Initial Study/
Mitigated Negative Declaration

for the

Mare Island Causeway Bridge (23C0248)
Preventative Maintenance Project

June 2020

City of Vallejo
Department of Public Works
555 Santa Clara Street
Vallejo, CA 94590

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Appendix A: DRAFT Mitigation Monitoring and Reporting Plan

A. Summary of Project Information

1. Project Title: Mare Island Causeway Bridge (23C0248) Preventative Maintenance Project

2. Lead Agency Name and Address:

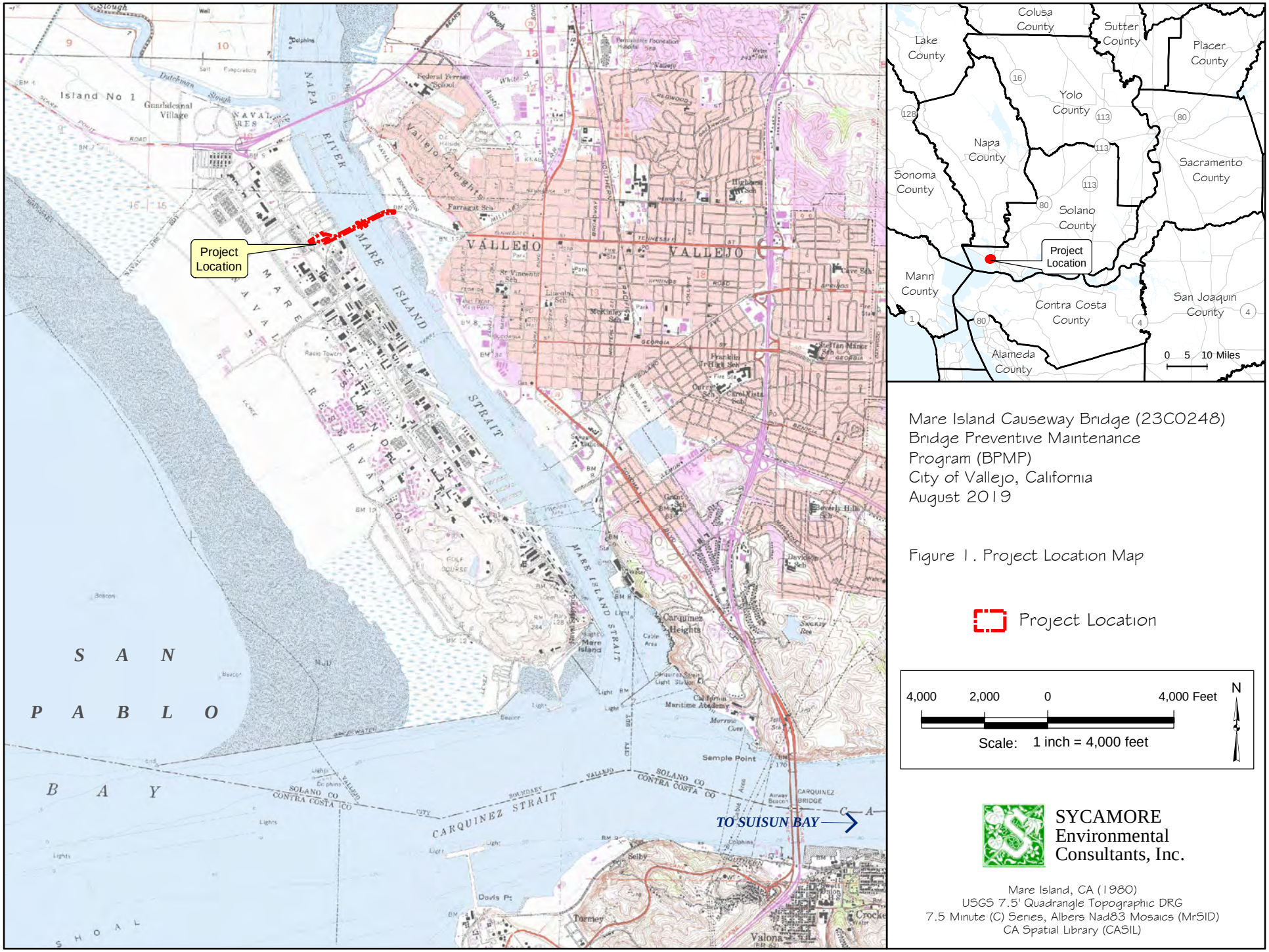
City of Vallejo, Public Works Department
555 Santa Clara Street, 4th Floor
Vallejo, California 94590

3. Contact Person and Phone Number:

Mr. Sam Kumar, Senior Civil Engineer
707/ 648-4432
Sam.Kumar@cityofvallejo.net

4. Project Location:

The Mare Island Causeway Bridge is located in the City of Vallejo, western Solano County (Figures 1 and 2). The Bridge is one of two bridges that connect Mare Island to the greater Vallejo area over the Mare Island Strait (considered the Napa River north of the bridge). From the mainland (Vallejo) heading west, the street is signed the "Mare Island Causeway" (also known as the Ernest D. Wichels Memorial Causeway). Once on Mare Island, the road becomes "G" Street. The bridge conveys motor vehicle, pedestrian, and rail traffic. A lift structure allows boat and shipping traffic to cross under the bridge, connecting the Napa River north of the bridge with the San Pablo Bay to the west and the Suisun Bay to the east. The majority of the bridge structure is located over the Mare Island Strait for which there is no Assessor's Parcel Number (APN) available. The east end of the bridge occurs on APNs 0055010300 and 0055010250. The west end of the bridge is located on APNs 0066050100 and 0066020150.



Mare Island Causeway Bridge (23C0248)
Bridge Preventive Maintenance
Program (BPMP)
City of Vallejo, California
August 2019

Figure 1. Project Location Map

Project Location

SYCAMORE
Environmental
Consultants, Inc.

Mare Island, CA (1980)
USGS 7.5' Quadrangle Topographic DRG
7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)
CA Spatial Library (CASIL)

16056MareIslandCausewayBridgeBPMP_Fig1LocationMap.mxd

Mare Island Causeway Bridge (23C0248)
Bridge Preventive Maintenance Program (BPMP)
City of Vallejo, California
August 2019

Project Location

4,000 2,000 0 4,000 Feet

Scale: 1 inch = 4,000 feet

N

SYCAMORE Environmental Consultants, Inc.

Aerial Photograph: 20 August 2017
GEO1 Metro DigitalGlobe Imagery
ESRI ArcGIS Basemap Layer

Figure 2. Aerial Photograph

160561MareIslandCausewayBridgeBPMP_Fig2AerialPhoto_v2.mxd

5. Description of Project:

The proposed Project will conduct preventative maintenance and repair activities, reduce further deterioration, and provide a safer bridge for the traveling public. The maintenance and repair activities are needed to extend the life of the structure and ensure safe operating conditions on the multi-modal structure. Project objectives include improving roadway safety and compliance with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and City of Vallejo standards. This Project is identified in the City of Vallejo Capital Improvement Program as Project # PW9762.

Project work will include cleaning and painting of the towers, handrails and underside of the bridge. There will also be an application of methacrylate on the deck, streetlight upgrades, sidewalk repair, fender system repair, and anode replacement. The elements of the bridge and general procedure for each are further described in the Mare Island Causeway Preventative Maintenance Existing Conditions Report (draft dated 31 August 2017), and are summarized below (WSP USA Inc. 2017).

Lift span and towers: The lift span and towers require structural steel coating repairs. The existing coating will be removed to base metal. Rust spots will be cleaned and removed, and a base and finish coating will be applied. Steel members will be repainted with a historically compatible color, which is proposed to be the same color as exists today. The repair work on the lift span and towers requires coordination with the U.S. Coast Guard, users of the rail tracks, and other stakeholders. Some of the repairs on the lift structure will require the lift structure to be placed in an open position for several weeks or more, closing the road to vehicular traffic while repairs are made. Other repairs will require the lift structure to be placed in a closed position, preventing boating and shipping traffic from crossing under the bridge.

Lift span piles: There are existing cathodic protection on the piles. However, the cathodic protection anodes have been consumed and need to be replenished on Pier 26 and Pier 27. An underwater diver will attach cathodic protection anodes to steel piles that have lost more than 80% of their anode mass. Divers will access bridge piles using a small dive boat and will attach anodes using strap and bolts or underwater welding techniques. In-water work is further described under Approach span piles, below. Anode replacement is estimated to take approximately 5 days.

Timber fender system: The existing fender system along the channel face of the lift span piers is comprised of side-by-side timber panels each made up of structural steel built-up piles. The piles will be cleaned and painted to the buffer connection steel at low tide water surface elevation. Rust will be removed to bare metal and subsequently painted. All damaged timber in the fenders will be replaced and bolted in place above the waterline during low tide. Fender reconstruction is anticipated to take approximately 20 days.

Approach span bent caps: Cracks and spalls will require repair on the approach span bent caps. Weak and delaminated concrete will be removed from the cracks and spalls. Cracks will be

injected with epoxy. Any damaged reinforcing steel will be replaced and any rusted reinforcing steel will be cleaned prior to applying the patch concrete. Surface patches will be applied using an appropriate concrete mix. Corrosion prevention measures will be applied to low bent caps (pile caps). Concrete will be repaired and replaced in-kind.

Approach span piles: The existing 33-inch Bent 19, Pile 13, located within the Mare Island Strait, is damaged beyond repair and will require removal and replacement. Prior to removal, the pile needs to be separated from the existing concrete pile cap (the horizontal concrete beam at the top of the piles) to avoid damage to the structure or other piles. The pile will be separated from the existing concrete pile cap by chipping the concrete and cutting the rebar. The existing pile foundation will be cut at the top above the water line, and at the bottom below the mudline. Once the pile is cut, it will be extracted by a crane or excavator located on the bridge deck or from atop a floating barge. If a barge is used, it will be inspected by the contractor and appropriate containment devices will be used if any on-board fluids are present. Netting or other containment would be used to prevent debris from falling into the channel. The contractor will maintain equipment and materials on site for containment and clean-up of any unplanned spills. The pile and associated material will be removed and taken to an appropriate upland disposal site.

A new, precast, 24-inch concrete pile will be installed adjacent to the existing pile to an approximate depth of 50 feet to 75 feet below channel bottom utilizing a vibratory hammer. Vibratory pile driving produces a lower level of continuous noise that rises relatively slowly over time and generally has a decibel (dB) level lower than impact hammers. The new pile will be connected to the pilecap below the bridge deck using cast-in-place concrete and reinforcing bars. Installation of the Bent 19, Pile 13 replacement pile with a vibratory hammer will take about 20 to 30 minutes. Bent 19, Pile 13 removal and replacement is anticipated to take 5 days.

The fiberglass cover on Bent 20, Pile 13 requires repair. An underwater diver will remove the existing fiberglass pile cover and remove all loose concrete at Bent 20 by hand. The extend of concrete damage will be determined when the fiberglass is removed. If necessary, any loose concrete can be removed using hand tools. The Project specifications will require the pieces of aggregate or concrete be collected and contained to the extent practical. The diver will bring the debris to the surface for proper offsite disposal. A new fiberglass pile cover will be installed and sealed by hand to keep it water tight. The fiberglass cover will need to be sealed before injecting to prevent the concrete from getting into the channel. Once the cover is completely sealed, an appropriate mixed concrete sealer will be injected in the space between the cover and the pile. Equipment used for this repair will consist of a diving boat and hand cutting tools. The fiberglass casing is light and can be maneuvered into position by hand. The concrete can be injected from a floating platform or boat. Bent 20, Pile 13 repair is anticipated to take 5 days.

Various other bents will need to be repaired. Weak and delaminated concrete from cracks and spalls will be removed from other bent piles. Cracks will be injected with epoxy. Any damaged reinforcing steel will be replaced and any rusted reinforcing steel will be cleaned prior to applying the patch concrete. Surface patches will utilize an appropriate concrete mix. Piers and in-water work locations will be accessed from the bridge deck using scaffolding or cherry

pickers. The contractor may also use a boat, small barge or other floating platform with a man lift to reach from underneath the bridge. Most of these types of repairs require manual hand tool use. Repairs below the water line will be conducted during low tide.

Approach span deck and sidewalk: Cracks and spalls will require repair on the approach span deck, and the sidewalk will need to be replaced to meet ADA requirements. The sidewalk will be replaced using precast concrete panels or cast-in-place concrete. Utility access openings will be replaced or repaired as needed. Weak and delaminated concrete will be removed from cracks and spalls on the top of deck and underside of deck. Any damaged reinforcing steel will be replaced, and any rusted reinforcing steel will be cleaned prior to applying the patch concrete. Surface patches will utilize an appropriate concrete mix. Bridge striping will be removed, and sidewalk ramps will be reconstructed. A methacrylate polymer sealer and ¾-inch-thick polymer concrete overlay will be applied on top of deck. Following the overlay, all of the deck joint seals will be replaced. The roadway will then be restriped.

Bridge Deck Light Poles, Pedestals and Lights: There are small cracks and spalls at some light pole concrete pedestal locations, and large spalls at some pedestals. Weak and delaminated concrete will be removed from cracks and spalls in pedestals. Cracks will be injected with epoxy. Any damaged reinforcing steel will be replaced, and any rusted reinforcing steel will be cleaned prior to applying the patch concrete. Surface patches will utilize an appropriate concrete mix. All light posts will be replaced in-kind with new light posts that match historic design. Where they are extant, the decorative metal finial features that top the existing posts will be reinstalled on the reconstructed posts. Replacement poles will be drilled and connected to pedestals as required. Reconstructed light fixtures will be replaced based on historical documentation. All lighting design will be based on the current codes. Lighting conduits and wiring will be repaired or replaced along the length of the bridge.

Bridge Railing: Small cracks and large spalls in the concrete posts of the bridge railings will need to be repaired or the entire post will be replaced. Where a post has a spall, the entire post will be replaced and the steel rail embedments upgraded. Railing post will be replaced in-kind with new posts that match historic design. An estimated 180 posts are expected to be replaced. Where small radial cracks exist in the concrete posts, the cracks will be injected with epoxy compound, and joint sealant will be added around all steel rail penetrations. An estimated 310 posts will be repaired in this manner.

Tower Lighting: New light fixtures will be designed and installed on the bridge deck and towers adjacent to the two bridge towers. The purpose of these lights is to uplight the bridge towers for aesthetic and visual enhancement. All lighting design will be based on current codes and standards.

Miscellaneous Items: Bearings, concrete pedestals and bolts will need repair. Bearings will be repaired or replaced in-kind with shim plates added as necessary to bearings. Concrete pedestals will be repaired by removing weak and delaminated concrete from cracks and spalls, cleaning reinforcing steel, and applying surface patch concrete utilizing an appropriate concrete mix.

Loose nuts and bolts will be tightened, and new bolts will be installed where they are missing. Catwalks and walkways will be repaired to a safe working condition.

CONSTRUCTION STAGING AND RIGHT OF WAY

For the replacement of Western approach of the Bridge 23C0290 (formerly 23C0258) in 2016, the City allowed the contractor to use asphalt parking lots on the north side of the bridge for construction staging. The City intends to use the same paved staging areas for the Mare Island Causeway Bridge BPMP Project. No permanent right-of-way acquisition is anticipated. No construction easement or right of entry needed since it is owned by the City.

General construction equipment expected to be used includes, but is not limited to: cranes, haul trucks, excavators, gradalls, backhoes, dump delivery trucks, concrete boom pump, compressors, percussion drills/ hammers, vibratory pile installer, painting equipment, small barges, small boats, man lifts, and service vehicles.

UTILITIES

A natural gas pipeline is carried by the existing bridge. No major utility work is anticipated for this Project and there would not be any utility service interruption.

Construction Contract

The City would retain a construction contractor to construct the proposed improvements. The contractor would be responsible for compliance with all applicable rules, regulations, and ordinances associated with proposed Project activities and for implementing construction-related measures. The City would provide the construction contractor oversight and management and would be responsible for verifying the implementation of the mitigation measures. The contractor would construct the proposed Project in accordance with the Public Contract Code of the State of California, Project Plans, and any Special Provisions under development by the City. The following are a combination of standard and project-specific procedures/requirements applicable to Project construction:

- Contract provisions will require notification of the City and compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials or human remains should any be discovered during project construction;
- Contract provisions will require implementation of best management practices (BMPs) consistent with the City standards and Caltrans Stormwater Quality Handbooks to protect water quality and minimize the potential for siltation and downstream sedimentation.
- The City or its construction contractors will conduct early coordination with utility service providers, law enforcement and emergency service providers to ensure minimal disruption to service during construction;

SCHEDULE AND STAKEHOLDER COORDINATION

Repair activities are anticipated to occur in 2022-2023 and to take approximately 18 months to complete. Throughout construction, at least one vehicular lane on the viaduct will remain open at

all times. Work at the deck level will need to be staged in order to maintain traffic. The contractor will be required to prepare a traffic control plan that details traffic control on the bridge during each stage of construction. Additionally, during any construction activities on the lift span, the contractor will be required to schedule activities to allow the bridge operator to raise/lower the lift span for one hour at three scheduled times throughout the day. The Project will require close coordination with stakeholders including U.S. Coastguard, businesses and residents of Mare Island, and drivers, bikers, and pedestrians that are using the Mare Island Causeway Bridge. During the design and construction phase, there will be a public outreach and stakeholder coordination process, keeping the public informed on Project progress.

BEST MANAGEMENT PRACTICES

During construction, water quality will be protected by implementing best management practices (BMPs) consistent with the current Caltrans Stormwater Quality Handbooks to minimize the potential for siltation and downstream sedimentation of Mare Island Strait. The contractor will be required to implement the City's standard specifications regarding construction site management, and water pollution control plan. The City and/or contractor will also administer BMPs during construction to prevent concrete or other materials from entering the Mare Island Strait. Construction activities in the Mare Island Strait will occur between July 15 and October 31, outside the migration period for most special status fish species.

6. General plan designation:

The majority of the bridge structure is located over the Mare Island Strait for which there is no Assessor's Parcel Number (APN) available.

Per the City of Vallejo General Plan 2040 Land Use Map APNs 0055010300 and 0055010250 on the east end of the bridge are identified as 'community' with a parks, recreation and open space designation (City of Vallejo 2018).

APNs 0066050100 and 0066020150 occur on the west end of the bridge on Mare Island. Per the Mare Island Specific Plan APN 0066050100 is designated as mixed use (City of Vallejo 1999). The Mare Island Specific Plan designates APN 0066020150 as industrial and the City General Plan Land Use Map designates the parcel as primarily industrial with a strip of land adjacent to Mare Island Strait designated parks, recreation and open space.

7. Zoning:

See above.

8. Surrounding Land Uses and Setting:

The Project is located in an urban area. The Greater Vallejo Recreation Districts' River Park occurs immediately north east of the Project area. The City of Vallejo Municipal Marina is located south of the eastern end of the causeway bridge. Commercial and industrial uses occur adjacent to the west end of the bridge on Mare Island. The Mare Island/ San Francisco Ferry terminal occurs immediately south of the west end of the causeway bridge.

9. Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement):

The Project requires permits or approvals from the following:

- Caltrans — National Environmental Policy Act (NEPA) Categorical Exclusion
- U.S. Army Corps of Engineers — Section 404 Clean Water Act Nationwide Permit
- U.S. Coast Guard – Permit
- San Francisco Regional Water Quality Control Board — Section 401 Clean Water Act Water Quality Certification
- California Department of Fish and Wildlife (CDFW) — Section 1600-1602 Streambed Alteration Agreement
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES) Construction General Permit and SWPPP
- The San Francisco Bay Conservation and Development Commission (BCDC) Region wide Permit
- U.S. Fish and Wildlife Service-Federal Endangered Species Act, Informal Section 7, Letter of Concurrence (Delta smelt)
- National Marine Fisheries Service-Federal Endangered Species Act, Informal Section 7, Letter of Concurrence (green sturgeon, steelhead, Chinook, critical habitat, and Essential Fish Habitat)
- California Air Resources Board — Asbestos NESHAP Notification Of Demolition & Renovation

B. Environmental Factors Potentially Affected

This Initial Study has determined that in the absence of mitigation the proposed Project could have the potential to result in significant impacts associated with the factors checked below. Mitigation measures are identified in this Initial Study that would reduce all potentially significant impacts to less-than-significant levels.

___	Aesthetics	___	Land Use and Planning
___	Agricultural Resources	___	Mineral Resources
___	Air Quality	___	Noise
✓	Biological Resources	___	Population and Housing
___	Cultural Resources	___	Public Services
___	Tribal Cultural Resources	___	Recreation
___	Energy	___	Transportation/Traffic
___	Geology and Soils	___	Utilities and Service Systems
___	Greenhouse Gas Emissions	___	Wildfire
___	Hazards and Hazardous Materials	✓	Mandatory Findings of Significance
___	Hydrology and Water Quality	___	None Identified

C. Determination

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the project-specific mitigation measures described in Section III have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the 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 proposed project, nothing further is required.

Signature: Terrance Davis Digitally signed by Terrance Davis DN: cn=Terrance Davis, o=City of Vallejo, ou=Public Works Department, email=terrance.davis@cityofvallejo.net, c=US Date: 2020.06.18 14:37:04 -07'00' **Date:** _____

Name and Title: **Terrance Davis, Public Works Director**

D. Evaluation of Environmental Impacts

This section of the Initial Study incorporates the Environmental Checklist contained in Appendix G of the CEQA Guidelines. Each resource topic section provides a determination of potential impact and an explanation for the checklist impact questions. The following 20 environmental categories and Mandatory Findings of Significance are addressed in this section:

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

Each of the above listed environmental categories was fully evaluated and one of the following four determinations was made for each checklist question:

- **"No Impact"** means that no impact to the environment would occur as a result of implementing the Project.
- **"Less than Significant Impact"** means that implementation of the Project would not result in a substantial and/or adverse change to the environment and no mitigation is required.
- **"Potentially Significant Unless Mitigation is Incorporated"** means that the incorporation of one or more mitigation measures would reduce the impact from potentially significant to less than significant.
- **"Potentially Significant Impact"** means that there is either substantial evidence that a project-related effect would be significant or, due to a lack of existing information, could have the potential to be significant.

I. Aesthetics

Except as provided in Public Resources Code Section 21099 would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) 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 point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The Project is located on Mare Island Causeway Bridge over Mare Island Strait. The Project includes preventative maintenance activities on an existing structure and does not increase capacity. The Project is located in an urban area. The Greater Vallejo Recreation Districts' River Park occurs immediately north east of the Project area. The City of Vallejo Municipal Marina is located south of the eastern end of the causeway bridge. Commercial and industrial uses occur adjacent to the west end of the bridge on Mare Island. The Mare Island/ San Francisco Ferry terminal occurs immediately south of the west end of the causeway bridge.

The existing City General Plan does not designate official scenic view corridors or vistas (City of Vallejo 2017). Although there are no officially designated scenic views within the Project Area, the General Plan recognizes that views from the hillsides and elevated roadways are scenic characteristics of the area. These views include San Pablo Bay, Mare Island Strait, the Vallejo waterfront, Sulphur Springs Mountain, Vaca Mountains, White Slough, Napa River Wetlands, and Sky Valley.

The Mare Island Historic District is individually eligible for the National Register of Historic Places (NRHP). Bridge 23C0248 was documented and evaluated for this project and determined to be a contributing resource to the Mare Island Historic District but is not individually eligible for the NRHP (Mead & Hunt 2019).

The City of Vallejo's most recent Municipal Code was passed on July 28, 2015 by Ordinance No. 1715N.C. (2d), and was updated on August 26, 2015. Title 16 is the Zoning Ordinance and contains development requirements for the City's Zoning Districts that regulate several aspects of development that affect visual character, such as building heights, landscaping, signage, yards, and lot coverage.

The Mare Island Specific Plan (MISP) originally adopted in 1999 with an EIR/EIS, amended and restated in 2005 with a subsequent EIR, amended in 2007 and 2008, and amended twice in 2013 serves as the guiding document for the approximately 5,250 acres of Mare Island. The Plan includes a

framework for Cultural Resources, Land Use, Urban Design, Transportation, Utility Systems, and Other Public Services. The 2008 Plan maintains the vision for the geographic area of Mare Island as a vibrant civilian employment center and balanced new residential neighborhood established in the 1999 Plan, with an emphasis on both interim and ultimate land uses geared toward job-creation and the integration of new uses into the historic fabric of Mare Island. The vision for the conversion to predominately civilian use of Mare Island continues to be the revitalization of a historic place that will provide interim and long-term regional recreational, employment, and housing opportunities while maintaining the waterfront-related industrial activities associated with its past and present. Uses would include 24-hour industrial activity along the waterfront, across from downtown Vallejo.

The MISP provides guidelines and standards for architecture, site furnishings, lighting, signage, and urban design. The MISP includes the following guidelines intended to reduce the glare effects of exterior lighting:

- Illumination levels for surface parking and pedestrian walkways should be medium range lighting that provides sufficient light for safety without creating glare for adjacent properties.
- Lighting levels below City requirements may be utilized, as approved by the City Engineer, for residential streets in order to avoid over lighting in residential areas.
- In historic and residential areas, street lights should be limited to approximately 16 feet in height to match the scale of existing lights.
- Light fixtures should be shielded or diffused to avoid glare to motorists, pedestrians, and residents.

Potential Environmental Effects

a) ***Less Than Significant Impact.*** Visual resources consist of two categories: scenic views and scenic resources. As per CEQA Checklist, scenic resources are described as specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. Scenic views are elements of the broader view shed such as mountain ranges, valleys, and ridgelines. A scenic vista refers to the view of an area that is visually or aesthetically pleasing.

The existing City General Plan does not designate official scenic view corridors or vistas. The Project is not located on a highway or route that is designated or eligible for designation as a scenic highway (Caltrans 2019). Several of the proposed preventative maintenance activities, including repairs to the bridge deck railings and repair or replacement of the existing bridge deck light poles, pedestals and lights will improve the appearance of the structure. Further new light fixtures will be designed and installed on the bridge deck and towers adjacent to the two bridge towers. The purpose of these lights is to light the bridge towers for aesthetic and visual enhancement.

Implementation of the preventative maintenance activities will not have any permanent adverse visual effects. No tree removal is anticipated. All lighting design will be based on current codes and standards including the guidelines provided in the MISP. The Project may temporarily alter the public's view of the Project area and its immediate surroundings during the 18-month construction period. These temporary impacts area considered less than significant.

b) ***No Impact.*** See discussion of a) above.

c) ***Less Than Significant Impact.*** See discussion of a) above.

d) ***Less Than Significant Impact.*** See discussion of a) above

II. Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Setting

The Project is located in an urbanized area in the City of Vallejo and is bound by industrial, commercial, and open space uses. Per the California State Farmland Mapping and Monitoring Program (California Department of Conservation 2019) land in and adjacent to the Project location is designated as 'urban and built up land' and 'other land'. The 'other land' category includes vacant and nonagricultural land surrounded on all sides by urban development. No farmland occurs in or adjacent to the Project area.

Potential Environmental Effects

a) ***No Impact.*** No prime farmland, unique farmland, or farmland of statewide importance occurs in the Project area. No farmland occurs in or adjacent to the Project area. The Project and adjacent parcels are not under Williamson Act contract.

b) ***No Impact.*** See response to item a above

c) ***No Impact***. No timberland occurs in the Project area. The proposed Project is consistent with the existing zoning and does not include any rezoning activities.

d) ***No Impact***. See response to item c above.

e) ***No Impact.*** The Project is not anticipated to involve other changes in the existing environment that could result in conversion of farmland or forest land.

III. Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The City of Vallejo, including the Project location, occurs in the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allow air to flow in and out of the Bay Area and the Central Valley.

The air quality of a region is determined by the air pollutant emissions (quantities and type of pollutants measured by weight) and by ambient air quality (the concentration of pollutants within a specified volume of air). Air pollutants are characterized as primary and secondary pollutants. Primary pollutants are those emitted directly into the air, for example carbon monoxide (CO), and can be traced to a single pollutant source. Secondary pollutants are those pollutants that form through chemical reactions in the atmosphere, for example reactive organic gasses (ROG) and nitrogen oxides (NO_X) combine to form

ground level ozone, or smog. Emissions from the urbanized portion of the SFBAAB have the greatest effect on air quality in the basin. On-road motor vehicles are the primary source of emissions in the metropolitan area.

Congress established much of the basic structure of the Clean Air Act in 1970, and made major revisions in 1977 and 1990. The Federal Clean Air Act established national ambient air quality standards (NAAQS). These standards are divided into primary and secondary standards. Primary standards are designed to protect public health and secondary standards are designed to protect other values. Because of the health-based criteria identified in setting the NAAQS, the air pollutants are termed "criteria" pollutants. California has adopted its own, more stringent, ambient air quality standards (CAAQS). The NAAQS and CAAQS attainment status of the SFBAAB is presented in Table 1.

Table 1. Attainment Status for SFBAAB

Pollutant	National Designation	State Designation
Ozone	Nonattainment	Nonattainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Unclassified/ Attainment	Attainment
NO_2	Unclassified/ Attainment	Attainment
SO_2	Unclassified/ Attainment	Attainment
Lead	Unclassified/ Attainment	Attainment
Hydrogen Sulfide	NA	Unclassified
Visibility Reducing Particles	NA	Unclassified

The Bay Area Air Quality Management District (BAAQMD) administers the state and federal Clean Air Acts in accordance with state and federal guidelines. The BAAQMD regulates air quality through its district rules and permit authority. It also participates in planning review of discretionary project applications and provides recommendations. District rules potentially applicable to the construction of the Project may include but are not limited to the following:

- **Regulation 6 (Particulate Matter):** Regulation 6 and the Rules it contains establish emission limits and other requirements to reduce particulate matter in the ambient air. Regulation 6 Rules potentially related to the proposed Project include:
    - **Rule 1:** Establishes limitations on emission rates, emission concentrations, visible emissions and opacity.
    - **Rule 6 (Prohibition of Trackout):** Limits the quantity of particulate matter in the atmosphere through control of trackout of solid materials onto paved public roads outside the boundaries of Large Bulk Material Sites, Large Construction Sites, and Large Disturbed Surface sites including landfills.
- **Regulation 8 (Organic Compounds):** Limits the emission of organic pollutants. Regulation 8 Rules potentially related to the proposed Project include:
    - **Rule3 (Architectural Coatings):** Limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.

- **Rule 4 (General Solvent and Surface Coating Operations):** Limits emissions of volatile organic compounds from the use of solvents and surface coatings.
- **Rule 15 (Emulsified and Liquid Asphalts):** Limits the emissions of volatile organic compounds caused by the use of emulsified and liquid asphalt in paving materials and paving and maintenance operations.
- **Rule 19 (Surface Preparation and Coating of Miscellaneous Metal Parts and Products):** Limits the emission of volatile organic compounds from the surface preparation and coating of certain miscellaneous metal parts and products.
- **Rule 23 (Coating and Flatwood Paneling and Wood Flat Stock).** Limits the emission of volatile organic compounds (VOC) from the application of coatings and adhesives to flatwood panels and wood flat stock.
- **Rule 32 (Wood Products Coatings).** Limits emissions of volatile organic compounds from the coating of wood products, including surface preparation, application of coatings, and cleanup.
- **Rule 51 (Adhesive and Sealant Products):** Limits the emissions of organic compounds from adhesive and sealant products.

- **Rule 11 (Hazardous Pollutants):** Sets emission and/or performance standards for hazardous pollutants.
  - **Rule 2 (Asbestos Demolition, Renovation and Manufacturing):** The purpose of this Rule is to control emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establish appropriate waste disposal procedures.

Table 2 below includes the CEQA Thresholds listed in Table 2-1 of the 2017 BAAQMD California Environmental Quality Act, Air Quality Guidelines (BAAQMD 2017).

Table 2. BAAQMD CEQA Significance Thresholds

Criteria Pollutant Thresholds								
	Construction Phase				**Operational Phase (Project Level)**			
	ROG	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
Threshold (lbs/ day)	54	54	82	54	54	54	82	54

Potential Environmental Effects

As recommended in the 2017 BAAQMD CEQA Air Quality Guidelines construction emissions were estimated for the Project using the Sacramento Metropolitan Air Quality Management District's *Road Construction Emissions Model (*RCEM*), Version 9.0.0*. The RCEM was developed to estimate emissions from linear projects types including road and bridge construction. The RCEM divides the project into four 'Construction Periods:

- Grubbing/Land Clearing
- Grading/Excavation
- Drainage/Utilities/Sub-Grade
- Paving

Because the Project proposes only preventative maintenance activities the 'Grubbing/Land Clearing' phase was removed. Based on similar road and bridge projects, the assumptions presented in Table 4 regarding type of construction equipment and use duration were used in the RCEM. Other Project assumptions used in the RCEM include a total 18-month construction schedule starting in 2022, use of water trucks, and all equipment was assumed to run for eight hours per day. Results of the RCEM based on the Project assumptions are in Table 5.

Table 3. Construction Equipment and Use Assumptions.

Construction Period	Equipment	
	Quantity	**Type**
Grading/Excavation	1	Aerial Lift
	1	Air Compressor
	1	Crane
	1	Excavator
	1	Roller
	1	Loaders
	2	Signal Board
	2	Backhoe
Drainage/Utilities/Sub-Grade	1	Aerial Lift
	1	Air Compressor
	1	Generator Set
	1	Fork lift
	1	Plate Compactor
	1	Pump
	1	Rough Terrain Forklift
	2	Signal Board
	2	Backhoe
Paving	1	Paver
	1	Paving Equipment
	2	Roller
	2	Signal Board
	2	Backhoe

Table 4. Estimated Construction Emissions

Project Phases	ROG lbs/day	NOx lbs/day	PM10 Total lbs/day	Exhaust PM10 lbs/day	Fugitive Dust PM10 lbs/day	PM2.5 Total lbs/day	Exhaust PM2.5 lbs/day	Fugitive Dust PM2.5 lbs/day
Grading/excavation	1.92	17.71	10.88	0.88	10.0	2.85	0.77	2.08
Drainage/utilities/sub-grade	1.62	14.06	10.71	0.71	10.0	2.73	0.65	2.08
Paving	1.16	11.51	0.60	0.60	0.0	0.51	0.51	0.0
Maximum lbs/day	1.95	17.71	10.88	0.88	10.0	2.85	0.77	2.08
Significance Threshold	54	54	82	*N/A*	*N/A*	54	*N/A*	*N/A*
Significant?	No	No	No	*N/A*	*N/A*	No	*N/A*	*N/A*

Notes: Data entered to emissions model: Project Start Year: 2022; Project Length (months): 18; Total Project Area (acres): 6.7; Total Soil Imported/Exported (yd^3/day): 0. PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures. Total PM10 emissions are the sum of *exhaust* and *fugitive dust* emissions.

a) ***No Impact.*** The proposed Project is identified as part of grouped project listing VAR170012 in the Metropolitan Transportation Commission's financially constrained *2019 Transportation Improvement Program* (TIP) (MTC 2019a) and as RTP ID 17-10-0024 in the *Amended Plan Bay Area 2040*, MTC 2019b). The federally required *Amended Plan Bay Area 2040* is a short-term listing of surface transportation projects that receive federal funds, are subject to a federally required action, or are regionally significant. Only projects included in the *Amended Plan Bay Area 2040* may be incorporated into the TIP. The TIP derives all its projects either directly or indirectly from the *Amended Plan Bay Area 2040*. Projects included in the TIP are required to conform to the State Implementation Plan for the region and would therefore not conflict with or obstruct SIP implementation.

b) ***Less Than Significant Impact.*** The SFBAAB (including western Solano County) is classified as nonattainment status for the federal ozone and PM2.5 standards and the State ozone, PM2.5, and PM10 standards. Project construction would create short-term increases in ROG, NOx, PM2.5, and PM10 emissions from vehicle and equipment operation. The RCEM estimates are below the BAAQMD CEQA significance threshold of 54 lbs/day each for of ROG and NOx and 82 lbs/day PM_{10}. The Project would not generate additional traffic on the Mare Island Causeway Bridge/G Street. The Project will not result in an increase of operational emissions.

c) ***Less Than Significant Impact.*** Sensitive receptors are facilities that generally house people, such as schools, hospitals, residences, etc. No residential, schools, or hospitals uses occur in or within 0.25 mile of the project area. Project construction would create short-term increases in ROG, NOx, PM2.5, and PM10 emissions from vehicle and equipment operation. The RCEM estimates are below the BAAQMD significance thresholds for ROG, NOx, PM2.5, and PM10.

Impacts are considered less than significant due to the limited nature of the Project and short-term construction period.

The Project is not located within an area known to contain naturally occurring asbestos (NOA) or an area "more likely to contain naturally occurring asbestos" (Department of Conservation 2000).

d) ***Less Than Significant Impact.*** Construction activities would involve the use of construction equipment, which have distinctive odors. Odors are considered less than significant because of the limited number of the public affected and the short-term nature of the emissions.

IV. Biological Resources

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

Environmental Setting

Potential impacts to biological and wetlands resources were evaluated in the following Project documents:

- **Natural Environment Study (NES) Minimal Impacts (MI):** The NESMI is a standard Caltrans report format for documenting and evaluating the potential Project impacts to biological resources (Sycamore Environmental 2019a).

- **Biological Assessment (BA):** The BA is prepared to support Endangered Species Act consultations with U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) (Sycamore Environmental 2019b).

The Project biological documents conclude the following:

- The Mare Island Strait is a traditional navigable waters and a tidally influenced jurisdictional water of the U.S. that flows south-southwest under the Mare Island Causeway Bridge. Clean Water Act Section 404 jurisdiction extends to the high tide line.
- In the Project area the Mare Island Strait consists of North Coast Salt Marsh, mudflat, and permanently inundated subtidal areas. Impacts to the North Coast Salt Marsh (marshland) vegetation are not anticipated.
- Mare Island Strait in the Project area provides habitat for federal-listed green sturgeon southern distinct population segment (sDPS), Delta smelt, California Central Valley steelhead DPS, Central California Coast steelhead DPS, Central Valley spring-run Chinook salmon ESU, and Sacramento River winter-run Chinook salmon ESU.
- With implementation of avoidance and minimization efforts, the project may affect, but is not likely to adversely affect, federal-listed fish species and designated critical habitat.
- The Project will not adversely affect EFH for coho salmon, Chinook salmon, groundfish or coastal pelagics.
- Marshland habitat in the Project does not provide suitable nesting habitat for California Ridgeway's rail, or suitable breeding habitat for salt marsh harvest mouse. The Project area provides marginal foraging habitat for these species. There will be no impacts to the marshland habitat within the Project area. Project impacts will be limited to the bridge. With the implementation of avoidance and minimization efforts, the Project will have no effect on California Ridgway's rail and salt marsh harvest mouse.
- The Project area provides potential habitat for state-listed species Delta smelt, Central Valley spring-run Chinook salmon evolutionary significant units (ESU), Sacramento River winter-run Chinook salmon ESU, longfin smelt, Swainson's hawk, California black rail, California Ridgeway's rail, and salt marsh harvest mouse. With implementation of the avoidance and minimization measures, the proposed Project will not impact these species.
- The Project area provides habitat for CDFW fully protected species and species of special concern green sturgeon, Sacramento splittail, burrowing owl, northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, San Pablo song sparrow, pallid bat, Townsend's bid-eared bat, Suisun shrew, and birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code 3503. With implementation of the avoidance and minimization measures, the proposed Project will not impact these species.
- The Project area provides potential habitat for federal listed soft salty bird's-beak and California seablite, CDFW ranked rare Mason's liaeopsis, and nine other special-status plants ranked by the California Native Plant Society (CNPS). These plants were not observed in the Project area during the botanical survey conducted during the evident and identifiable period. The Project will not impact these species. The Project will have no effect on soft salty bird's-beak and

California seablite. The Project will not impact CDFW ranked rare or other special status plant species.

Biological communities that occur in the Project area are shown in Table 5 (Sycamore Environmental 2019a). Mare Island Strait, including the subtidal, mudflat, and northern coastal salt marsh components is a special-status natural community in the Project area.

Table 5. Natural Communities in the Project area

Biological Community	Vegetation Alliance [1] and CDFW Alliance Code [2]	Rarity Rank [2]	Acreage
Mare Island Strait			
Northern Coastal Salt Marsh (NCSM)			
Upper Marsh Zone	*Distichlis spicata* Alliance (41.200.06)	G5 S4	0.04
Middle Marsh Zone	*Sarcocornia* (=*Salicornia*) *pacifica* Alliance (52.215.00)	G4 S3	0.04
Lower Marsh Zone	*Spartina foliosa* Alliance (52.020.02)	G3 S3	0.13
Mudflat	--	--	0.54
Subtidal (Permanently submerged)	--	--	2.47
		Mare Island Strait SUBTOTAL	3.22
Other Areas			
California annual grassland (CAG)	--	--	0.03
Ruderal/Disturbed (RUD)	--	--	0.28
Developed (DEV; Existing Structures, Roads and Pavement)	--	--	3.17
		TOTAL:	**6.70**

[1] Vegetation alliances are based on descriptions and classification methods in Sawyer et al. (2009).

[2] Alliance codes and rarity ranks are from CDFW (2018). Rarity ranking follows NatureServe's Heritage Methodology and is based on degree of imperilment as measured by rarity, trends, and threats. State (S) ranks of 1-3 are considered highly imperiled (CDFW 2018). Communities naturally lacking vegetation, aquatic communities, and communities dominated by nonnatives may not contain recognized vegetation alliances.

Potential Environmental Effects

a) ***Potentially Significant Unless Mitigation Incorporated.***

Special-Status Plant Species: The Project area provides potential habitat for Lingbye's sedge, Congdon's tarplant, pappose tarplant, Point Reyes salty bird's-beak, soft salty bird's-beak, Bolander's water hemlock, congested-head hayfield tarplant, Delta tule pea, Mason's lilaeopsis,

California seablite, Suisun marsh aster, and saline clover. These species were not observed in the Project area during the botanical survey conducted during the evident and identifiable period. No impact will occur.

Special Status Fish: Table 6 lists the special-status fish species for which habitat is present in the Project area as well as what type of habitat is present. Special status fish species were not found during the general biological survey.

Table 6. Special Status Fish Species Habitat and Types Present in Project area

Species	Foraging	Shelter	Migratory Corridor	Rearing	Cover Habitat	Spawning
Green sturgeon s DPS	X	X	X			
Delta smelt[1]	X	X	X	X		
CCV steelhead	X	X	X			
CCC steelhead	X		X	X	X	
CVSR Chinook	X	X	X			
SRWR Chinook	X	X	X			
Splittail	X	X	X			X[2]
Longfin smelt	X	X	X	X		

[1] dependent on annual and seasonal hydrologic conditions

[2] marginal spawning habitat

Access to steel piles below Mean Higher High Water (MHHW) by dive boat and manual installation of cathodic protection anodes by divers will not impact the Mare Island Strait.

Replacement of Pile 13 at Bent 19 with a new, smaller pile using a vibratory hammer will result in a net gain of 2.80 square feet to Mare Island Strait. The replacement pile to be installed is smaller than the existing pile to be removed.

The work will not create an impassible barrier or an excessive noise disturbance. The Mare Island Strait is a quarter mile wide at the bridge, allowing plenty of room for the diver to conduct bridge repairs, and allow the passage of fish.

The Interim Criteria for injury to fish from pile driving activities identify the sound pressure levels show in Table 7 (Caltrans 2015).

Table 7. Interim Criteria for Injury to Fish

Interim Criteria for Injury	Agreement in Principle
Peak	206 dB (for all sizes of fish)
Cumulative Sound Exposure Level (SEL)	187 dB - for fish size of two grams or greater. 183 dB - for fish size of less than two grams.

Practical spreading is used to estimate effects distances (i.e. isopleths) where Permanent Threshold Shift (PTS, i.e. permanent hearing loss) onset thresholds may be exceeded. For fish, the calculation is the same for Level B marine mammals (pers. comm. Laura McCue, NOAA). The following formula was used to calculate isopleths for Level B:

15Log(R)
*15*log[range from measurement (R0) to distance from pile of known SPL or SEL)]*
10^(Source level - threshold (120)) / 15

Table 8 shows the resultant isopleths for fish, based on measured sound (162 dB) of a similar pile installation at the Berth 23 in the Port of Oakland measured at 10 meters (Caltrans 2015 Bio Tech Guidance, Table I.2-3, Page 4 of 4; document p. 134), are provided below:

Table 8. Calculated Isopleths for Fish

Hearing Group	**Cumulative SEL**		**Peak SEL**
	Fish ≥ 2 g	**Fish < 2 g**	
SEL_{cum} Threshold	187	183	206
PTS Isopleth to threshold (meters / feet)	0.0	0.0	Would not occur

Cumulative SEL thresholds may be exceeded if fish were to occur adjacent to (within 0 feet) of vibratory hammer activities. Peak SEL thresholds would not be met.

With implementation of measure BIO-1 below, Project impacts will be less than significant the following special status fish species:

- Southern green sturgeon DPS
- Delta smelt
- California Central Valley steelhead DPS
- Central California Coast steelhead DPS
- Central Valley spring-run Chinook salmon ESU
- Sacramento River winter-run Chinook salmon ESU
- Sacramento splittail
- Longfin smelt

Measure BIO-1 (Special-Status Fish): The following will be implemented to reduce impacts to fish species in the Project area.

- *Construction activities in the Mare Island Strait will be conducted between July 15 and October 31, which is outside the migration period for most special status fish species.*
- *On-site compliance with all Project BMPs and any unanticipated effects on listed species will be monitored. Non-compliance with BMPs and unanticipated effects on listed species will be reported to the resident engineer or maintenance supervisor immediately. The*

resident engineer or maintenance supervisor will immediately implement corrective actions, including stopping work, if necessary, to prevent the unanticipated effects on listed species.

- *Environmental awareness training will be conducted by a qualified biologist prior to the onset of construction. The training will be provided to all construction personnel and will include how to recognize special-status species with potential to occur on the site, where habitat occurs on the site, what measures are in place for the protection, and procedures to follow if potential special-status species are observed. If a potential special-status species is observed in the work area, construction will stop and a qualified biologist will be contacted for guidance. The crew foreman will be responsible for ensuring that crewmembers adhere to protective measures. The training will be repeated by the Resident Engineer or Crew Foreman for any new construction personnel brought onto the job after construction starts. A training log with the names and dates of individuals trained will be maintained. Attendees will sign a form stating that they attended the training and understand all the protection measures.*
- *Spill prevention, control and countermeasures and standard Best Management Practices for sediment containment and water quality will be employed during in-water work. Appropriate measures include ensuring all equipment is cleaned daily of visible oil, grease, mud and other contaminates prior to use in water. Full-stocked spill kits will be kept nearby during in-water work activities.*
- *Fuel and other hazardous materials will not be stored on the bridge or within 100 feet of the waterway.*
- *A containment structure will be installed underneath the bridge and around in-water work areas to prevent debris from entering Mare Island Strait.*
- *Fresh concrete will be prevented from entering Mare Island Strait during the new pier installation. When concrete is poured in the vicinity of flowing water, work must be conducted in a manner that prevents contact of wet concrete with water. Concrete or concrete slurry will not come into direct contact with flowing water.*
- *Debris removed from the bridge will be disposed of at an off-site location approved by the resident engineer and where it cannot enter surface waters.*

Special Status Bird Species: Survey results, project impacts, and avoidance and minimization efforts for special status bird species with the potential to occur in the Project area are discussed below.

- **Burrowing Owl (*Athene cunicularia*):** Burrowing owls were not observed in the Project area. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for burrowing owl. The ruderal/disturbed areas within or adjacent to the Project area could provide marginal habitat for burrowing owls if a burrow becomes established. The ruderal/disturbed areas within or adjacent to the Project area could provide marginal habitat for burrowing owls if a burrow becomes established.
- **Swainson's Hawk (*Buteo swainsonii*):** Swainson's hawk were not observed in the Project area. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for

Swainson's hawk. Trees in and adjacent to the Project area provide marginal nesting habitat for this species. The California annual grassland areas (River Park) north of and outside the Project area and the marshland habitat underneath the bridge and adjacent to the Project area provides marginal foraging habitat.

- **Northern Harrier (*Circus cyaneus*):** Northern harrier was not observed in the Project area. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for Northern harrier. The marshland, ruderal/disturbed areas provide marginal foraging habitat for northern harrier. Marshland edges in the project area provide marginal nesting habitat.
- **White-Tailed Kite (*Elanus leucurus*):** White tailed kite was not observed in the Project area. The Project area is not located near agricultural areas and does not provide undisturbed habitat. The Project area does not provide potential nesting habitat for this species as there are no dense groves of deciduous trees present. Ruderal/disturbed and marshland areas provide marginal foraging habitat for white-tailed kite in the Project area.
- **Peregrine Falcon (*Falco peregrinus anatum*):** American peregrine falcon was not observed in the Project area. The Project area does not provide nesting habitat for this species as there are no cliffs and ledges present. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for American peregrine falcon. Trees adjacent to and outside the Project footprint, including the large eucalyptus tree 400 feet north of the Project area, provide marginal nesting habitat for this species. The marshland habitat underneath the bridge and adjacent to the Project area, and the Mare Island Strait, provides foraging habitat.
- **Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*):** Saltmarsh common yellowthroat was not observed in the Project area. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for saltmarsh common yellowthroat. Marshland areas provide marginal habitat for this species. The Project area lacks dense vegetation, and is separated from adjacent marsh areas to the north by a large mudflat. The marshland areas in the BSA have numerous access corridors for terrestrial predators, provide raptor perch sites, and is heavily and near-continuously disturbed by public and industrial uses.
- **California Black Rail (*Laterallus jamaicensis cotorniculus*):** This species was not observed in the Project area. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for California black rail. Marshland in the Project area does not provide suitable nesting habitat for California black rail due to the lack of dense vegetation. The marshland areas provide marginal foraging habitat for California black rail.
- **San Pablo Song Sparrow (*Melospiza melodia samuelis*):** San Pablo Song Sparrow was not observed in the Project area. A song sparrow call was heard north of the Mare Island Causeway Bridge during a general biological survey conducted in 2016; the subspecies that made call is unknown. The bridge, road, and asphalt parking lot are not suitable foraging or nesting habitat for this species. Marshland areas provide marginal habitat for this species.
- **California Ridgway's Rail (*Rallus obsoletus obsoletus*):** California Ridgway's Rail was not observed in the Project area. Marshland areas do not provide suitable nesting habitat for the species due to the lack of dense vegetation, numerous access corridors for predators, and the heavy and near-continuous disturbance by public and industrial uses. Marshland areas in

the project area provide marginal foraging habitat for California Ridgway's Rail. There is a record for California Ridgway's Rail from River Park, approximately 977 feet north of the Project area.

- **Migratory Birds and Birds of Prey:** The Project area provides nesting habitat for birds of prey and birds listed by the MBTA. Nests could become established in the project area before construction begins.

There will be no impacts to the NCSM (marshland), ruderal / disturbed, or California annual grassland habitat within the Project area. No trees will be removed. Project impacts are limited to the bridge. Staging will occur on existing pavement. Project impacts to special status bird species will be less than significant with implementation of the BIO-2.

Measure BIO-2 (Special-Status Birds): The following will be implemented to reduce impacts to bird species in the Project area. Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds-of-prey is anticipated from February 15 to September 1.

- *If construction begins outside the 15 February to 1 September breeding season, there will be no need to conduct a preconstruction survey for active nests.*
- *If construction begins between 15 February and 1 September, a biologist will conduct a survey for burrowing owl and Swainson's hawk within 500 feet, other active bird of prey nests within 250 feet, and active MTBA bird nests within 100 feet of the Project area from publicly accessible areas within one week prior to construction. The biologist will conduct the burrowing owl preconstruction survey in accordance with the applicable sections of the DFG Staff Report on Burrowing Owl Mitigation Guidelines (CDFW 2012). The measures listed below will be implemented based on the survey results.*

No Active Nests Found:

- *If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary.*

Active Nests Found:

- *If an active nest of a bird of prey, MBTA bird, or other CDFW protected bird is discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:*

  1. *Stop all work within a 100-foot radius of the discovery*
  2. *Notify the Engineer*
  3. *Do not resume work within the specified radius of the discovery until authorized.*

  If active Swainson's hawk nests or burrowing owl nests are found within the BSA, the biologist will establish a minimum 500-foot Environmentally Sensitive Area (ESA) around the nest. If the biologist determines other active nests may be adversely affected by construction activities, the biologist will establish a minimum 250-foot ESA around the nest if

the nest is of a bird of prey (other than Swainson's hawk or burrowing owl), and a minimum 100-foot ESA around the nest if the nest is of an MBTA bird other than a bird of prey.

Birds nesting under the bridge or in adjacent buildings would be considered acclimated to urban disturbance and would not require an ESA.

Species Protection Areas

Identification	Location
Burrowing owl and Swainson's hawk	500 ft no-disturbance buffer
Other Bird of Prey	250 ft no-disturbance buffer
MBTA protected bird (not bird of prey)	100 ft no-disturbance buffer

- *Activity in the ESA will be restricted as follows:*
  - *Do not enter the ESA unless authorized*
  - *If the ESA is breached, immediately:*
    a. *Secure the area and stop all operations within 60 feet of the ESA boundary*
    b. *Notify the Engineer*
  - *If the ESA is damaged, the Department determines what efforts are necessary to remedy the damage and who performs the remedy.*
- *No construction activity will be allowed in the ESA until the biologist determines that the nest is no longer active, monitoring determines that a smaller ESA will protect the active nest, or CDFW agrees to a smaller buffer for Swainson's hawk or burrowing owl.*
- *The ESA may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. Reduction of the ESA depends on the species of bird, the location of the nest relative to the project, project activities during the time the nest is active, CDFW guidance, and other project-specific conditions.*
- *Between 15 February and 1 September, if it is determined that trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.*
- *If an active nest is identified in or adjacent to the construction zone after construction has started, the biologist will be notified to determine whether construction is causing disturbance to the nest.*

Special-Status Mammals:

Pallid Bat (*Antrozous pallidus*) & Townsend's Big-Eared Bat (*Corynorhinus townsendii*):
No bats or sign of bats were observed during general biological surveys in the project area. The

marshland areas do not provide habitat for roosting bats. The Mare Island Causeway Bridge provides marginal roosting habitat for bats given the level of disturbance and because it is not protected from the outside environmental conditions or weather events. The Bridge is too cold for maternity and hibernation roosting. The Project will not impact special status bats.

Suisun Shrew (*Sorex ornatus sinuosus*) Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*): No salt marsh harvest mouse or Suisun shrews were observed during the general biological surveys in the project area. The project area does not provide suitable breeding habitat for salt marsh harvest mouse. The project area provides marginal foraging habitat for salt marsh harvest mouse and marginal habitat for Suisun shrew. The marsh vegetation in the project area is confined to a small area, and is separated from adjacent marsh areas to the north by a large mudflat and the bridge. There will be no impacts to the marshland habitat within the Project area. Project impacts will be limited to the bridge. Implementation of BIO-4 will reduce potential impacts to these species.

Pinnipeds (seals, sea lions etc.): The Marine Mammal Protection Act (MMPA) was enacted in 1972 and prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. MMPA Pinnipeds evaluated for this Project include the regional species listed in Table 9.

Table 9. MMPA Pinnipeds

Scientific Name	Common Name	MMPA Status	Federal Endangered Species Act Status	Habitat in Project Area
Arctocephalus townsendi	Guadalupe fur seal	MMPA Depleted	T	No. The Project is outside the known and predicted habitat range of this species (CWHR 2019).
Callorhinus ursinus	Northern fur seal	MMPA Depleted	--	No. The Project is outside the known and predicted habitat range of this species (CWHR 2019).
Eumetopias jubatus	Steller sea lion	MMPA Protection	D	No. The Project is outside the known and predicted habitat range of this species (CWHR 2019). This species was delisted in 2013 (CDFW 2019).
Mirounga angustirostris	Northern elephant seal	MMPA Protection	--	No. The Project is outside the known and predicted habitat range of this species (CWHR 2019).

Phoca vitulina	Pacific harbor seal	MMPA Protection	--	Yes. Mare Island Strait is within the range of this species, and could provide marginal foraging habitat. The Project area is highly urbanized and does not provide habitat for pupping or rearing young. Pupping occurs along the coast and not within bays or further inland (pers. comm. Laura McCue, NOAA).
Zalophus californianus	California sea lion	MMPA Protection	--	Yes. Mare Island Strait is within the range of this species, and could provide marginal foraging habitat. The Project area is highly urbanized and does not provide habitat for pupping or rearing young. Pupping occurs offshore on islands (pers. comm. Laura McCue, NOAA).

No Pinnipeds were observed in the Project area during the biological survey conducted in 2018. Pinnipeds have been observed in Mare Island Strait during previous surveys conducted by Sycamore Environmental, and are known to occur in the Mare Island Strait.

Replacement of Pile 13 at Bent 19 with a new, smaller pile will be completed using a vibratory hammer. If any MMPA Pinnipeds were to occur in the project area, they could be exposed either directly or indirectly to stressors including underwater sound/ vibration exposure. Implementation of BIO-3 will reduce potential impacts to lees than significant. Implementation of BIO-1 and BIO-4 will also reduce potential impacts to Pinnipeds.

Measure BIO-3 (Pinnipeds):

- *A qualified biologist shall conduct a preconstruction survey for MMPA pinnipeds (seals and sea lions) within 48 hours prior to the onset of in-water work. The survey will be conducted from the pedestrian accessible parts of the bridge and bridge approaches, using binoculars. If any pinnipeds are found, construction activities will not begin until the pinnipeds have moved out of the area on their own or NMFS has been contacted for further guidance.*
- *During in-water work, a minimum shutdown zone shall be implemented. The minimum shutdown zone shall be a 0.5-mile radius around the current in-water work. If a pinniped or other marine mammal comes within or approaches the shutdown zone, in-water operation will cease. Work cannot commence or resume until the animal has voluntarily left the area*

and been visually confirmed beyond the shutdown zone, or until fifteen minutes have passed without re-detection of the animal.

- *A qualified biologist will be present during installation of the pile using the vibratory hammer. The biologist will monitor the in-water work activities and Mare Island Strait for observations of pinnipeds or other marine mammals. All observations of pinnipeds or other marine mammals, regardless of the distance from the pile, will be documented and reported to NMFS.*
- *The pile driving engineer will utilize soft-start techniques (ramp-up and dry fire) recommended by NMFS for vibratory pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy strike sets. Soft start shall be implemented at the start of each day's pile driving and at any time following cessation of pile driving for a period of thirty minutes or longer.*
- *Vibratory pile driving shall only be conducted during daylight hours.*

b) ***Potentially Significant Unless Mitigation Incorporated.*** Mare Island Strait in the Project area is composed of subtidal (permanently submerged) areas, mudflat (intertidal) areas, and northern coastal salt marsh. These are considered sensitive natural communities. Access to steel piles below MHHW by dive boat and manual installation of cathodic protection anodes by divers will not impact the Mare Island Strait. Replacement of Pile 13 at Bent 19 with a new, smaller pile using a vibratory hammer will result in a net gain of 2.80 square feet to Mare Island Strait. The replacement pile to be installed is smaller than the existing pile to be removed. Bent and pile repair will result in temporary impacts to the subtidal areas of Mare Island Strait. The Project will not result in any impacts to mudflats or northern coastal salt marsh areas of the Mare Island Strait. No marsh vegetation will be disturbed. Implementation of BIO-4 reduces potential impacts to less than significant.

Measure BIO-4 (Mare Island Strait)

- *During construction, water quality will be protected by implementing best management practices (BMPs) consistent with the current Caltrans Stormwater Quality Handbooks to minimize the potential for siltation and downstream sedimentation of the Mare Island Strait. Appropriate BMPs will also be incorporated for in-water work to avoid or minimize exposure to fish and minimize underwater sound.*
- *Construction activities will not result in vegetation removal or cause impacts to the northern coastal salt marsh. Heavy equipment will not be driven or otherwise placed in the northern coastal salt marsh, mudflat or subtidal areas. Heavy equipment will be located on the bridge structure or on a floating platform in the Mare Island Strait. No materials, supplies or equipment will be placed in the marshland habitat. The Project will use existing ingress and egress points, or perform work from the bridge structure.*
- *A litter control program shall be instituted at the entire Project site. All workers will ensure that food scraps, paper wrappers, food containers, cans, bottles, and other trash from the Project area are deposited in covered or closed trash containers.*

- *Equipment will be refueled and serviced at designated construction staging areas. All construction material will be stored and contained in a designated area that is located away from the shoreline to prevent transport of materials into Mare Island Strait. Construction vehicles, floating platforms and equipment will be maintained to prevent contamination of soil and water from external grease and oil and from leaking hydraulic fluid, fuel, oil, and grease. Equipment must be checked daily, prior to use, for leaks. Equipment cannot be used until the leak is fixed.*
- *A spill prevention plan must be developed before construction activities can begin, and must be kept on site during all times. Application of materials such as asphalt, concrete and other construction materials must be done during the appropriate work windows. Petroleum products, chemicals, fresh cement, or water contaminated by the aforementioned will not be allowed to enter flowing water.*
- *The fiberglass pile cover, loose concrete and all other debris will be removed from the Mare Island Strait upon Project completion.*

c) ***Potentially Significant Unless Mitigation Incorporated.*** Mare Island Strait is a tidal waters of the U.S. in the project area. No other wetlands or potential waters of the U.S. or state were identified above the high tide line in the project area. Replacement of Pile 13 at Bent 19 with a new, smaller pile using a vibratory hammer will result in a net gain of 2.80 square feet to Mare Island Strait. The replacement pile to be installed is smaller than the existing pile to be removed. Implementation of BIO-4 will reduce potential impacts to less than significant.

d) ***Less Than Significant Impact.*** Construction of the project could temporarily disrupt movement of native wildlife species that occur in or adjacent to the Project area. Although construction disturbance may temporarily hinder wildlife movements within the project area, the impact is less than significant due to its short-term nature.

e) ***No Impact.*** The Open Space & Resource Conservation Element of the Vallejo General Plan 2040 contains a number of policies related to the conservation of important biological and wetland resources. Most of these focus on recognizing and protecting areas of valuable natural habitat, such as marshlands, watershed lands north of Lake Herman, and the Hunter's Hill and Sulfur Springs Mountain areas.

Title 10, Section 10.12, Trees, of the Vallejo Municipal Code serves to regulate the removal of trees in public areas or of a certain size. The ordinance defines a "street tree" as any tree of any species or size planted in parkways, sidewalk areas, easements, and rights-of-way granted to the city, and a "significant tree" as any tree or stand of trees on private property having either a height of twenty-five feet measured above ground level, or a diameter of ten inches. A permit is required prior to removal of any street tree or significant tree. The Project does not include tree removal or disturbance to marshland habitat in the Project area. The Project is consistent with the City's policies or ordinances protecting biological resources.

f) ***No Impact.*** The Project is not located in an area covered by a habitat or natural community conservation plan.

V. Cultural Resources

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Environmental Setting

As the oldest shipyard and naval facility on the West Coast of the United States, Mare Island has been recognized for its historic significance by the federal, state and local governments (City of Vallejo 1999). At the federal level, portions of the Mare Island Naval Shipyard were designated a National Historic Landmark (NHL) in 1975. Four years later, in 1979, the larger Naval Base was listed as a California State Historical Landmark (CSHL) as the "First U.S. Naval Station in the Pacific." In 1997, the Naval Base was again honored for its historic significance by listing of the Mare Island Historic District (NRHD) on the National Register of Historic Places. Finally, in 1999, the City of Vallejo designated the Mare Island National Register Historic District as a local historic district containing 42 individual City Landmarks. These districts are collectively referred to as the Mare Island Historic District (Historic District).

The Mare Island Causeway Bridge consists of two bridge segments recognized by Caltrans: Bridge 23C0290 (formerly 23C0258), which is the timber "Mare Island Causeway Bridge West Approach," and Bridge 23C0248, which is the "Mare Island Causeway Bridge" consisting of the concrete east approach and 1980 lift span. This Project only involves repair and preventative maintenance to Bridge 23C0248.

As part of its Section 106 compliance activities for the Project a 'Findings of No Adverse Effect With Standard Conditions Report' was prepared (Mead & Hunt 2019). Per the Project Findings of No Adverse Effect Report, Bridge 23C0248 and Bridge 23C0290 are a single contributor to the NRHP listed Mare Island Naval Shipyard Historic District. Mare Island Causeway Bridge 23C0248 is listed as a contributing resource to the District but was not found to be individually eligible for listing in the NRHP as a result of research and evaluation performed (Mead & Hunt 2019).

In accordance with the CEQA guidelines section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources) the term "historical resources" includes "*A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant.*" In 1999 the City of Vallejo designated the Mare Island National Register Historic District as a local historic district containing 42 individual City Landmarks. The Mare Island Specific Plan, Figure 2-1 (Historic Area Boundaries) shows the Mare Island Causeway Bridge 23C0248 within the 'Historic District Boundary.' Figure 2-2 (Historic Resources) of the Mare Island Specific Plan identifies the Mare Island

Causeway Bridge 23C0248 as a 'contributing resource (notable)' within the 'Historic District Boundary' (City of Vallejo 1999).

Potential Environmental Effects

a) ***Less Than Significant Impact.*** The '*Project Findings of No Adverse Effect Report*' concludes that the Project activities have the potential to impact the integrity of resources (Mare Island Causeway Bridge 23C0248) that contributes to the Mare Island Naval Shipyard Historic District. As required by the NEPA/ Section 106 process, potential impacts will be minimized by implementation of the Secretary of Interior Standards (SOIS) for Rehabilitation included in the Project SOIS Action Plan. The Project SOIS Action Plan is included as an attachment to the '*Project Findings of No Adverse Effect Report*'.

Per CEQA guidelines section 15064.5.b.3 "*Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource.*" Because the Project will implement the required SOIS Action Plan project impacts are less than significant.

b) ***Less Than Significant Impact.*** In consultation with Caltrans District 4 Professionally Qualified Staff (PQS), the Archaeological Survey Report (ASR) completed by Tremaine & Associates, Inc. in 2011 for a previous project involving Bridge 23C0290 addressed archaeological resources potentially affected within the established archaeological Area or Potential Effect (APE). The date of SHPO consultation/concurrence on the ASR associated with the project at Bridge 23C0290 was February 5, 2013. The 2011 ASR concludes that further archaeological identification efforts are not required as no previously identified prehistoric resources were found as part of the study and the likelihood of encountering buried cultural deposits is very low. Additionally, no historic cultural deposits were found, as the staging area is covered in concrete and asphalt. Although deposits over 50 years of age may be under the concrete, disturbance of these deposits is unlikely, as this portion of the Project area will be used for staging only. The only other project components that require ground disturbance are located within the Mare Island Straight (Napa River) and would be underwater. There is no potential to encounter intact buried archaeological resources in this portion of the project area.

c) ***Less than Significant.*** The 2011 ASR concludes that further archaeological identification efforts are not required as no previously identified prehistoric resources were found as part of the study and the likelihood of encountering buried cultural deposits is very low. Contract provisions will require notification of the City and compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials or human remains should any be discovered during project construction

VI. Tribal Cultural Resources

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) 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:	☐	☐	☒	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Potential Environmental Effects

a) ***Less Than Significant Impact (applies to items i and ii).*** No Native American tribes traditionally and culturally affiliated with the project area have requested consultation with the City pursuant to Public Resources Code Section 21080.3.1.

As part of the 2011 Section 106 process for a previous project involving Bridge 23C0290, Mead & Hunt contacted the Native American Heritage Commission (NAHC) by letter on August 23, 2011, with a request for a query of their Sacred Lands File and a list of Native American contacts. The NAHC responded on November 2, 2011, noting no Native American cultural resources had been recorded within the general project area. The NAHC also provided a list of Native American individuals and organizations that might have concerns with or interest in the current undertaking. Native American Consultation Documentation is attached to the HPSR.

Native American individuals and organizations identified by the Native American Heritage Commission (NAHC) were contacted by letter dated November 8, 2011, and subsequently by telephone. Mead & Hunt received a letter from Marshall McKay, dated December 6, 2011, stating that their Cultural Resources Department concluded that the project is situated within the aboriginal territories of the Yocha Dehe Wintun Nation and have a cultural interest in the general project area. They requested that Mr. Reno Keoni Franklin be contacted to coordinate a date and time for a site visit to evaluate their cultural concerns. Mead & Hunt followed up with an email containing additional information related to the general project area. Mead & Hunt then attempted to contact Mr. Franklin by telephone on January 17, 2012, and again on January 18, 2012, and left voicemail messages. Subsequently, an email was sent to Mr. Franklin on January 18, 2012, to arrange a date and time to conduct a site visit. No response was ever received.

VII. Energy

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Environmental Setting

The City of Vallejo Climate Action Plan is Vallejo's roadmap to becoming a more sustainable community (City of Vallejo 2012). The Climate Action Plan will enable Vallejo to reduce greenhouse gas emissions, adapt to climate change, and improve the economic, environmental, and physical health of the community. This Plan calls for changes from now through 2035 in the following categories:

- Green Building Practices
- Energy Efficiency
- Transit-Oriented Development
- Mixed Use, Higher Density Development
- Recycling and Composting
- Water Conversation
- Renewable Energy

Greenhouse Gas Reduction and Adaptation Measures relevant to the Project include:

- **City Government Operations (CG) 2 Lighting:** Retrofit City-owned or -operated lighting and related mechanical systems.
- **Off-Road Equipment (OR) Construction Equipment:** Reduce emissions from heavy-duty construction equipment by limiting idling and utilizing cleaner fuels, equipment, and vehicles.

Potential Environmental Effects

a) ***Less Than Significant.*** New light fixtures will be designed and installed on the bridge deck and towers adjacent to the two bridge towers. The purpose of these lights is to uplight the bridge towers for aesthetic and visual enhancement. These new lights are the only new operational energy demand introduced by the Project. All lighting design will be based on current codes and standards.

Energy usage during project construction would be to power construction equipment on site during construction activities. Future road and bridge maintenance activities (e.g. vegetation control, street sweeping etc.) would likely involve the use of electric or gas-powered equipment.

The project would be required to comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, which would ensure that the future activities would be energy efficient to the maximum extent practicable. The project would not be considered to

result in a wasteful, inefficient, or unnecessary use of energy, and impacts related to construction and operational energy would be considered less than significant.

b) ***No Impact:*** The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency since the Project is required to comply with all applicable standards and regulations including the City of Vallejo's Climate Action Plan.

VIII. Geology and Soils

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Environmental Setting

The following is adapted from the City of Vallejo General Plan EIR, Chapter 4.5 Geology and Soils (City of Vallejo 2016).

Topography: Topography in Vallejo ranges from flat-lying areas such as marsh and estuarine environments along Mare Island and parts of the east margin of the Napa River, to gently sloping terrain in the central part of the City in the area flanking Interstate Highway 80 north of Curtola Parkway, to the steeper terrain that dominates the east-central and northeast parts of the City. Elevations range from

near-sea level on the shores of the Carquinez Strait to nearly 1,000 feet above mean sea level along the crest of Sulphur Springs Mountain in the northeast part of the City.

Geology: Vallejo lies along the east margin of San Pablo Bay in southern Solano County, a region of California known as the Coast Ranges geomorphic province. This province is characterized by a series of northwest trending ridges and valleys whose orientation is controlled by tectonic folding and faulting. Regional basement rocks consist of the highly deformed Great Valley Sequence of Late Jurassic to Cretaceous age, which includes massive beds of sandstone interfingered with siltstone and shale, as well as occasional outcroppings of the altered volcanic rocks of the Jurassic Coast Range Ophiolite complex in the east-central part of the City. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits underlie the low-lying regions along the Carquinez Straights, San Pablo Bay, and Suisun Bay. The estuarine sediments found along the shorelines of Solano County generally consist of soft, water-saturated mud, peat, and loose sand. The soft, clay-rich sediments along San Francisco and San Pablo Bays are referred to locally as "Bay Mud." This widespread belt of fine-grained sediments can present a variety of engineering challenges due to its low strength, compressibility, and generally saturated condition. Landslides in the region are more likely to occur in weak, weathered bedrock on relatively steep slopes.

Soils: Mapped soil units in the Project area are Made Land, Tidal Marsh, and Water (Sycamore Environmental 2019a). Made Land (Ma) consists of areas that have been filled in with mixed materials. Sandstone, shale, concrete, and blacktop fragments make up as much as 80 percent of the mass. Soil texture ranges from sandy loam to clay. Fill material is well drained, but is commonly underlain by poorly drained tidal marsh or saline sediments at a depth of more than 3 ft to as much as 7 ft. Valdez silty clay loam, wet is a minor component. This land type is used mostly for urban development (Sycamore Environmental 2019a).

Tidal marsh (Td) is a very poorly drained, strongly saline land type that is located between constructed levees and bodies of water and flooded periodically by tidal waters. This land type is used for wildlife habitat and recreation.

Regional Faulting, Seismicity, and Related Seismic Hazards: The Vallejo area, like much of the San Francisco Bay Area, is vulnerable to seismic activity due to the presence of several active faults in the region. The closest and most prominent active faults are the Rodgers Creek Fault and Concord-Green Valley Fault, whose closest approaches lie within 5 miles of Vallejo. Other active earthquake faults in the general vicinity include the Calaveras and Hayward Faults to the south. No Alquist-Priolo Earthquake Fault Zones have been mapped in the Vallejo area (City of Vallejo 2016).

Although there are no State-designated active faults in Vallejo, some potentially active faults in the area have been the subject of recent research. Two of these faults are the Franklin Fault and the Southampton Fault. The Franklin Fault is reportedly well-defined south of Vallejo in the hills that flank the Carquinez Strait. To the north, in the general vicinity of Mare Island, the presence of this fault has not been established. According to the United States Geological Survey, the Franklin Fault does not appear to have been associated with the historical 1898 Mare Island earthquake. Recent studies suggest that this event was associated with the south part of the Rodgers Creek Fault. The Southampton Fault is located in the southeast part of the Vallejo, where it reportedly extends north from Southampton Bay, running more-or less parallel to Columbus Parkway. No historical seismic events have been attributed to this fault.

Ground Shaking: The severity of seismic-induced ground shaking depends on several variables, such as earthquake magnitude and proximity, local geology (including the properties of unconsolidated sediments), groundwater conditions, and topographic setting. In general, ground-shaking hazards are most pronounced in areas that are underlain by loosely consolidated soil/sediment.

When earthquake faults within the Bay Area's nine-county area were considered, the United States Geological Survey estimated that the probability of a magnitude 6.7 or greater earthquake prior to the year 2036 is 63 percent, or roughly a two-thirds probability over this timeframe. In the event of an earthquake of this magnitude, the seismic forecasts presented on the Association of Bay Area Governments' (ABAG) website (developed by a cooperative working group that included the United States Geological Survey and the California Geological Survey) suggest that most parts of Vallejo are expected to experience "very strong" shaking.

Landslides: Landslides are gravity-driven movements of earth materials that may include rock, soil, unconsolidated sediment, or combinations of such materials. The rate of landslide movement can vary considerably. Some move rapidly as in a soil or rock avalanche, while other landslides creep or move slowly for extended periods of time.

Earthquake-induced landslides have the potential to occur in Vallejo and the surrounding area, most notably in the hillier northeast and east-central parts of the community where slopes locally exceed 70 percent. Although earthquake hazard maps have not been published for the Vallejo area by the California Geological Survey, the United States Geological Survey has investigated landslide hazards in Vallejo and neighboring communities. The mapped landslide zones are almost exclusively found on steeper hillsides in the northeast part of the city, such as the areas near Sulphur Springs Mountain. Smaller, isolated landslides have also been documented in the low hills at the south end of Mare Island as well as the steep, west-facing slopes of Carquinez Heights east of the Napa River. Landslides are generally not an issue in parts of Vallejo where the topographic relief is subdued.

Liquefaction: Liquefaction generally occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong, seismic-induced ground shaking. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid, granular material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may subside and suffer major structural damage. Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. Per Figure 4.5-4 (Liquefaction Potential) of the City General Plan EIR the liquefaction potential ranges from very high and moderate east of the bridge to moderate and low west of the bridge (City of Vallejo 2016).

Unstable Geologic Units: Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand. Conversely, when dry, they can contract or shrink. Expansive soils are typically very fine grained with a high to very high percentage of clay, typically montmorillonite, smectite, or bentonite clay. USDA soil surveys of Solano County identified soil complexes in Vallejo with locally high shrinkswell potential, including Altamont clay, Clear Lake clay, and Rincon clay loam.

Potential Environmental Effects

a) ***a-i) Less Than Significant Impact.*** The California Geological Survey has not mapped any Alquist-Priolo Earthquake Fault Zones in Vallejo or its Sphere of Influence. The Project

includes preventative maintenance activities on an existing structure. The Project does not include any new development. The Project will not directly or indirectly cause potential substantial adverse effects due to the rupture of a fault mapped on the most recent Alquist-Priolo Earthquake Fault Zoning Map.

a-ii) Less Than Significant Impact. The Project site and the entire San Francisco Bay Area are in a seismically active region subject to strong seismic ground shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground-shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. Major active faults in the region that could cause ground shaking at the project site include the Concord/Green Valley, West Napa, San Andreas, and Hayward Faults. The proposed project includes preventative maintenance activities on an existing structure. No new development is proposed. As applicable the Project will be designed and constructed consistent with the most current applicable Caltrans seismic standards and applicable earthquake resistance standards for Seismic Zone 4 in the California Building Code (CBC). Compliance with existing practices and codes would reduce potential impacts associated with ground shaking to a less than significant level.

a-iii) Less Than Significant Impact. Per Figure 4.5-4 (Liquefaction Potential) of the City General Plan EIR the liquefaction potential ranges from very high and moderate east of the bridge to moderate and low west of the bridge (City of Vallejo 2016). The proposed project includes preventative maintenance activities on an existing structure. No new development is proposed. As applicable the Project will be designed and constructed consistent with the most current Caltrans seismic standards and applicable earthquake resistance standards for Seismic Zone 4 in the California Building Code (CBC). Compliance with existing practices and codes would reduce potential impacts associated with liquefaction to a less than significant level.

a-iv) No Impact. Topography in the project area is nearly flat. Landslides are generally not an issue in parts of Vallejo where the topographic relief is subdued. The Project site is not considered to be at risk from earthquake-induced landslides.

b) ***Less Than Significant Impact.*** The Project occurs on nearly flat ground. Construction activities will not result in vegetation removal or cause impacts to the northern coastal salt marsh. Heavy equipment will not be driven or otherwise placed in the northern coastal salt marsh, mudflat or subtidal areas. Heavy equipment will be located on the bridge structure or on a floating platform in the Mare Island Strait. No materials, supplies or equipment will be placed in the marshland habitat. The Project will use existing ingress and egress points, or perform work from the bridge structure.

c) ***Less Than Significant Impact.*** Other than those discussed above, no other geologic hazards (unstable geologic unit or soil that is unstable) are mapped crossing or directly adjacent to the project site.

d) ***Less Than Significant Impact.*** USDA soil surveys of Solano County identified soil complexes in Vallejo with locally high shrinkswell potential, including Altamont clay, Clear Lake clay, and Rincon clay loam. Altamont clay, Clear Lake clay, and Rincon clay loam are not mapped in the Project area. The proposed project includes preventative maintenance activities on an existing structure. No new development is proposed. The only ground disturbing work will occur under

water where the drying-wetting cycle does not occur and this limits the possibility of expansive soils concerns.

e) ***No Impact.*** The proposed Project is a surface transportation project. Septic tanks and alternative wastewater disposal systems are not part of the Project.

f) ***Less Than Significant Impact.*** The Project preventative maintenance activities do not include soil grading or excavation activities. The Project will replace Pile 13 at Bent 19 with a new, smaller pile. Installation of the new pile in the bed of the Napa River/ Mare Island Strait with a vibratory hammer would not be expected to directly or indirectly destroy a unique paleontological resource because the area was previously impacted by the original pile and bridge construction.

IX. Greenhouse Gas Emissions

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

Environmental Setting

Greenhouse gases (GHGs) are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts. The major GHGs that are released from human activity include carbon dioxide, methane, and nitrous oxide (OPR 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

Greenhouse gas emissions for transportation projects can be divided into those produced during operations and those produced during construction. The proposed Project does not increase the capacity of the Mare Island Causeway Bridge and would not increase operational GHG levels. The discussion below therefore focuses on construction related GHG emissions of the Project.

BAAQMD's approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization (BAAQMD 2017). If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. CEQA Thresholds for GHG per Table 2-1 of the 2017 BAAQMD California Environmental Quality Act, Air Quality Guidelines are listed in Table 10 below.

Table 10. 2017 BAAQMD Air Quality CEQA Thresholds of Significance, GHG

Project Level			
Pollutant	**Construction-Related**	**Operational-Related**	
Criteria Air Pollutants and Precursors (Regional)	**Average Daily Emissions (lb/day)**	**Average Daily Emissions (lb/day)**	**Maximum Annual Emissions (tpy)**
GHGs – Projects other than Stationary Sources	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO2e/yr OR 4.6 MT CO2e/SP/yr (residents+employees)	
GHGs – Stationary Sources	None	10,000 MT/yr	

Potential Environmental Effects

a) ***Less Than Significant Impact.*** The proposed Project does not increase the capacity of the Mare Island Causeway Bridge and would not increase operational GHG levels. Construction of the proposed Project would generate short-term emissions of greenhouse gases. The Sacramento Metropolitan Air Quality Management District (SMAQMD's) Road Construction Emissions Model, Version 9.0.0 was utilized to estimate CO2e from construction of the proposed Project.

The Road Construction Emissions Model results indicate Project construction is estimated to produce a maximum of approximately 3,940 lbs per day of CO2e or a total for the Project of approximately 582 tons (MT) of CO2e over the assumed 18-month construction period. On a yearly basis this equals approximately 388 tons of CO2e per year.

CO2e emissions associated with construction are temporary. The BAAQMD does not have a CEQA significance threshold for GHG emissions. Construction emissions would be well below the BAAQMD's 'GHGs – Projects other than Stationary Sources' operational threshold of 1,100 (MT) CO2e/yr. Project impacts are less than significant.

b) ***Less Than Significant Impact.*** The proposed Project is identified as part of grouped project listing VAR170012 in the Metropolitan Transportation Commission's financially constrained *2019 Transportation Improvement Program* (TIP) (MTC 2019a) and as RTP ID 17-10-0024 in the *Amended Plan Bay Area 2040*, MTC 2019b). The *Amended Plan Bay Area 2040* is the applicable GHG emissions reduction plan for the Project. The Project will not conflict with the applicable GHG reduction plan as it was included in the *Amended Plan Bay Area 2040* analysis.

X. Hazards and Hazardous Materials

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Environmental Setting

An Initial Site Assessment (ISA) report was prepared for the Project area for hazardous risks associated with preventative maintenance work (WRECO 2018). The ISA included a regulatory agency database review for locations included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (The Cortese list') and visual site survey. The ISA also contains the results of lead and asbestos sampling.

WRECO found no evidence of Activity or Use Limitations in the Project area. Several current and potential Recognized Environmental Conditions (RECs) were identified during the ISA, including the following:

- Materials that may contain lead-based paint and asbestos
- Treated wood
- Potential Polychlorinated Biphenyl (PCB) ballasts at bridge light posts
- Thermoplastic striping on bridge road deck

- Natural gas pipeline crossing the bridge
- Creosote coating on the main lift span cables

Potential Environmental Effects

a) ***Less Than Significant Impact.*** Small amounts of hazardous materials would be used during construction activities (i.e., equipment maintenance, fuel, solvents, architectural coatings, roadway resurfacing and re-striping materials). Hazardous materials would only be used during implementation of the Project, and any hazardous material uses would be required to comply with all applicable local, state, and federal standards associated with the handling and storage of hazardous materials. Use of hazardous materials in accordance with applicable standards ensures that any exposure of the public to hazard materials would have a less-than-significant impact.

b) ***Less Than Significant Impact.*** The ISA concludes that no evidence of Activity or Use Limitations occur in the Project area (WRECO 2018). Several current and potential RECs in the Project area include chemically treated wood, thermoplastic traffic striping, potential PCB ballasts at bridge light posts, creosote coating and a natural gas pipeline.

Suspected lead-based paint and asbestos-containing materials found on the bridge and associated with planned maintenance were sampled as part of this ISA to verify the presence/absence of RECs and to provide specific guidance for waste management and worker safety during planned maintenance activities. The sampling results showed the presence of lead-based paint in several of the blue paint hand rail and minimal presence of lead in the bridge's thermoplastic striping. These materials require standard special handling during maintenance, waste management, and waste disposal activities.

Completion of the Project in accordance with the Public Contract Code of the State of California, the State of California Department of Transportation Standard Plans and Standard Specifications, and the Contract, Project Plans, and Project Special Provisions limits the hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. This impact is less than significant.

c) ***No Impact.*** No existing or proposed schools occur within 0.25 mile of the Project site. Federal Terrace Elementary School is the closest school and is located approximately 0.75-mile northeast of the Project site. As noted above, the Project would involve the short- term handling of hazardous materials during construction. Handling and storage of hazardous materials during construction would comply with all applicable local, state, and federal standards.

d) ***No Impact.*** No listed hazardous materials or waste sites occur within the project site.

e) ***No Impact.*** The Project is not located within two miles of a public airport or public use airport and no private air strips occur in close proximity to the Project.

f) ***Less Than Significant Impact.*** Throughout construction, at least one vehicular lane on the viaduct will remain open at all times. Work at the deck level will need to be staged in order to maintain traffic. The contractor will be required to prepare a traffic control plan that details traffic control on the bridge during each stage of construction. Project construction activities

would be coordinated with local law enforcement and emergency services providers and U.S. Coast Guard as applicable.

g) ***Less Than Significant Impact.*** The completed Project will not expose people or structures to a new or increased significant risk of loss, injury or death involving wildland fires. Project construction activities would be coordinated with local law enforcement and emergency services providers as applicable.

XI. Hydrology and Water Quality

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

Environmental Setting

The Project is located in the San Pablo Bay hydrologic unit (hydrologic unit code 18050002). The Mare Island Strait is the lower portion of the Napa River as it enters San Pablo Bay. It flows south-southwest under the Mare Island Causeway Bridge.

Potential Environmental Effects

a) ***Less Than Significant Impact.*** Project preventative maintenance activities include the use of fuels, lubricants, batteries, architectural coatings, methacrylate, and coolants and may generate

construction debris. These are the primary Project activities and materials that have the potential to pollute stormwater.

Measures BIO-1 and BIO-4 contain actions that reduce potential impacts to water quality as well as biological resources. Water quality objectives will be met through adherence to BIO-1 and BIO-4 and other construction provisions, precautions, and stipulations as described in the National Pollution Discharge Elimination System (NPDES) permit, Section 404 CWA permit, Section 401 CWA Water Quality Certification, and 1602 Streambed Alteration Agreement as applicable.

Implementation of water quality BMPs in BIO-1 and BIO-4 as well as adherence to Project permit requirements will ensure long-term soil stabilization and protection of water quality during construction.

b) ***No Impact.*** The Project would not involve any withdrawals from an aquifer or groundwater table.

c) ***No Impact (items c-i though c-iv).*** The Project includes preventative maintenance activities on the existing Mare Island Causeway Bridge that crosses the Mare Island Strait/ Napa River. The Project does not include the addition of any new impervious surfaces. The Project will not alter the course of Mare Island Strait/ Napa River. The Project does not substantially change the rate or amount of surface runoff present.

The FEMA Flood Insurance Rate Map (FIRM) dated 3 August 2016 (panel 06095C0607F) identifies the Mare Island Strait/ Napa River in the Project area is a Zone AE area (FEMA 2019). Zone AE includes areas that are inundated by 1% annual chance flooding (100-year/base floodplain) where base flood elevations (BFEs) have been determined. The BFE per the FIRM is 10 ft. The Project preventative maintenance activities would not impede or redirect flood flows.

d) ***Less Than Significant Impact.*** See response to item a) and c) above.

e) ***Less Than Significant Impact.*** The segment of Mare Island Strait/ Napa River in the Project area is a Category 5, 303(d) listed water body as per the Final California 2014-2016 Integrated Report (303(d) List/305(b) Report) (SWRCB 2019). A Category 5 features include water body segments where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment. The Mare Island Strait/Napa River is listed for the following pollutants:

- **Chlordane:** An organochlorine compound previously used as a pesticide. EPA banned all uses in 1988. No TMDL currently exists, the expected TMDL completion date is 2029.
- **Dieldrin:** An organochloride used as an insecticide. EPA banned all uses in 1974. No TMDL currently exists, the expected TMDL completion date is 2029.
- **Mercury:** Is used for the manufacture of industrial chemicals and for electrical and electronic applications. The San Francisco Bay Mercury TMDL was approved by the EPA on 12 February 2008.
- **PCBs (Polychlorinated biphenyls):** Used widely in electrical equipment like capacitors and transformers before 1979. They also were used in hydraulic fluids, heat transfer

fluids, lubricants, and plasticizers. EPA banned all uses in 1979 however, PCBs are still present in many pre-1979 products.

The Project would not include the use of the pollutants for which the Mare Island Strait/ Napa River is listed. Completion of the Project in accordance with the Public Contract Code of the State of California, the State of California Department of Transportation Standard Plans and Standard Specifications, and the Contract, Project Plans, and Project Special Provisions reduces potential impacts to water quality. The proposed Project would not negatively affect any of the designated beneficial uses for surface and groundwater presented in the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region.

XII. Land Use and Planning

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Environmental Setting

The City of Vallejo General Plan 2040 (City of Vallejo 2017) and the Mare Island Specific (City of Vallejo 1999) are the relevant land use plans for the project area. The majority of the bridge structure is located over the Mare Island Strait for which there is no Assessor's Parcel Number (APN) available.

Per the City of Vallejo General Plan 2040 Land Use Map APNs 0055010300 and 0055010250 on the east end of the bridge are identified as 'community' with a parks, recreation and open space designations (City of Vallejo 2018).

APNs 0066050100 and 0066020150 occur on the west end of the bridge on Mare Island. Per the Mare Island Specific Plan APN 0066050100 is designated as mixed use (City of Vallejo 1999). The Mare Island Specific Plan designates APN 0066020150 as industrial and the City General Plan Land Use Map designates the parcel as primarily industrial with a strip of land adjacent to Mare Island Strait designated parks, recreation and open space.

Potential Environmental Effects

a) ***No Impact.*** The Project proposes preventative maintenance activities on and existing bridge and would not physically divide an established community.

b) ***No Impact.*** The Project proposes preventative maintenance activities on and existing bridge and would not conflict with any land use plan, policy, or regulation.

XIII. Mineral Resources

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

Environmental Setting

There are no known mineral resources on the site. The City of Vallejo General Plan 2040 DEIR does not identify any mineral resources in the vicinity of the project (City of Vallejo 2016).

Potential Environmental Effects

a) ***No Impact.*** The Project would not impact the availability of mineral resources that are locally important or would be of value to the State.

b) ***No Impact.*** See response to item a).

XIV. Noise

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Environmental Setting

The City's Municipal Code provides for general and specific restrictions and regulation of noise within Vallejo. The relevant standards are primarily found in Municipal Code Chapters 7.84, 7.90, and 12.40. The following paragraphs summarize the key points of Code, addressing stationary/operational, construction, and motor vehicle noise.

Chapter 7.84, Regulation of Noise Disturbances: Section 7.84.101, General prohibition – loud, unnecessary or unusual noise, makes it unlawful to generate noise disturbances. Specifically, it is an infraction for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The standard(s) which may be considered in determining whether a violation exists may include, but not be limited to, the following:

- The level of noise;
- Whether the nature of the noise is usual or unusual;
- Whether the origin of the noise is natural or unnatural;
- The level and intensity of the background noise, if any;
- The proximity of the noise to residential sleeping facilities;
- The nature and zoning of the area within which the noise emanates;
- The density of the inhabitation of the area within which the noise emanates;
- The time of the day and night the noise occurs;
- The duration of the noise;
- Whether the noise is recurrent, intermittent, or constant; and
- Whether the noise is produced by a commercial or noncommercial activity.

There are additional details in this section of the Code, such as for animal noise, domestic power tools, and definitions of penalties. Per Section 7.84.050 "*The prohibitions contained in this chapter shall not apply to the activities of any public entity, including but not limited to, the Greater Vallejo recreation district and the Vallejo City unified school district.*"

Chapter 7.90, Motor Vehicles Operated on Public and Private Property: The City of Vallejo limits noise from vehicles being operated on public or private property within the city to the same standards as in the California Vehicle Code.

Chapter 12.40, Excavations, Grading, and Filling: All grading – and the associated production of noise – that is conducted in residential zones or within 1,000 feet of any residential occupancy, hotel, motel or hospital shall be limited to between the hours of 7:00 a.m. and 6:00 p.m.

Because the Project is not capacity increasing and would not result in an increase of the number of vehicles passing through the roadway corridor, the ambient noise condition is not expected to change as a result of the Project.

Certain land uses are particularly sensitive to noise and vibration, including residential, schools, places of worship, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. No sensitive noise receptors occur within the Project area. Sensitive receptors adjacent to and outside the Project area may include the Greater Vallejo Recreation Districts' River Park immediately north east of the Project area and Morton Filed approximately 400 ft west of the Project area.

Potential Environmental Effects

a) ***(Construction Noise) Less Than Significant Impact.*** Construction activities could increase noise levels temporarily in the vicinity of the Project. Actual noise levels would depend on the type of construction equipment involved, distance to the source of the noise, time of day, and similar factors. These increases would be temporary.

The Project does not occur in or within 1,000 ft an area with residential zoning/ land use. The closest residence is located approximately 1,300 ft east of the Project area. No hotels, motels, or hospitals occur within 1,000 ft of the Project area. Given the location of the Project, Chapter 12.40, Excavations, Grading, and Filling of the City Noise Ordinance Code is not applicable.

The Greater Vallejo Recreation Districts' River Park occurs immediately north east of the Project area. The majority of the facilities present at River Park occur approximately 1,100 ft east of the Project area. During construction users of the River Park may hear construction relates noise. Given the minimal Project related noise generating activities and their short duration this potential impact is considered less than significant.

(Operational Traffic Related Noise) No Impact. The Project is not traffic- or growth inducing and would not change the way in which the roadway is used. The Project would not contribute to a substantial permanent increase in the ambient noise level in the project vicinity. The post project noise levels in the Project vicinity will be substantially unchanged from the pre-project condition

b) ***Less Than Significant Impact.*** Project construction includes activities, such as operation of large pieces of equipment (e.g., heavy trucks), which may result in the periodic, temporary generation of ground-borne vibration. Replacement of Pile 13 at Bent 19 with a new, smaller pile will be completed using a vibratory hammer. As described above in section IV (Biological Resources) implementation of BIO-3 will reduce potential underwater sound/vibration exposure impacts to any MMPA Pinnipeds (seals, sea lions etc.) in the project area to less than significant. Temporary use of a vibratory hammer for the replacement of Pile 13 at Bent 19 with a new, smaller pile is not anticipated to impact land based resources including people.

Because the Project would not expand the roadway or change the way in which it is used, an increase in ground-borne vibration associated with use of the road would not change from the current condition. Given the nature of any potential ground-borne vibration and given that any impacts would be temporary and periodic, potential impacts are less than significant

c) ***No Impact.*** The Project is not located within an airport land use plan area or within two miles of a public or public use airport. The Project is not located within the vicinity of a private airstrip.

XV. Population and Housing

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and	☐	☐	☐	☒

businesses) or indirectly (for example, through extension of roads or other infrastructure)?				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The Project includes preventative maintenance activities on an existing bridge and will not increase the capacity of the Mare Island Causeway.

Potential Environmental Effects

a) ***No Impact.*** The Project will not result in population growth, the displacement of existing any housing, or a need for new housing.

b) ***No Impact.*** See response to item a).

c) ***No Impact.*** See response to item a).

XVI. Public Services

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

Environmental Setting

The Vallejo Police Department and Vallejo Fire Department (VFD) provide public safety and law enforcement services. The City maintains public facilities including the project area roadways and

bridge. Publicly-funded primary and secondary education in Vallejo is provided by the Vallejo City Unified School District. Additionally, there are a number of private, predominantly parochial schools that offer primary and secondary education in the community. The Greater Vallejo Recreation Districts' River Park occurs immediately north east of the Project area. The City of Vallejo Municipal Marina is located south of the eastern end of the causeway bridge.

Potential Environmental Effects

a) ***Less Than Significant Impact.*** Preventative maintenance activities on the existing bridge would not increase human presence in the area after construction. No new or physically altered governmental facilities would be needed. Throughout construction, at least one vehicular lane on the viaduct will remain open at all times. Work at the deck level will need to be staged in order to maintain traffic. The contractor will be required to prepare a traffic control plan that details traffic control on the bridge during each stage of construction. Project construction activities would be coordinated with local law enforcement, emergency services providers, and school districts as needed.

XVII. Recreation

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

Environmental Setting

There are no designated recreation facilities within Project area. The Greater Vallejo Recreation Districts' River Park occurs immediately north east of the Project area. The City of Vallejo Municipal Marina is located south of the eastern end of the causeway bridge. The Project occurs entirely within the road ROW; no permanent right-of-way acquisition is anticipated.

Potential Environmental Effects

a) ***No Impact.*** The Project would not increase the use of existing parks in the area and does not include the construction of any recreational facilities.

b) ***No Impact.*** The Project does not include the construction of any recreational facilities and would not require the expansion of existing recreational facilities.

XVIII. Transportation

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	☐	☐	☐	☒
c) Substantially increase hazards due to a design geometric feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐
e) Result in inadequate parking capacity?	☐	☐	☐	☒

Environmental Setting

Per the City General Plan 2040 DEIR, Figure 4.14-1 (City of Vallejo Roadway Network) Mare Island Causeway is classified as a City arterial (City of Vallejo 2016). Arterial streets provide mobility for high traffic volumes between parts of the city, linking collectors to principal arterial streets and freeways. These roadways are typically lower-speed and have lower volumes than principal arterials, and provide two to four lanes.

Mare Island Causeway provides truck, automobile, and transit access to Mare Island from the east and is also the sole access route to Mare Island for rail, pedestrian and bicycle traffic. The existing 36-foot wide causeway structure is striped for three lanes (one westbound and one eastbound) with the railroad tracks aligned down the center of the structure. The overall roadway width is 30 feet. The Mare Island Causeway Bridge provides a six-foot sidewalk on the south side to serve pedestrian trips between the mainland and the island.

The transportation system concept for the Causeway is to continue the use of three 10-foot lanes without a shoulder. The lane widths are recognized as being restrictive (the width of the structure being a critical constraint) and, thus, the Causeway has a lower hourly capacity than would otherwise be expected if the lanes could be widened.

Per the City General Plan 2040 DEIR, Figure 4.14-2 (Existing and Planned Bicycle Facilities), a Class 1 bicycle facility is planned for the Mare Island Causeway (City of Vallejo 2016). Per the City General Plan 2040 DEIR, Figure 4.14-3 (Transit Routes), no transit routes occur in the Project area. The Mare Island/San Francisco Ferry terminal occurs immediately south of the west end of the causeway bridge.

Potential Environmental Effects

a) ***No Impact.*** The Project includes preventative maintenance activities on an existing structure and is identified as part of grouped project listing VAR170012 in the Metropolitan Transportation Commission's financially constrained *2019 Transportation Improvement Program* (TIP) (MTC

2019a) and as RTP ID 17-10-0024 in the *Amended Plan Bay Area 2040*, MTC 2019b). This Project is identified in the City of Vallejo Capital Improvement Program as project # PW9762. The Project does not conflict with any related plans.

b) ***No Impact.*** The Project includes preventative maintenance activities on an existing structure and does not increase the capacity of the Mare Island Causeway Bridge. Per new CEQA Section 15064.3 (Determining the Significance of Transportation Impacts) "*Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact.*"

c) ***No Impact.*** The Project includes preventative maintenance activities on an existing structure and does not increase hazards due to a design feature or incompatible use.

d) ***Less Than Significant Impact.*** Throughout construction, at least one vehicular lane on the viaduct will remain open at all times. Work at the deck level will need to be staged in order to maintain traffic. The contractor will be required to prepare a traffic control plan that details traffic control on the bridge during each stage of construction. The repair work on the lift span and towers requires coordination with the U.S. Coast Guard. Project construction activities would be coordinated with local law enforcement and emergency services providers as applicable. Given the short term duration of any traffic delays this impact is considered less than significant.

e) ***No Impact.*** The Project would not result in an increase in demand for parking in the vicinity of the Project.

XIX. Utilities/ Service Systems

Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Require or result in the relocation or construction of new water or expanded wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

Utilities carried by or present on the existing bridge include a natural gas pipeline and electrical service. No major utility work is anticipated for this Project and there would not be any utility service interruption.

Potential Environmental Effects

a) ***No Impact.*** The Project does not include the relocation or construction of new utilities. No major utility work is anticipated for this Project and there would not be any utility service interruption.

b) ***Less than Significant Impact.*** The Project includes preventative maintenance activities on an existing structure. Existing water supplies are sufficient to conduct the repairs. Continued operation and maintenance of the facility following implementation of the preventative maintenance activities would not be expected use additional water supplies. Future routine maintenance may include pressure washing and other minor water uses. Project impacts are less than significant.

c) ***No Impact.*** The Project would not produce wastewater.

d) ***No Impact.*** Solid waste generated by the Project would be limited to construction debris generated during implementation of the preventative maintenance activities. Solid waste disposal would occur in accordance with federal, state, and local regulations. Disposal would occur at permitted landfills. Therefore, the Project would not generate the need for new solid waste facilities.

e) ***No Impact.*** The Project would conform to all applicable state and federal solid waste regulations.

XX. Wildfire

Wildfire: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project;	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Potential Environmental Effects

a) ***No Impact (items a-d).*** The Project is not located in a '*Fire Hazard Severity Zone in the State Responsibility AREA (SRA)*' per the 2007 CAL FIRE, Fire Hazard Severity Zones in SRA maps. These maps determine geographical areas where the State of California is primarily financially responsible for preventing and suppressing forest fires. The Project area is identified as a 'Local Responsibility Area (LRA)-Incorporated' per the 2007 CAL FIRE, Fire Hazard Severity Zones in SRA map for Solano County.

XXI. Mandatory Findings of Significance

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

a) ***Potentially Significant Unless Mitigation Incorporated.*** Through the use of Best Management Practices and the mitigation measures noted previously, the Project will not degrade the quality of the environment.

b) ***Less than Significant.*** The Project is consistent with the General Plan and would not result in individually limited but collectively significant impacts. Therefore, the project would not cause any additional environmental effects or significantly contribute to a cumulative impact.

c) ***Less than Significant.*** The Project would not result in substantial direct or indirect adverse effects from noise, either during project construction or operation, nor would it result in impacts to air quality, water quality or utilities and public services. Therefore, the Project would not cause substantial adverse effects on human beings.

E. Report Preparers

City of Vallejo, Public Works Department– CEQA Lead Agency

Terrance Davis	Public Works Director
Sam Kumar, P.E.	Senior Civil Engineer

WSP

Ali Seyedmadani	Project Engineer, Project Manager

Sycamore Environmental Consultants, Inc.

Jeffery Little	Vice President, Project Manager
Leane Dunn	Biologist/ Planner
Aramis Respall	CAD/GIS Analyst

Mead & Hunt, Inc. (prepared Findings of No Adverse Effect with Standard Conditions Report)

Chad Moffett, M.A.	Principal Architectural Historian
Brian Mantuk, M.S.	Architectural Historian

WRECO (prepared ISA)

Jim Koniuto CAC CLIA	CA State Certified Asbestos Consultant (CAC #05-3872) CA State Certified Lead Inspector/Assessor (CDPH #20466)

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Appendix A: DRAFT Mitigation Monitoring and Reporting Plan

DRAFT

MITIGATION MONITORING AND REPORTING PLAN

MARE ISLAND CAUSEWAY BRIDGE (23C0248) PREVENTATIVE MAINTENANCE PROJECT

CEQA LEAD AGENCY:

City of Vallejo

PREPARED:

June 2020

Introduction

The City of Vallejo intends to conduct preventative maintenance activities on the Mare Island Causeway Bridge (23C0248) in the City of Vallejo, Solano County. The Project is located on Mare Island Causeway Bridge in the west side of the City of Vallejo.

As described in the IS/MND, the Project itself incorporates a number of measures to minimize adverse effects on the environment. The IS/MND also identified several mitigation measures that are required to reduce potentially significant impacts to levels that are less than significant. This Mitigation Monitoring and Reporting Plan (MMRP) describes a program for ensuring that these mitigation measures are implemented in conjunction with the Project. The City of Vallejo, as the lead agency under the California Environmental Quality Act (CEQA), is responsible for overseeing the implementation and administration of this MMRP. The City of Vallejo will designate a staff member to manage the MMRP. Duties of the staff member responsible for program coordination will include conducting routine inspections and reporting activities, coordinating with the Project construction contractor, coordinating with regulatory agencies, and ensuring enforcement measures are taken.

Regulatory Framework

California Public Resources Code Section 21081.6 and California Code of Regulations Title 14, Chapter 3, Section 15097 require public agencies to adopt mitigation monitoring or reporting plans when they approve projects under a MND. The reporting and monitoring plans must be adopted when a public agency makes its findings pursuant to CEQA so that the mitigation requirements can be made conditions of Project approval.

Format of This Plan

The MMRP summarizes the impacts and mitigation measures identified and described in the Project IS/MND. Each of the impacts discussed within this MMRP is numbered based on the sequence in which they are discussed in the IS/MND. A summary of each impact with the corresponding specific mitigation measures are provided. Mitigation measures are followed by an implementation description, the criteria used to determine the effectiveness of the mitigation, the timeframe for implementation, and the party responsible for monitoring the implementation of the measure.

Implementation of mitigation measures is ultimately the responsibility of the City; during construction, the delegated responsibility is shared by the City's contractors. Each mitigation measure in this plan contains a "Verified By" signature line, which will be signed by the City's Project manager when the measure has been fully implemented and no further actions or monitoring are necessary for the implementation or effectiveness of the measure.

Impacts and Associated Monitoring or Reporting Measures

4.2.4. Biological Resources

Impact (a): Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Special-Status Fish Species

Implementation of the measure BIO-1 will reduce potential impacts to less than significant for special status fish species.

Measure BIO-1

- *Construction activities in the Mare Island Strait will be conducted between July 15 and October 31, which is outside the migration period for most special status fish species.*
- *On-site compliance with all Project BMPs and any unanticipated effects on listed species will be monitored. Non-compliance with BMPs and unanticipated effects on listed species will be reported to the resident engineer or maintenance supervisor immediately. The resident engineer or maintenance supervisor will immediately implement corrective actions, including stopping work, if necessary, to prevent the unanticipated effects on listed species.*
- *Environmental awareness training will be conducted by a qualified biologist prior to the onset of construction. The training will be provided to all construction personnel and will include how to recognize special-status species with potential to occur on the site, where habitat occurs on the site, what measures are in place for the protection, and procedures to follow if potential special-status species are observed. If a potential special-status species is observed in the work area, construction will stop and a qualified biologist will be contacted for guidance. The crew foreman will be responsible for ensuring that crewmembers adhere to protective measures. The training will be repeated by the Resident Engineer or Crew Foreman for any new construction personnel brought onto the job after construction starts. A training log with the names and dates of individuals trained will be maintained. Attendees will sign a form stating that they attended the training and understand all the protection measures.*
- *Spill prevention, control and countermeasures and standard Best Management Practices for sediment containment and water quality will be employed during in-water work. Appropriate measures include ensuring all equipment is cleaned daily of visible oil, grease, mud and other contaminates prior to use in water. Full-stocked spill kits will be kept nearby during in-water work activities.*

- *Fuel and other hazardous materials will not be stored on the bridge or within 100 feet of the waterway.*
- *A containment structure will be installed underneath the bridge and around in-water work areas to prevent debris from entering Mare Island Strait.*
- *Fresh concrete will be prevented from entering Mare Island Strait during the new pier installation. When concrete is poured in the vicinity of flowing water, work must be conducted in a manner that prevents contact of wet concrete with water. Concrete or concrete slurry will not come into direct contact with flowing water.*
- *Debris removed from the bridge will be disposed of at an off-site location approved by the resident engineer and where it cannot enter surface waters.*

Implementation:	The City will implement the measures as described above.
Effectiveness Criteria:	The City will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____
	City Project Manager

Special-Status Birds

BIO-2 will be implemented to protect special-status birds and will reduce potential impacts to less than significant.

Measure BIO-2: *The following will be implemented to reduce impacts to bird species in the Project area. Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds-of-prey is anticipated from February 15 to September 1.*

Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds-of-prey is anticipated from 15 February to 31 August.

Swallows and Other Bridge Nesters: *In California, bridge-nesting swallows typically arrive in mid-February, increase in numbers until late March, and remain until October. Nesting begins in April, peaks in June, and continues into August. Black phoebes, another bridge-nesting species, nest from March to August with peak activity in May. Measures should be taken to prevent establishment of nests on the bridges, culverts, headwalls, and other suitable structures prior to construction. Effective techniques to prevent nest establishment include using exclusion devices and removing and disposing of partially constructed and unoccupied nests of migratory or nongame birds on a regular basis to prevent their occupation. This can be done by:*

- *On a weekly or more frequent basis, remove all partially completed nests using either hand tools or high-pressure water; and/or*
- *Hang netting from the bridge before nesting begins. If this technique is used, netting should be in place from late February until project construction begins.*

Birds of Prey and Birds Protected by the Migratory Bird Treaty Act

- *If construction begins outside the 15 February to 1 September breeding season, there will be no need to conduct a preconstruction survey for active nests.*
- *If construction begins between 15 February and 1 September, a biologist will conduct a survey for burrowing owl and Swainson's hawk within 500 feet, other active bird of prey nests within 250 feet, and active MTBA bird nests within 100 feet of the Project area from publicly accessible areas within one week prior to construction. The biologist will conduct the burrowing owl preconstruction survey in accordance with the applicable sections of the DFG Staff Report on Burrowing Owl Mitigation Guidelines (CDFW 2012). The measures listed below will be implemented based on the survey results.*

No Active Nests Found:

- *If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary.*

Active Nests Found:

- *If an active nest of a bird of prey, MBTA bird, or other CDFW protected bird is discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:*

  4. *Stop all work within a 100-foot radius of the discovery*
  5. *Notify the Engineer*
  6. *Do not resume work within the specified radius of the discovery until authorized.*

  If active Swainson's hawk nests or burrowing owl nests are found within the Project area, the biologist will establish a minimum 500-foot Environmentally Sensitive Area (ESA) around the nest. If the biologist determines other active nests may be adversely affected by construction activities, the biologist will establish a minimum 250-foot ESA around the nest if the nest is of a bird of prey (other than Swainson's hawk or burrowing owl), and a minimum 100-foot ESA around the nest if the nest is of an MBTA bird other than a bird of prey.

  Birds nesting under the bridge or in adjacent buildings would be considered acclimated to urban disturbance and would not require an ESA.

Species Protection Areas

Identification	Location
Burrowing owl and Swainson's hawk	500 ft no-disturbance buffer
Other Bird of Prey	250 ft no-disturbance buffer
MBTA protected bird (not bird of prey)	100 ft no-disturbance buffer

- *Activity in the ESA will be restricted as follows:*
  - *Do not enter the ESA unless authorized*
  - *If the ESA is breached, immediately:*
    c. Secure the area and stop all operations within 60 feet of the ESA boundary
    d. Notify the Engineer
  - *If the ESA is damaged, the Department determines what efforts are necessary to remedy the damage and who performs the remedy.*
- *No construction activity will be allowed in the ESA until the biologist determines that the nest is no longer active, monitoring determines that a smaller ESA will protect the active nest, or CDFW agrees to a smaller buffer for Swainson's hawk or burrowing owl.*
- *The ESA may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. Reduction of the ESA depends on the species of bird, the location of the nest relative to the project, project activities during the time the nest is active, CDFW guidance, and other project-specific conditions.*
- *Between 15 February and 1 September, if it is determined that trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.*
- *If an active nest is identified in or adjacent to the construction zone after construction has started, the biologist will be notified to determine whether construction is causing disturbance to the nest.*

Implementation:	The City will implement the measures as described above.
Effectiveness Criteria:	The City will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____
	City Project Manager

Pinnipeds (seals and sea lions)

Implementation of BIO-3 will reduce potential impacts on Pinnipeds to less than significant. Implementation of BIO-1 and BIO-4 will also reduce potential impacts to Pinnipeds.

Measure BIO-3

The following will be conducted prior to vegetation removal or trimming in the portion of the Project area adjacent to Seibel Reservoir and the open ditch that drains into the reservoir.

- *A qualified biologist shall conduct a preconstruction survey for MMPA pinnipeds (seals and sea lions) within 48 hours prior to the onset of in-water work. The survey will be conducted from the pedestrian accessible parts of the bridge and bridge approaches, using binoculars. If any pinnipeds are found, construction activities will not begin until the pinnipeds have moved out of the area on their own or NMFS has been contacted for further guidance.*
- *During in-water work, a minimum shutdown zone shall be implemented. The minimum shutdown zone shall be a 0.5-mile radius around the current in-water work. If a pinniped or other marine mammal comes within or approaches the shutdown zone, in-water operation will cease. Work cannot commence or resume until the animal has voluntarily left the area and been visually confirmed beyond the shutdown zone, or until fifteen minutes have passed without re-detection of the animal.*
- *A qualified biologist will be present during installation of the pile using the vibratory hammer. The biologist will monitor the in-water work activities and Mare Island Strait for observations of pinnipeds or other marine mammals. All observations of pinnipeds or other marine mammals, regardless of the distance from the pile, will be documented and reported to NMFS.*
- *The pile driving engineer will utilize soft-start techniques (ramp-up and dry fire) recommended by NMFS for vibratory pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy strike sets. Soft start shall be*

implemented at the start of each day's pile driving and at any time following cessation of pile driving for a period of thirty minutes or longer.

- *Vibratory pile driving shall only be conducted during daylight hours.*

Implementation:	The City will implement the measures as described above.
Effectiveness Criteria:	The City will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____
	City Project Manager

Impact (b). Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

Mare Island Strait (subtidal (permanently submerged) areas, mudflat (intertidal) areas, and northern coastal salt marsh)

Mare Island Strait in the Project area is composed of subtidal (permanently submerged) areas, mudflat (intertidal) areas, and northern coastal salt marsh. These are considered sensitive natural communities. Implementation of BIO-4 will reduce potential impacts to less than significant.

Measure BIO-4

- *During construction, water quality will be protected by implementing best management practices (BMPs) consistent with the current Caltrans Stormwater Quality Handbooks to minimize the potential for siltation and downstream sedimentation of the Mare Island Strait. Appropriate BMPs will also be incorporated for in-water work to avoid or minimize exposure to fish and minimize underwater sound.*
- *Construction activities will not result in vegetation removal or cause impacts to the northern coastal salt marsh. Heavy equipment will not be driven or otherwise placed in the northern coastal salt marsh, mudflat or subtidal areas. Heavy equipment will be located on the bridge structure or on a floating platform in the Mare Island Strait. No materials, supplies or equipment will be placed in the marshland habitat. The Project will use existing ingress and egress points, or perform work from the bridge structure.*
- *A litter control program shall be instituted at the entire Project site. All workers will ensure that food scraps, paper wrappers, food containers, cans, bottles, and other trash from the Project area are deposited in covered or closed trash containers.*

- *Equipment will be refueled and serviced at designated construction staging areas. All construction material will be stored and contained in a designated area that is located away from the shoreline to prevent transport of materials into Mare Island Strait. Construction vehicles, floating platforms and equipment will be maintained to prevent contamination of soil and water from external grease and oil and from leaking hydraulic fluid, fuel, oil, and grease. Equipment must be checked daily, prior to use, for leaks. Equipment cannot be used until the leak is fixed.*
- *A spill prevention plan must be developed before construction activities can begin, and must be kept on site during all times. Application of materials such as asphalt, concrete and other construction materials must be done during the appropriate work windows. Petroleum products, chemicals, fresh cement, or water contaminated by the aforementioned will not be allowed to enter flowing water.*
- *The fiberglass pile cover, loose concrete and all other debris will be removed from the Mare Island Strait upon Project completion.*

Implementation:	The City will implement the measures as described above.
Effectiveness Criteria:	The City will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____
	City Project Manager

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

Mare Island Strait Mare Island Strait is a jurisdictional water of the U.S. and state in the Project area. Implementation of BIO-4 reduce potential impacts to less than significant.

Implementation:	The City will implement the measures as described above.
Effectiveness Criteria:	The City will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____
	City Project Manager