qualified Biologist	CCCPWD; CDFW	

CULTURAL RESOURCES					
CUL-1a and 1b: Disturbance to unidentified cultural resources	MITIGATION MEASURE CUL-1a:				
	A program of on-site education to instruct all demolition personnel in the identification of prehistoric and historic deposits shall be conducted prior to the start of any grading or construction activities.	During construction	CCCPWD; Construction Contractor	CCCPWD	
	MITIGATION MEASURE CUL-1b:				
	If archaeological materials are uncovered during grading, trenching, or other onsite excavation, all work within 50 feet of these materials shall be stopped until a professional archaeologist who is certified by the Society for California Archaeology (SCA) and/or the Society of Professional Archaeology (SOPA), and the Native American tribe that has requested consultation and/or demonstrated interest in the project site, have had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s) if deemed necessary.	During construction	CCCPWD; Construction Contractor	CCCPWD	
CUL-2: Disturbance to previously undiscovered human remains and grave goods	MITIGATION MEASURE CUL-2: Stop Work and Notification Procedure				
	Should human remains be uncovered during grading, trenching, or other on-site excavation(s), earthwork within 50 feet of these materials shall be stopped until the County coroner has had an opportunity to assess the human remains and determine the proper treatment and disposition of the remains. Pursuant to California Health and Safety Code Section 7050.5, if the coroner determines the remains may be those of a Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public Resources Code Section 5097.98, the NAHC will then determine a Most Likely Descendant	During construction	CCCPWD; Construction Contractor; Qualified Archaeologist	CCCPWD	

	(MLD) tribe and contact them. The MLD tribe has 48 hours from the time they are given access to the site to make recommendations to the land owner for treatment and disposition of the ancestor's remains. The land owner shall follow the requirements of Public Resources Code Section 5097.98 for the remains.				
GEOLOGY/SOILS					
GEO-1: Paleontological Materials	MITIGATION MEASURE GEO-1: Stop Work and Notification Procedure				
	If paleontological resources are encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately and a qualified paleontologist shall be notified regarding the discovery. The paleontologist shall determine whether the resource is potentially significant and develop the appropriate plan for handling the resource in accordance with the Society of Vertebrate Paleontology guidelines. The plan would include, but is not limited to: a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and/or a report of findings. The plan shall be implemented by the qualified paleontologist before construction activities can resume in the vicinity of the field.	During construction	CCCPWD; Qualified Paleontologist	CCCPWD	
HAZARDS & HAZARDOUS MATERIALS					
HAZ-1: Development of a Health and Safety Plan (HASP)	MITIGATION MEASURE HAZ-1: Worker and Public Safety				
	A Health and Safety Plan (HASP) shall be developed for the Project. The HASP shall describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled and disposed of in accordance with appropriate federal, state and local regulations.	Prior to construction	CCCPWD Environmental Services Division	CCCPWD	

HAZ-2: Asbestos and Lead Containing Materials	MITIGATION MEASURE HAZ-2: Protective Measures for Asbestos and Lead Containing Paint Materials				
	<p>A California-licensed abatement contractor will conduct a survey for lead containing materials prior to demolition (including concrete elements) and contractor will submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification. Per Section 14-9.02 of the asbestos NESHAP regulation, all “demolition activity” requires written notification even if there is no asbestos present. This notification should be typewritten and postmarked or delivered no later than ten days prior to the beginning of the asbestos demolition or removal activity.</p> <p>If lead containing materials are found, the following will be required:</p> <ul style="list-style-type: none"> • Building materials associated with paint on structures, and paint on utilities should be abated by a California-licensed abatement contractor and disposed of as a hazardous waste in compliance with Standard Special Provisions (SSP) 14-11.13 and other federal and state regulations for hazardous waste. • A Lead Compliance Plan should be prepared by the contractor for the disposal of lead-based paint. The grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with Standard Special Provision (SSP) 36-4 - Residue Containing High Lead Concentration Paints. In addition, the Lead Compliance Plan will also contain the following provision to address aerially-deposited lead: SSP 7-1.02K (6)(j)(iii) – 	During construction	CCCPWD Environmental Services Division	CCCPWD	

	<p>Earth Material Containing Lead.</p> <ul style="list-style-type: none"> • A California-licensed lead contractor should be required to perform all work that will disturb any lead-based paint as a result of planned or unplanned renovations in the Project area, including the presence of yellow traffic striping and pavement markings that may contain lead-based paint. All such material must be removed and disposed of as a hazardous material in compliance with SSP 14-11.12. <p>If ACMs are found during bridge demolition, the following is recommended:</p> <ul style="list-style-type: none"> • The materials shall be assumed hazardous and handled as such until testing is completed. • Samples of suspect materials shall be collected for laboratory analysis, and all activities that may impact the materials shall cease until results are reviewed. • Removal, disposal, storage and transportation of materials from the bridge structure that contain asbestos shall be performed in compliance with current Caltrans Standard Specifications, including 14-11.16, and other federal and State regulations for hazardous waste. 				
HAZ-3: Significant Risk involving wildfire	See Mitigation Measure FIRE-1 below				

HYDROLOGY/WATER QUALITY					
	MITIGATION MEASURE: HYDROLOGY 1: Water Quality				
HYDR-1: Water Quality	All dewatering effluents shall be required to be tested for trace pollutants by an EPA certified laboratory prior to discharge into the receiving waters of the California Aqueduct, per the General Water Discharge Requirements/NPDES Permit for Dewatering and Other Low Threat Discharges to Surface Waters. Effluent samples will be tested for total suspended solids (TSS), total nitrogen, oil and grease, total petroleum hydrocarbons, and sulfides. Discharge effluent shall be required to be visibly clear and sediment control BMPs will be implemented.	During Construction	CCCPWD; Construction Contractor	CCCPWD	
HYD-2: Disturbance to avoided wetlands and other habitats	See Mitigation Measure BIO-2 above				
NOISE					
	MITIGATION MEASURE NOISE-1b: Construction Activities				
NOI-1a: Construction Activities	Noise generating construction activities shall take place during times of least sensitivity to receptors (7:00 AM. and 6:00 PM., Monday through Friday). Weekend work shall generally be discouraged and, if necessary, only take place between the hours of 9:00 AM. and 5:00 PM. 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.	During construction	CCCPWD; Construction Contractor	CCCPWD	
NOI-1b: Noise-Reducing Practices	MITIGATION MEASURE NOISE-1b.: Noise-Reducing Practices				
	The Project Contractor shall employ the following noise-reducing practices during Project construction: <ul style="list-style-type: none">• Use newer equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures.	During construction	CCCPWD; Construction Contractor	CCCPWD	

	<p>such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment would generally be quieter in operation than older equipment. Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. All construction equipment would be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).</p> <ul style="list-style-type: none"> • Utilize construction methods or equipment that provides the lowest level of noise and ground vibration impact. Utilize quiet air compressors and other stationary noise-generating equipment where appropriate technology exists. • Keep noise levels relatively uniform and avoid impulsive noises. • Maintain good public relations with the community to identify objectionable sources of noise. The County will provide a Project description and Project updates including the construction schedule on their website. 				
NOISE-2: Biological Response to Noise Impacts	<p>MITIGATION MEASURE NOISE-2: Biological Response to Noise Impacts</p> <p>Onsite monitoring shall be conducted by a qualified biologist during the first day of pile driving activity for the temporary trestle and for the bridge to monitor fish behavior. If there are signs of distress, the qualified biologist will notify the County and the Resident Engineer. The Resident Engineer will continue to monitor and will contact the qualified biologist if a change in fish behavior is noted. The Resident Engineer will coordinate with the UC Davis Fish Conservation and Culture Laboratory and the John E. Skinner Delta Fish Protective Facility regarding fish behavior.</p>	During construction	CCCPWD; Resident Engineer; Qualified Biologist	CCCPWD	

TRIBAL CULTURAL RESOURCES					
TCR-1: Protocol for the Unanticipated Discovery of a Tribal Cultural Resource or Human Remains	MITIGATION MEASURE TCR-1: Follow the Protocol for the Unanticipated Discovery of a Tribal Cultural Resource or Human Remains				
	<p>If buried tribal cultural or tribal materials are encountered during construction, cease all work within 100 feet until a qualified cultural resources specialist and Native American Representatives and Monitors from traditionally and culturally affiliated Native American Tribes, which includes the Wilton Rancheria, will assess the significance of the find and make recommendations for further evaluation and treatment as necessary. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, returning objects to a location within the project area where they will not be subject to future impacts. Any permanent curation shall only be conducted in coordination with the traditionally and culturally affiliated Native American Tribes. Treatment that preserves or restores the cultural character and integrity of a Tribal Cultural Resource may include Tribal Monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil. These recommendations will be documented by the qualified cultural resources specialist and provided to the County for inclusion in the project record. For any recommendations made by traditionally and culturally affiliated Native American Tribes that are not implemented, the qualified cultural resources specialist shall provide a written justification for why the recommendation was not followed to the County for including in the project record.</p>	During construction	Construction Contractor	CCCPWD; Construction Contractor	

CUL-1: Disturbance to unidentified historical resources	See Mitigation Measure CUL-1a and 1b above				
CUL-2: Disturbance to previously undiscovered human remains	See Mitigation Measure CUL2 above				
WILDFIRE					
FIRE-1: Fire Safety Plan	MITIGATION MEASURE FIRE-1: Fire Safety Plan				
	Prior to construction, the contractor shall prepare a Fire Safety Plan for use during construction. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following: <ul style="list-style-type: none">• Dry grass shall be cut low or removed from construction equipment staging areas.• All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.• Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.• Equipment parking areas (staging areas) shall be cleared of all extraneous flammable materials.• Smoking shall be limited to paved areas or areas cleared of all vegetation.	Prior to and during construction	CCCPWD; Construction Contractor	CCCPWD	