WEST SACRAMENTO PROJECT, CALIFORNIA, YOLO BYPASS EAST LEVEE

Environmental Assessment/Initial Study
SCH NUMBER: 2009072055

Prepared for

West Sacramento Area Flood Control Agency
U.S. Army Corps of Engineers

November 2021

US Army Corps of Engineers.

WSAFCA
West Sacramento Area Flood Control Agency

Environmental Assessment/Initial Study

West Sacramento Project, California
Yolo Bypass East Levee

Prepared for:
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

Contact:
David Colby
Fisheries Biologist
(916) 557-7463

West Sacramento Area Flood Control Agency
1110 West Capitol Avenue
West Sacramento, California 95691

Contact:
Mark Zollo
Senior Administrative Analyst
(916) 574-0251

Prepared by:
ESA Associates
2600 Capitol Ave, Suite 200
Sacramento, California 95816

Contact:
Dave Beauchamp
Senior Project Manager
(916) 564-4500

TABLE OF CONTENTS

West Sacramento Project-Yolo Bypass East Levee Environmental Assessment/Initial Study

Page

Figures

Tables

Attachment

Appendices

CHAPTER 1
Introduction

1.1 Proposed Action

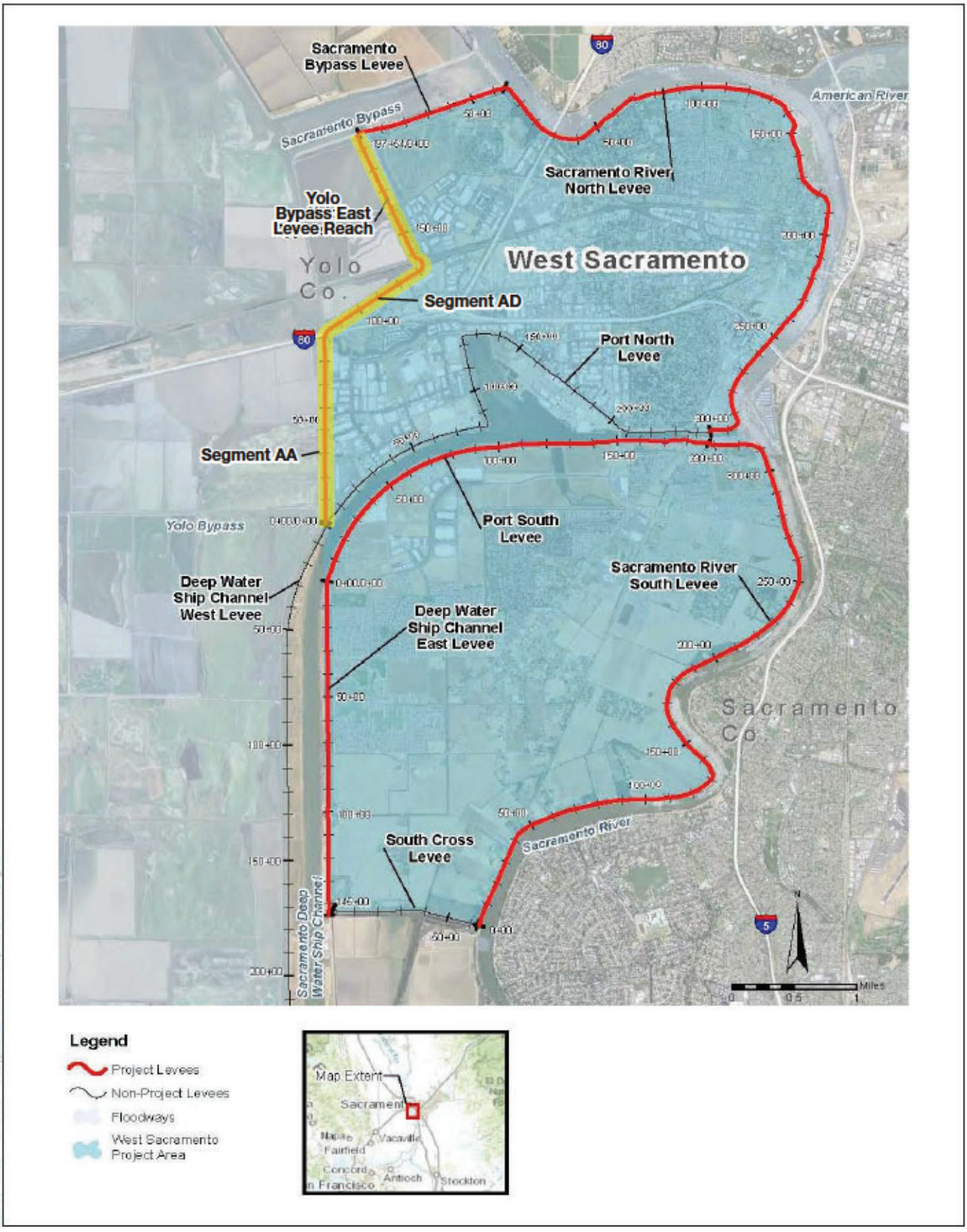
This Environmental Assessment/Initial Study (EA/IS) is a joint supplemental National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) document prepared by the U.S. Army Corps of Engineers (USACE), Sacramento District as the Federal Lead Agency under the NEPA. The West Sacramento Area Flood Control Agency (WSAFCA) is a non-Federal sponsor (NFS) and the lead agency under CEQA. The State of California Central Valley Flood Protection Board (CVFPB) is another NFS that has a Local Cooperation Agreement with WSAFCA. This supplemental EA/IS will address project level design changes from the 2015 West Sacramento General Revaluation Report (GRR) Final Environmental Impact Statement/Environmental Impact Report (2015 GRR FEIS/EIR). The 2015 GRR FEIS/EIR (State Clearinghouse No. 2009072055) covered nine levee reaches within West Sacramento, including portions of the Sacramento River, Yolo Bypass, Sacramento Bypass, and the Sacramento Deep Water Ship Channel. This supplemental EA/IS covers two project alternatives: No Action and the proposed action.

The USACE proposes to install stability berms, replenish waterside revetment, reconstruct maintenance roads, and improve the levee drainage system on segments AA and AD of the Yolo Bypass East Levee (YBEL) as shown in **Figure 1-1**. The proposed action is the first increment of the larger federal West Sacramento Project that will improve the West Sacramento Levee System and will be conducted under the USACE Civil Works Program. The proposed action would be constructed in summer 2022.

1.2 Purpose and Need for Proposed Action

The project purpose is to reduce the overall flood risk to the City of West Sacramento, California. An unacceptably high risk of flooding from levee failure threatens the public safety of people, as well as property and critical infrastructure, throughout West Sacramento and the region. In addition to the high probability of flooding, the consequences of flooding at the project site would be catastrophic. The flooding would rapidly inundate an urbanized area with minimal warning or evacuation time. Providing flood risk management would reduce loss of life and damage to property in the study area.

Furthermore, the State of California has developed new standards and criteria for protecting urban areas to reduce flood risk. Bringing the West Sacramento project levees up to these standards would reduce risk of uncontrolled flooding in the study area that could result in significant damages.



SOURCE: Post Authorization Change Report, 2014

Yolo Bypass East Levee Environmental Assessment

Figure 1-1
West Sacramento Levee System

ESA

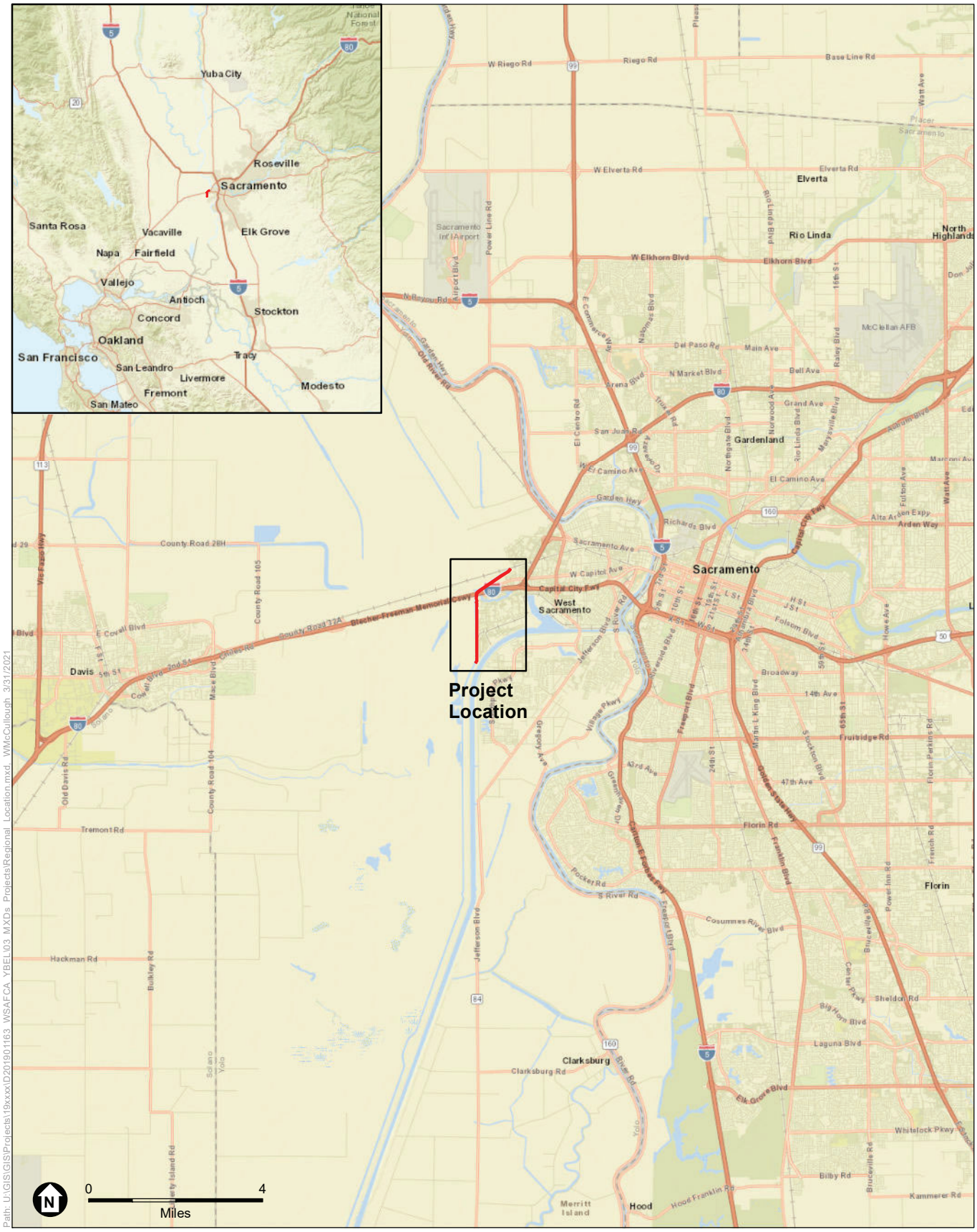
California Senate Bill (SB) 5 of 2007, the Central Valley Flood Protection Act (Act), required that Department of Water Resources (DWR) and the CVFPB address flooding problems in the Central Valley and report to the Legislature in 2012 with updates every 5 years. This landmark legislation obligated the State and local governments to approach flood management in a much more holistic way. Importantly, the Act required that urban communities (communities with a population with 10,000 people or communities expected to have 10,000 people within 10 years) achieve a 200-year level of protection by 2016 or no new development entitlements may be granted unless the communities certify they have made (and annually are making) adequate progress in implementation and will achieve the State's 200-year standard by 2025. The Act also required that DWR prepare maps showing areas subject to inundation in a 200-year event and provide annual notices to all homes protected by levees to ensure homeowners understand their flood risk. Significantly, the Act also required that DWR prepare and the CVFPB adopt a Central Valley Flood Protection Plan (CVFPP) by July of 2012. This plan was to provide the framework for modification of and future investment decisions in the Central Valley's flood protection system. On June 29, 2012, the CVFPB did adopt the CVFPP which included a strategy for reducing the flood risk of the citizens of the Central Valley. The plan focuses on: (1) urban areas obtaining at least 200-year protection through structural improvements; (2) significant upgrades to system-wide facilities (such as bypasses) to add additional robustness and redundancies to the system; (3) investment in small community systems (structural improvements or nonstructural improvements, such as home elevation) to achieve at least 100-year protection; (4) spot repairs and operation and maintenance improvements for the rural areas of the Valley; and (5) investment to update emergency response and recovery plans. In 2007, West Sacramento voters approved an assessment on property to fund the local portion of costs to improve the West Sacramento levee system. The assessment has been used to construct improvements under the State's Early Implementation and Urban Flood Risk Reduction Programs in advance of the federal West Sacramento Project (WSP). YBEL is the first levee increment to be improved under the WSP. The WSP will meet the USACE's and State's current levee design criteria and provide at least a 0.5% annual chance of exceedance (200 year) level of protection.

1.3 Project Location

The project site is located within the City of West Sacramento, and falls within WSAFCA's boundaries, which encompass portions of the YBEL, specifically, segments AA and AD are subject to the proposed levee improvements, as shown in **Figures 1-2 and 1-3**. The flood protection system associated with these waterways consists of over 50 miles of levees in RD 900, RD 537, and DWR's Maintenance Area 4, that completely surround the City of West Sacramento. The City of West Sacramento is located in eastern Yolo County at the confluence of the American and Sacramento Rivers. The City of West Sacramento lies within the natural floodplain of the Sacramento River, which bounds the city along the north and east. It is made up of a small amount of high ground between the Tower Bridge to south of Highway 50 along the Sacramento River, and reclaimed land protected from floods by levees and the Yolo and Sacramento Bypass systems.

1.4 Study Authority

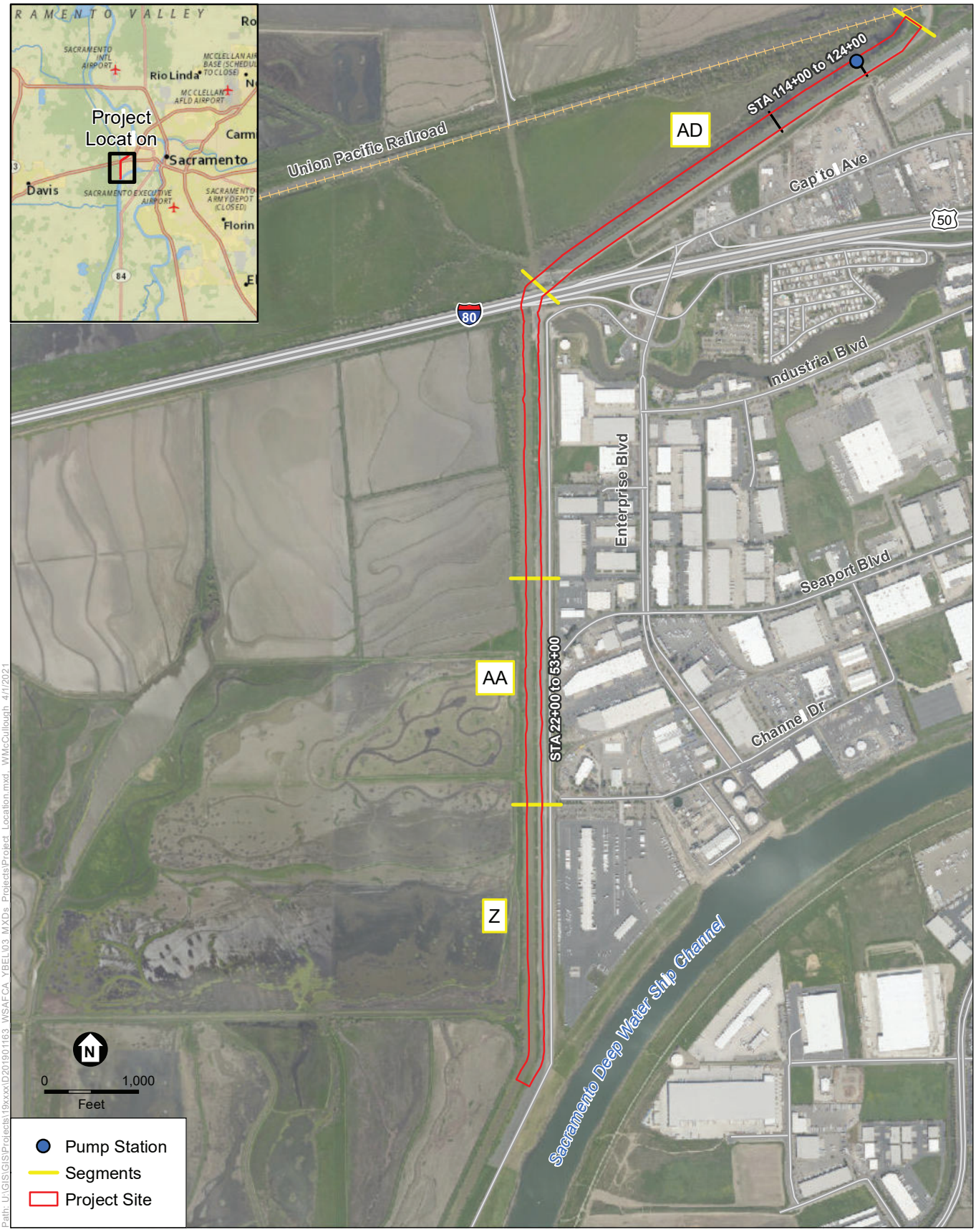
The initial study authority for the West Sacramento area was provided through Section 209 of the Flood Control Act of 1962, PL. No. 87-874. The West Sacramento Project was authorized in WRDA 1992, PL102-580 Sec. 101 (4), as amended by the Energy and Water Development Appropriations Act of 1999, PL 105-245. It was reauthorized on October 28, 2009 under WRDA 2010, PL 111-85. Additional authority was provided following the interim general reevaluation study in Section 1401 of the WRDA of 2016, PL 114-322, also known as the Water Resources Infrastructure Improvements for Nation Act.



SOURCE: ESRI, 2021

Yolo Bypass East Levee Environmental Assessment

Figure 1-2
Regional Location



Yolo Bypass East Levee Environmental Assessment

Figure 1-3
Project Location

ESA

1.5 Background and Previous Environmental Documents

The history of the Sacramento River Flood Control Project (SRFCP) dates back to the mid-1800s with the initial construction of levees along the Sacramento, American, Feather, and Yuba Rivers. The early history of the SRFCP was characterized by trial and error, with initial construction followed by a levee failure, followed by improvement (strengthening and/or raising), followed by another levee failure, etc. This continued until the California Legislature authorized a comprehensive plan for controlling the floodwaters of the Sacramento River and its tributaries in the Flood Control Plan of 1911. Federal participation in the SRFCP began shortly after authorization in 1917 and continues to this day.

Historically, from the mid-1800s onward, most hydraulic engineers at the Federal, State, and local level thought that the most effective way to control flood flows in the river system was to construct levees close to the main channel. This approach served two purposes. First, it allowed reclamation of as much land as possible for agricultural purposes. Second, it kept flows in the main channel and thus helped to flush out the hydraulic mining debris that clogged much of the river system and impaired navigation. The record floods of 1907 and 1909 forced a reevaluation of this historic approach. It was clear from the size of these flood events in relation to existing channel capacities that major bypass systems were needed to control excess flood flows. These bypasses were designed to divert flood flows away from urban centers. Throughout the SRFCP, the frequency upon which flow starts to divert from the Sacramento River to the bypass system, varies between a 3-year to 5-year flood event.

The series of storms that struck California in February of 1986 resulted in the flood of record for many areas in northern and central California. The estimated peak flows associated with the 1986 flood were nearly equal to or exceeded the design flows of the Sacramento River, Sacramento Bypass, and the Yolo Bypass in the vicinity of West Sacramento. As a result of the problems experienced during the 1986 flood, the USACE initiated a study of the levees comprising the SRFCP that were impacted by the flood. Due to the large scale of the study, the review was split into five phases. The first phase of this study included West Sacramento and was documented through an Initial Appraisal Report titled, Sacramento Urban Area Levee Reconstruction Project, California dated May 1988. This phase included the review of approximately 110 miles of levee and recommended the improvement of 34 miles.

The USACE was preparing construction plans and specifications for the levee improvements authorized in the WRDA of 1992, when the 1997 New Year's Day Flood occurred. It was one of the largest experienced in northern California since beginning of record keeping and exceeded the 1906 event. In the wake of the 1997 flood, the USACE identified underseepage as an area of greater concern in the design and repair of levees. This resulted in a number of design revisions to the levee improvements recommended in the West Sacramento Project Design Memorandum. These design revisions and the associated increase to the total estimated project cost were captured in a supplemental authorization through the Energy and Water Development Appropriation Act of 1999 (PL 105-245).

Through the course of implementation of authorized project features, it was found that the scope of the authorized project was not adequate to address the residual flood risk for the West Sacramento area, and construction of the features authorized thus far had caused the project to reach its authorized cost limit. The Corps conducted a general revaluation study of the West Sacramento Project which included measures to address seepage, stability, erosion, and levee height concerns throughout the system of levees that surround West Sacramento and documented the findings in the West Sacramento GRR. In December

2015, the FEIS/EIR was published for the West Sacramento GRR; followed by the Chief's Report (signed on April 26, 2016) with a Record of Decision signed on August 22, 2016.

1.6 Purpose of this Environmental Assessment/Initial Study

This supplemental EA/IS relies on the 2015 West Sacramento GRR FEIS/EIR and as a supplemental environmental document it (1) describes the existing environmental resources in the project area, (2) evaluates the environmental effects of the proposed action on these resources, and (3) identifies measures to avoid or reduce any effects to less than significant. This supplemental EA/IS complies with NEPA and CEQA, and provides full disclosure of the potential effects of the proposed action. This Supplemental EA/IS has been prepared in accordance with NEPA and CEQA. USACE and the CVFPB anticipate that USACE can implement the portion of the authorized West Sacramento project described in this document as the Proposed Action without additional NEPA or CEQA analysis beyond this Supplemental EA/IS.

The Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500–1508) and USACE's Procedures for Implementing NEPA (ER 200-2-2) specify that supplemental NEPA analyses are required if: (i) USACE makes substantial changes in the proposed action that are relevant to environment concerns; or (ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Section 15162 of the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.) provides that when an EIR has been certified for a project, a subsequent EIR need not be prepared unless a substantial change in the project, a substantial change in the surrounding circumstances, or new information of substantial importance comes to light which reveals the project would have one or more new or substantially more severe significant environmental effects not discussed in the certified EIR.

This Supplemental EA/IS supplements (does not replace) the previously certified 2015 West Sacramento GRR FEIS/EIR and addresses project modifications, changed circumstances, and new information that could not have been known with the exercise of reasonable diligence at the time the prior document was certified, as required under State CEQA Guidelines (14 CCR Section 15163).

1.7 Decisions to Be Made

The District Engineer, Commander of the USACE Sacramento District, will use this Supplemental EA/IS in considering environmental effects of the proposed action and decide to proceed with a Finding of No Significant Impact (FONSI) under NEPA. In addition, WSAFCA must decide to consider for adoption an Initial Study and Mitigated Negative Declaration under CEQA.

1.8 Report Structure

This report is organized following a basic hierarchy to describe the various aspects of the proposed action. This EA-IS is organized as follows:

1. Introduction, proposed action, purpose and need, location, study authority, background, decisions and document structure.

2. Project Alternatives, No Action and Proposed Action and relevant details of construction and operation.
3. Affected environment, resources not considered and environmental consequences associated with implementation of the proposed action
4. Summary of Findings

Appendices A, B and C contain technical information to support the Air Quality analysis, the list of species of plants and animals with potential to occur in the project area and the NHPA Section 106 report that describes cultural and tribal resources within the area of potential effect, respectively.

Appendix D is the list of environmental laws and regulations that the proposed action needs to comply with during construction and for operation.

Appendices E and F contain list the preparers and reviewers for this report and the complete list of references used to as source documents.

CHAPTER 2
Project Alternatives

2.1 Introduction

USACE and the WSAFCA are required to consider the No Action Alternative/No Project as one of the alternatives to comply with the requirements of NEPA and CEQA, respectively. However, the definition of the No Action Alternative/No Project differs between NEPA and CEQA for this analysis Because the NEPA No Action Alternative for this analysis assumes the project analyzed in the 2015 GRR FEIS/EIR has been constructed, the supplemental NEPA analysis encompasses a smaller range of construction activities than the corresponding CEQA analysis, which evaluates a project based on existing conditions. Owing to the differences in scope of the NEPA and CEQA supplemental analysis, in defining existing conditions, USACE will incorporate by reference the CEQA No Project Alternative used in the 2015 GRR FEIS/EIR.

2.2 Alternative 1 – No Action

The NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Specific to the YBEL, the authorized project features consisted of cutoff walls at Segments AA and AE. Environmental impacts of these features have been evaluated under the 2015 GRR FEIS/EIR, and are incorporated by reference into this EA. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action should only include changes to the authorized design which were not previously analyzed in the 2015 GRR FEIS/EIR. Since the authorized project features considered cutoff walls, effects from this action would largely short-term and temporary. Thus, existing environmental conditions would have returned to their preconstruction state after a short period of time and would be similar to current existing conditions. Given this, the YBEL No Action Alternative under NEPA would be considered the same as the No Project under CEQA. Therefore, the analysis that follows in this EA/IS for the No Action Alternative/No Project will be the same under both NEPA and CEQA. Further, 40 CFR §1502.14 states that the alternatives analysis should present the environmental impacts of a proposed action in a comparative form. In addition, 40 CFR §1501.12 encourages federal agencies to incorporate by reference by using the analysis of other environmental documents such as the aforementioned 2015 GRR FEIS/EIR.

2.3 Alternative 2 - Proposed Action – West Sacramento Project Yolo Bypass East Levee Reach

For NEPA purposes, the Proposed Action for this supplemental EA includes changes to the YBEL that have not previously been analyzed. There are aspects of the Proposed Action that were not previously analyzed in the 2015 GRR FEIS/EIR, because these features and improvements are associated with

updated and/or better information, or result from design modifications or changes and/or site-specific refinements. Therefore, these specific aspects to the YBEL or modifications are analyzed under the Proposed Action alternative contained in the supplemental EA. Specifically, the Proposed Action would consist of structural modifications to the levee, to address seepage, levee stability, erosion, and overtopping concerns. The modifications would occur on approximately 3,300 linear feet of the YBEL, including 2,475 linear feet along the AA segment and 825 linear feet along the AD segment. The total project impact area would be approximately 15 acres. By contrast, the measure proposed for the YBEL under the 2015 GRR FEIS/EIR to address seepage and stability concerns was the installation of 4,500 feet of conventional open trench slurry cutoff wall at a depth of 40 feet and 100 feet. Following installation of the cutoff wall, the levee would be reconstructed with a 20-foot-wide crown, and a 3:1 Horizontal to Vertical (H:V) slope on the waterside, and a 2H:1V slope on the landside.

Structural modifications are proposed on approximately 2,475 linear feet (station 22+00 to station 53+00) of Segment AA. Primary improvements include installation of a stability berm adjacent to the existing levee, replenishment of existing waterside revetment extending north from the Navigation Levee to the Interstate 80 (I-80) Causeway, reconstruction of the existing maintenance road adjacent to the levee, and installation of piping in the drainage ditch.

Structural modifications are proposed along 825 linear feet (station 114+00 to station 124+00) of Segment AD. Primary improvements include landside embankment grading and extending a subgrade levee drainage system. The extension consists of approximately 825-feet of 30-inch diameter perforated pipe to alleviate ongoing seepage. A new pump station would be constructed as part of the levee drainage system with capacity to discharge seepage away from the levee prism into the Yolo Bypass. The new pump station would be sited at station 122+00, adjacent to RD 900's existing pump station (Racetrack pump station) and would be sized to pump and discharge up to 33.6 cfs during a 100-yr flood event into the Yolo Bypass in years when the Yolo Bypass is flooded and the drainage system is active and collecting drainage water that would be discharged back to the Yolo Bypass. Additionally, the landside levee slope would be constructed at 3.5H:1V with a drainage blanket along the base of the reconstructed levee.

Measure Authorized Under 2015 West Sacramento GRR and Analyzed in 2015 FEIS/EIR	Current Proposed Action
• Installation of 2500 feet of 40-foot-deep slurry cutoff wall • Installation of 2000 feet of 100-foot-deep slurry cutoff wall • Reconstruction of levee with 20-foot-wide crown with slopes of 3H:1V on the waterside and 2H:1V on the landside	• Installation of a 2150-foot-long stability berm on the landside of Segment AA of the YBEL • Installation of 2400 feet of rock slope protection on waterside of Segment AA of the YBEL • Retain maintenance road on landside toe of Segment AA following construction • Upgrade to existing subgrade levee drainage system including installation of 825 feet of 30-inch diameter perforated pipe and subgrade pump station • Reconstruction of the landside slope of Segment AD to 3.5H:1V

2.3.1 Construction Schedule

Proposed construction activities would occur between the hours of 7 a.m. and 7 p.m. (Monday through Saturday) and if necessary, 9 a.m. to 6 p.m. on Sunday. The proposed action would take approximately 5 months to complete. It is anticipated that the project would be initiated in early summer 2022, with all construction completed by fall 2022.

2.3.2 Construction Workers and Equipment

All construction methods and scheduling would be determined by the construction contractor and approved by the USACE. It will be necessary to protect the existing utilities during construction in compliance with the City of West Sacramento and utilities' owners. In addition, all construction activities will comply with City of West Sacramento ordinances for sound and vibration restrictions (see tables in Section 3.10 Noise).

An estimated 20 construction workers would be onsite each day during construction. Construction equipment for the proposed action is shown in **Table 2-1** below.

TABLE 2-1
SUMMARY OF REQUIRED CONSTRUCTION EQUIPMENT

Equipment Type	Use	Quantity	Estimated days of Use
Cranes	Site Preparation	1	2
Crawler Tractors	Site Preparation; earth disturbing activities	1	34
Excavators	Site Preparation; earth disturbing activities	1	2
Rubber Tired Loaders	Site Preparation; earth disturbing activities	1	49
Roller Compactor	Site Preparation; earth disturbing activities	1	18
Graders	Site Preparation; Grading Activities	1	18
Water truck	Dust control; earth disturbing activities	1	50

2.3.3 Access and Staging

There are several access points for the project area. The Lake Road access point can be reached by taking Interstate 80 and following Lake Road to the levee. Channel Drive can be accessed by taking Interstate 80 and following Enterprise Blvd to Channel Drive (**Figure 2-1**). Workers can access the project area from the RD 900 Racetrack pump station access road that connects to West Capitol Avenue and the construction staging area located on the City of West Sacramento's corporation yard site. The first two access points are conducive to access of segment AA and the latter segment AD. All access points are contiguous with the levee crown and landside Operations and Maintenance (O&M) corridors. Two staging areas would be used during construction, one located south of Segment AA, and another located at the City of West Sacramento Corporation Yard.

West Sacramento Area Flood Control Agency - Yolo Bypass East Levee

Figure 2-1
Haul Routes and Staging Areas

ESA

2.3.4 Site Preparation

Prior to construction, all construction and staging areas would be fenced off to limit public access. The USACE would conduct any preconstruction surveys, while the contractor would ensure that any required environmental controls, such as exclusion fencing for giant garter snake (*Thamnophis gigas*), are properly installed. The existing ground would be cleared and grubbed of all grass cover to a depth of approximately six inches. The contractor would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) identifying specific best management practices (BMPs) to avoid or minimize soil erosion. All suitable excavated soils material would be reused in the project area to the extent feasible.

2.3.5 Existing Utilities

Pacific Gas and Electric (PG&E) owns and operates a12 kv power line that is located in Segments AA and Z. Segment Z is the southernmost segment of the YBEL, contiguous to AA and adjacent to the Deep Water Ship Channel (see Figure 1-3). The existing 12 kv power line is supported by two power poles, located within the project area at stations 6+90 and 38+00. The proposed action construction activities would require relocation of the power pole located at station 38+0 and the other would be replaced with a longer pole that would raise the power line to meet CVFPB Title 23 requirements. PG&E's work in the project area is not part of the proposed action and is not analyzed in this environmental review. As the owner and operator, PG&E will be responsible for complying with Title 23 requirements, as such, they are preparing the design and engineering documents and will be working on the power line and power pole relocation in parallel to the proposed action.

2.3.6 Borrow and Disposal Sites

There are no borrow or disposal sites within the project area. The contractor would be required to import and export all soil. Contaminated soil will be transported to a licensed, permitted facility that meets all Federal and State standards and requirements. Anticipated hauling of imported fill materials will be no more than 30 miles from the project area. No contaminated material would be introduced into the site. Excavated material would be stockpiled onsite in the staging area adjacent to the YBEL construction area, and all remaining suitable excavated material would be off-hauled by the contractor for use as upland fill or exported and stockpiled at a licensed facility.

2.3.7 Restoration and Cleanup

The project site, levee roads, and staging areas would be topographically and photographically surveyed prior to construction to provide a baseline pre-project condition. Once construction is complete, the same areas would be re-surveyed to identify any construction related issues. All construction equipment and excess materials would be transported offsite via local and regional roadways. The disturbed areas would be reseeded with a native grass seed mix to promote revegetation and minimize soil erosion. All staging areas, access roads, and levee roads would also be restored to pre-construction conditions. Any damage from construction would be repaired. Finally, the work sites and staging areas would be cleared of all rubbish, and all parts of the work area would be left in a safe and neat condition, suitable to the setting of the area.

2.3.8 Operation and Maintenance

After construction of the project, or a functional portion of the project is complete, corresponding updates will be made to the Project Cooperation Agreement Between the Department of the Army and the State of California for the Construction of the West Sacramento Project and to The Supplement to Standard, Sacramento River Flood Control Project, Unit No. 116, Operation and Maintenance Manual. The improvements will be the responsibility of and maintained by RD 900. This responsibility would include operation, maintenance, repair, rehabilitation, and replacement of all project features. Regular maintenance activities would include clearance of maintenance roads, rodent control, vegetation maintenance, managing graffiti, annual testing, pump station maintenance, and performing periodic inspections. RD 900 would be responsible for the operation and maintenance of the new pump station to be constructed in segment AD. Because the new pump station is designed to discharge seepage, it would only be used when seepage occurs from floodwaters in the bypass. This is estimated to be once every 7-10 years based on historical events where floodwaters entered the bypass. Though the pumps will not be used often, RD 900 will exercise the pumps annually in the fall to ensure they are functioning properly for potential use in the winter months.

CHAPTER 3
Affected Environment and Environmental Consequences

This section presents the affected environment and environmental consequences associated with specific environmental issue areas. Subsection 3.1 addresses environmental issues that were determined not to be affected by the alternatives described in Chapter 2 of this document and are therefore not subject to further analysis. Those issue areas that have a potential to be affected by one or more of the alternatives are addressed in Subsections 3.2 through 3.13. Each subsection includes a description of existing conditions against which the potential for impacts is assessed for each alternative. A discussion of the direct and indirect environmental consequences is followed, and as necessary, with recommendations to avoid, minimize, and/or mitigate adverse effects. The CEQA checklist is **Attachment 1**.

3.1 Resources not Considered in Detail

Initial evaluation of the proposed action or alternatives indicated there would have no effects on several resources as defined in 40 CFR Part 1508.1(g). As defined, effects mean changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives. These resources as discussed briefly in Sections 3.1.1 through 3.1.3 would not be affected by the proposed action or alternatives. As discussed, these resources provide context and understanding to the environmental setting.

3.1.1 Environmental Justice

Environmental justice is defined by the U.S. Environmental Protection Agency (EPA) Office of Environmental Justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Fair treatment means that "no group of people, including racial, ethnic, or socioeconomic group, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies." Analysis of project effects on environmental justice is required by NEPA.

Consistent with the findings in the 2015 GRR FEIS/EIR for the West Sacramento Project, the proposed action would provide flood risk benefits to the entire community. There would not be disproportionately high and adverse effects on the health or environment of minority or low-income populations. The proposed action would not have any adverse environmental effects on the socioeconomic condition of the

area because it would not limit either current or future opportunities for business, employment, or housing opportunities. The proposed action would provide flood protection to the community and would not disproportionately affect minorities or low-income populations in the area.

3.1.2 Land Use and Agriculture

The primary land use designations in the project area are the same as described in the final 2015 GRR EIS/EIR and include open space and agriculture. Surrounding uses are characterized as public open space, industrial-heavy, and agriculture. No forest land or timberland exists on or adjacent to the project area. The proposed action is not located within any applicable habitat conservation plan or natural community conservation plan and therefore would not result in a conflict with either type of conservation plan. The levee is not accessible to the public in the project area; although informal uses occur as the public occasionally accesses the sections of the YBEL area for walking and fishing activities. There are no prime and unique farmlands within the project area. The project area is not enrolled in or restricted by a Williamson Act contract.

The 2015 GRR FEIS/EIR found that effects to land use and agriculture would be less than significant and no mitigation would be required with the exception of needed relocation and compensation for displaced property owners. However, these effects were restricted to the southern end of the study area, near Southport and not in the vicinity of the current proposed action area. Consistent with the findings in the 2015 GRR FEIS/EIR, the proposed action does not propose changes to land use designations and would have no adverse effects to existing or proposed land uses within the project area. As a result, there are no anticipated effects on land use in the project area.

3.1.3 Socioeconomics

This discussion is based on the results of the U.S. Census taken in 2019. According to the 2019 census, the population of West Sacramento was 53,151 (U.S. Census Bureau, 2019a). The ethnic composition of West Sacramento in 2019 was about 75.2 percent white, 6.7 percent African American, 16 percent Asian, 2.7 percent American Indian, 1.4 percent Native Hawaiian, and 7.6 percent other (exceeds 100 percent because individuals may report more than one race) (U.S. Census Bureau, 2019a). In 2018 the population estimate for Yolo County was 220,118, in 2019, the population in Yolo County increased to 220,500 (U.S. Census Bureau, 2019b). Growth is expected in the West Sacramento area because of the availability of land and close proximity to urban Sacramento. Commercial development and public services will continue to expand to support the increased residential population in the area.

The rate of unemployment in West Sacramento for the year 2019 was 7.3 percent (U.S. Census Bureau, 2019a). The 2019 median household income was $70,699, and the average income was $89,643 (U.S. Census Bureau, 2019a).

Even though the proposed action would provide flood protection in the project area, there is a lack of available land in the region for growth and development because the region is already built out and/or planned for development. The proposed action would not result in the construction of new homes or the displacement of existing homes and would not induce substantial growth within the area, displace housing, or displace persons. Therefore, the proposed action would not affect socioeconomics or growth in the area. The designated land uses, growth rates, employment opportunities, and housing values would

continue to be determined by local government regulations and regional economic conditions in the South Sacramento area.

The findings in the 2015 GRR FEIS/EIR for the overall project held that implementation would not directly induce growth. Further the 2015 GRR FEIS/EIR found that implementation would result in a short-term beneficial effect to regional economic activity. However, even when considering the West Sacramento Project as a whole, this beneficial effect was not considered substantial when compared to total employment in the region. Therefore, this beneficial impact is insignificant in the context of the proposed action.

Therefore, the proposed action would not have any environmental effects on the socioeconomic condition of the area because it would not result in an increase in population, or limit either current or future opportunities for agriculture, business, employment, or housing opportunities. The proposed action would provide flood protection to the community and would not affect minorities or low-income populations.

3.2 Aesthetics/Visual Resources

This section evaluates the effects of the proposed action on the aesthetics in the project area. This evaluation is based on the changes in character and quality of views as compared to existing conditions.

3.2.1 Existing Conditions

Aesthetic resources are those natural resources, landforms, vegetation, and structures in the environment that generate one or more sensory reactions from viewers. The YBEL is located between the Sacramento Bypass and the Sacramento Deep Water Ship Channel and serves as a western boundary to the City of West Sacramento. As shown in Figure 1-3, the project area is characterized by light industrial buildings to the east and agriculture to the west. Valhalla Mobile Country Club, a mobile home community, is located approximately 0.5 miles east of the levee. Land uses within the bypass are primarily agricultural or other open space uses that are compatible with flood control features and operations. The visual character of the bypass is an appealing and sharp contrast to the city and Sacramento metropolitan region. Appealing views of the bypass and Sacramento cityscape present both rural and urban scenes that are attractive. Views are moderately high in vividness. The artificial intrusions associated with development, agriculture, and infrastructure are low, but present, resulting in moderate intactness. The visual quality of the area is also moderately high in unification because the landscape is fairly congruent and harmonious in terms of scale, color, and form.

Agricultural production in the area is limited to field and row crops. During periods of high flows in the Sacramento River, the Yolo Bypass may be filled with water. Views from the Yolo Bypass are expansive when haze is at a minimum. Typical views to the west, north, and south extend over agricultural fields in the foreground to the middleground and background. The levee banks are vegetated with sparse non-native grasses and forbs.

Potential viewer groups include occupants of vehicles traveling along Highway 50, Tule Lake Road, and West Capitol Avenue as well as residents at the Valhalla Mobile Country Club. However, the project area is partially obscured by vegetation and visibility is limited in some locations. The general public

navigating the Sutter Bypass by boat would not see the project site because of the raised elevation of the levee and surrounding vegetation. The levee and associated facilities are not visible from any residences.

The project area is not located within a local, State or Federally-designated scenic vista. The nearest designated scenic resource is River Road from State Route 160 (SR 160) to Isleton Bridge, located approximately 26 miles south of the project area.

3.2.2 Environmental Effects

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. However, the thresholds encompass the factors taken into account under NEPA, to determine the significance of an action in terms of its context and intensity. A proposed alternative would result in a potentially significant impact on visual resources if it would:

- Cause a substantial adverse aesthetic effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect day or nighttime public views in the area.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on visual resources in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on visual resources were previously evaluated and addressed for Segments AA and AE. However, under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and therefore there would be no construction-related effects on visual resources in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to visual resources from continued O&M activities would be less than significant.

Proposed Action

The proposed action would not substantially change the character of the project vicinity long-term because it proposes only to improve the levee to address seepage and erosion concerns. However, construction of the proposed action would have short-term effects on the aesthetics in the project area.

During construction of the proposed action, the temporary presence of equipment, vehicles, and construction crews in the project area would result in changes to the local visual character. However, these effects would be relatively short term, not extending longer than one construction season between June and September. Additionally, due to natural site line barriers, topography, and I-80, residents at the Valhalla Mobile Country Club would not be impacted by views of construction on the levee.

Site preparation for the proposed action would not involve removing any trees or shrubs but would involve clearing non-native groundcover. All construction activities would be contained to the project boundaries, which is currently degraded and lacking in visual appeal. Once construction is completed, all disturbed areas would be restored and all equipment and trucks would be removed. Disturbed areas would be reseeded with native grasses and forbs to promote revegetation. The staging areas would also be reseeded and planted with native grasses and forbs and would be returned to pre-project conditions. The grasses, as well as annuals and some small shrubs, would be expected to grow relatively quickly and improve that condition of the viewshed within a year or two. As a result, the project would not be considered a significant effect on the visual character of the area. Construction of the proposed action would not significantly change the assessment of visual effects conducted in the final 2015 GRR FEIS/EIR.

As shown in Figure 1-3, the project area is in a quasi-industrial setting where primary sources of nighttime light and daytime glare occur on the eastern side of the YBEL within the commercial spaces; the western side is open space and further west, the Yolo Bypass. Light sources on the western side are attributed to nighttime agricultural activities and passing vehicles. The proposed action would not install or add substantial new sources of light or glare to the project vicinity. Furthermore, construction would typically occur during 8-hour daytime shifts and is not anticipated to extend into the nighttime. Operation of the project would not require additional nighttime light compared to current conditions. Given the relatively short-term nature of project construction activities and the urbanized location of the project area, project-related lighting impacts would be less than significant.

The proposed action includes a new pump station along Segment AD, that would be similar in appearance to the existing pump station and surrounding levee infrastructure. Because of the pump station's relatively small size, and the presence of riparian vegetation along the bank of the river, the pump station would not affect scenic vistas.

The 2015 GRR FEIS/EIR found that implementation would result in significant and unavoidable effects to visual resources due to the removal of vegetation along both sides of the levee, which is considered an important element of the visual character of the area. In addition, it was acknowledged that much of this vegetation would not be replaced due to policy restrictions. Effects to visual resources from the actual construction of the full project were considered to be short-term and temporary since construction would only last one to two years in any area. Similarly, for the proposed action since construction activities would be short-term, there would be no permanent significant effects on aesthetics or the public view as a result of construction. Motorists in the area would have a limited view of the proposed levee improvements and pump station due to existing barriers and fences that would minimize any adverse effects of the visual quality of the proposed action. However, because the proposed action would only require minor vegetation removal and would not involve removing any trees or shrubs, effects to visual resources from vegetation removal would be less than significant. Because the project area is not located within a local, state or federally designated scenic vista or within the vicinity of historic properties, there would be no impact to scenic vistas or other designated scenic resources.

Impacts on aesthetic resources would be temporary, and less than significant.

3.2.3 Mitigation

There would be no significant short or long-term adverse effects on aesthetic resources in the project area. As a result, adverse effects to aesthetics would be considered less than significant and no additional mitigation would be required.

3.3 Air Quality

This section evaluates the effects of the proposed alternatives on the air quality in the project area.

3.3.1 Existing Conditions

Air quality is affected by the emissions rate, type, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Wind speed, wind direction, and air temperature combined with topographic features such as mountains and valleys determine how air pollutant emissions affect local air quality.

Climate and Topography

The project site is located in the City of West Sacramento, which lies within the Sacramento Valley Air Basin (SVAB). The topographic features giving shape to the SVAB are the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These mountain ranges channel winds through the SVAB, but also inhibit the dispersion of pollutants. The SVAB is characterized by a Mediterranean climate that includes mild, rainy winter weather from November through March and sometimes April and warm to hot, dry weather from May through September and October.

During the summer, Sacramento Valley has an average high temperature of 92 degrees Fahrenheit (°F) and an average low temperature of 58°F. In the winter, the average high temperature is 58°F, and the average low is 40°F. The average annual rainfall is approximately 18.5 inches. Wind directions in the Sacramento Valley are influenced by the predominant wind flow pattern associated with each season. In the winter

(December to February), northerly winds predominate. The predominant annual and summer wind pattern in the Sacramento Valley is the full sea breeze, commonly referred to as Delta breezes. These cool winds originate from the Pacific Ocean and flow through the Carquinez Straits, a sea-level gap in the Coast Range. During about half the days from July through September, however, a phenomenon called the "Schultz Eddy," a large isotropic vertical-axis eddy on the north side of the Carquinez Straits, prevents the Delta breezes from transporting pollutants north and out of the SVAB and causes the wind pattern to circle back south, all of which tends to keep air pollutants in the SVAB. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violations of State and federal air quality standards.

The vertical and horizontal movement of air is an important atmospheric component involved in the dispersion and subsequent dilution of air pollutants. Without movement, air pollutants can collect and concentrate in a single area, increasing the associated health hazards. For example, inversions occur frequently in the SVAB, especially during autumn and early winter, and restrict the vertical dispersion of pollutants released near ground level.

Air Pollutants of Concern

Air pollutants of concern within the SVAB include certain criteria air pollutants and toxic air contaminants (TACs).

Criteria Air Pollutants

Criteria air pollutants are a group of six common air pollutants (only four of which are of concern in the SVAB) for which the U.S. EPA has set ambient air quality standards (see **Table 3.3-1**). Criteria air pollutants include ground-level ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) in size fractions of 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$), and lead. Most of the criteria pollutants are directly emitted; however, ozone is a secondary pollutant that is formed in the atmosphere by chemical reactions between nitrogen oxides (NO_X) and reactive organic gases (ROG). In addition to the criteria air pollutants identified by the U.S. EPA, California has added four criteria air pollutants (visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride).

TABLE 3.3-1
HEALTH AND ENVIRONMENTAL EFFECTS OF CRITERIA AIR POLLUTANTS OF CONCERN IN THE SVAB

Pollutant	Adverse Effects
Ozone	• People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from ozone exposure. • Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care. • Ozone affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges and wilderness areas. In particular, ozone harms sensitive vegetation during the growing season.
Carbon Monoxide	• Exposure of humans to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impaired central nervous system function, and angina (chest pain) in persons with serous heart disease. • Very high concentrations of CO can be fatal.

TABLE 3.3-1
HEALTH AND ENVIRONMENTAL EFFECTS OF CRITERIA AIR POLLUTANTS OF CONCERN IN THE SVAB

Pollutant	Adverse Effects
Particulate Matter	• Particulate matter contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into your lungs, and some may even enter the bloodstream. Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or $PM_{2.5}$, pose the greatest risk to health • Fine particles ($PM_{2.5}$) are the main cause of reduced visibility (haze) in parts of the United States, including many national parks and wilderness areas.
Nitrogen Dioxide	• Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2. • NO_2, along with other oxides of nitrogen (NO_X), reacts with other chemicals in the air to form both particulate matter and ozone. Both of these are also harmful when inhaled due to effects on the respiratory system.

SOURCES: U.S. EPA, 2018a; U.S. EPA, 2018b; U.S. EPA, 2016.

Criteria air pollutants of concern in the SVAB include ozone, PM_{10}, and $PM_{2.5}$, as concentrations of these pollutants are above state and national ambient air quality standards (see **Table 3.3-2**). SO_2, CO, lead, visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride concentrations are well below state and national ambient air quality standards and are not air pollutants of concern in the SVAB. Table 3.3-1 lists the health effects associated with the criteria air pollutants of concern.

Other criteria air pollutants not included in Table 3.3-1 include SO_2 and lead, which are not air pollutants of concern in the SVAB. SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of particulate matter, atmospheric sulfate, and atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the project vicinity are well below federal and state standards. Lead has a range of neurotoxic health effects, which puts children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was phased out and ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

TABLE 3.3-2
SUMMARY OF AIR QUALITY MONITORING DATA (2017–2019)

Pollutant	National/State Standard	2017	2018	2019
Ozone				
Maximum 1-hour concentration, ppm	0.09 [a]	**0.107**	**0.097**	**0.100**
Number of days above State 1-Hour standard		1	1	1
Maximum 8-hour concentration, ppm	0.070 / 0.070	**0.077 / 0.078**	**0.084 / 0.085**	**0.074 / 0.075**
Number of days above National and State 8-Hour standard		3	1	1
Nitrogen Dioxide (NO_2)				
Annual average concentration, ppm	0.053 / 0.030	-- / 0.009	-- / 0.009	-- / 0.009

TABLE 3.3-2
SUMMARY OF AIR QUALITY MONITORING DATA (2017–2019)

Pollutant	National/State Standard	2017	2018	2019
Maximum 1-Hour concentration, ppm	0.100 / 0.18	0059 / 0.058	0.066 / 0.066	0.062 / 0.061
Number of days above National 1-Hour standard		0	0	0
Number of days above State 1-Hour standard		0	0	0
Respirable Particulate Matter (PM_{10})				
Annual average concentration, µg/m^3	20 [a]	--	**24.4**	17.4
Maximum 24-Hour concentration (national/state), µg/m^3	150 / 50	78.1 / **79.5**	**229.2 / 242.2**	48.9 / 50.4
Estimated number of days above National 24-Hour standard[c]		0	2	0
Estimated number of days above State 24-Hour standard		4	2	0
Fine Particulate Matter ($PM_{2.5}$)				
Annual average concentration, µg/m^3	12.0 / 12	9.3 / 9.3	-- / --	8.3 / --
Maximum 24-Hour concentration, µg/m^3	35 [b]	**46.9**	**207.1**	35.3
Estimated number of days above National 24-Hour standard[c]		2	2	0
Carbon Monoxide (CO)				
Maximum 8-Hour concentration, ppm	9 / 9.0	1.2	3	1.3
Number of days above National or State 8-hour standard		0	0	0
Maximum 1-Hour concentration, ppm	35 / 20	1.9	3.3	1.5
Number of days above National or State 1-hour standard		0	0	0

NOTES: Number of days exceeded is for all days in a given year, except for particulate matter. PM_{10} and $PM_{2.5}$ are monitored every three days. Ozone, NO_2, PM_{10}, and $PM_{2.5}$ monitoring data from T Street Station. Carbon monoxide monitoring data from Sacramento-Bercut Station. The CARB and U.S. EPA use different methods to calculate the emissions for certain criteria air pollutants for comparisons to the state and national standards.

Bold values are in excess of applicable standard.
-- indicates data was not available
ppm = parts per million; µg/m^3 = micrograms per cubic meter; NA = No data or insufficient data.

a. State standard, not to be exceeded.
b. National standard, not to be exceeded.
c. Particulate matter sampling schedule of one out of every 3 days, for a total of approximately 122 samples per year. Estimated days exceeded mathematically estimates of how many days' concentrations would have been greater than the level of the standard had each day been monitored.

SOURCES: CARB, 2020b; U.S.EPA, 2020a.

Toxic Air Contaminants

Toxic air contaminants (TACs), also known as Hazardous Air Pollutants (HAPs) at the federal level, are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, in other words, cancer causing) adverse human health effects (for example, injury or illness). TACs include both organic and inorganic chemical substances and may be emitted from a variety of common sources including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. The primary TAC of concern for the proposed action is diesel particulate matter (DPM).

The CARB identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans. It is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM. More than 90 percent of DPM is less than 1 μm in diameter, and thus is a subset of $PM_{2.5}$; therefore, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposures (see Table 3.3-1). DPM may also facilitate development of new allergies and susceptibility to respiratory diseases.

The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Further regulations of diesel emissions by the CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-road Diesel Vehicle Regulation, and the New Off-road Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. In 2004, CARB adopted a measure to limit idling of diesel-fueled commercial motor vehicles. Heavy-duty diesel vehicles with a Gross Vehicle Weight Rating of 10,000 pounds or heavier are prohibited from idling for more than 5 minutes within California's borders. Exceptions to the rule apply for certain circumstances. Regulation of diesel engines and fuels have decreased DPM levels by 68 percent since 1990. Furthermore, CARB estimates that emissions of DPM in 2035 will be less than half those in 2010, even with increasing vehicle miles traveled (VMT) (CARB, 2016b). Nonetheless, based on 2012 estimates of statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.

Existing Conditions

Existing Ambient Air Quality

Nearby monitoring stations provide air quality data that are representative of the ambient air at the project site. They are located in Sacramento at: 1309 T Street, approximately 4.15 miles east of the project site; 100 Bercut Drive, approximately 3.5 miles east of the project site; and in West Sacramento at 132 15th Street which is located approximately 2.25 miles east of the project site. The T Street monitoring station measures and records concentrations of ozone and NO_2; the Bercut Drive monitoring station measures concentrations of $PM_{2.5}$ and CO; and the 15th Street monitoring station measures concentrations of PM_{10}. Table 3.3-2 presents a 3-year summary of air pollutant concentration data collected at these monitoring stations for ozone, NO_2, PM_{10}, $PM_{2.5}$, and CO, as well as the number of days the applicable standards were exceeded in a given year. National and state regulatory standards are discussed further below.

As shown in Table 3.3-2, ozone levels in the project vicinity have resulted in numerous violations of ambient air quality standards between 2017 and 2019. Concentrations of ozone in the project vicinity exceeded the 1-hour State standard three times; additionally, ozone exceeded the 8-hour national and State standards five times throughout the three-year period.

Monitoring data for PM_{10} in the project area indicate that the state 24-hour standard was exceeded six times, four times in 2017 and two times in 2018; however, the national 24-hour standard for PM_{10} was only exceeded twice within the three-year period, both times in 2018. Regarding $PM_{2.5}$, the national 24-hour standard was exceeded twice in 2017 and twice in 2018, but was not exceeded in 2019.

There were no exceedances recorded for any national or state level standard of NO_2 or CO in the project area.

Odors

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration to the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

An odor analysis typically evaluates the potential for the preferred action to generate odors. The YSAQMD CEQA Handbook identifies common types of facilities that are known producers of odors including wastewater treatment facilities, chemical manufacturing, sanitary landfills, fiberglass manufacturing, transfer stations, painting/coating operations, composting facilities, food processing facilities, petroleum refineries, feed lots/dairies, asphalt batch plants, and rendering plants (YSAQMD, 2007). The proposed action does not include any of the land use types identified by the YSAQMD to be associated with odor impacts. Because no new odor sources and no impact would occur, odors are not addressed further in this EIR.

Sensitive Receptors

Air quality does not affect individuals or groups within the population in the same way, and some groups are more sensitive to adverse health effects caused by exposure to air pollutants than others. Population subgroups more sensitive to the health effects of air pollutants include the elderly and children, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases.

Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces the overall health risk associated with exposure to pollutants. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. Workers are not considered sensitive receptors because all employers are required to follow regulations set forth by the

Occupation Safety and Health Administration to ensure the health and well-being of their employees. The nearest sensitive receptors to the project site consist of the following:

- Residences at the Valhalla Mobile Country Club, located approximately 1,350 feet southeast of the project site.

Regulatory Setting

Federal

Criteria Air Pollutants

The U.S. EPA is required by the federal Clean Air Act (CAA) to identify and establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The U.S. EPA has set NAAQS for six criteria air pollutants including ozone, NO_2, SO_2, CO, PM (including PM that is less than 10 microns in diameter [PM_{10}] and PM that is less than 2.5 microns in diameter [$PM_{2.5}$]), and lead. **Table 3.3-3** presents the current NAAQS (as well as state ambient air quality standards) and provides a brief discussion of the principal sources of each pollutant. Furthermore, the U.S. EPA classifies air basins (or portions thereof) as "attainment" or "non-attainment" for each criteria air pollutant, based on whether the NAAQS have been achieved.

This classification is determined by comparing actual monitoring data with the standards. Areas that cannot be classified as meeting or not meeting the standards on the basis of available information are listed as "unclassified." Areas may also be designated as attainment with a maintenance plan (also known as a maintenance area), which means that an area was previously designated as non-attainment for a criteria air pollutant but has since been re-designated as attainment. These areas have demonstrated through modeling that they have sufficient controls in place to meet and maintain the NAAQS.

Yolo County's attainment status for each of the criteria air pollutants is summarized in **Table 3.3-4** (State and federal designations are provided). Yolo County is considered a federal non-attainment area for ozone and $PM_{2.5}$ and as an attainment-maintenance area for the federal CO and PM_{10} standards.

The federal CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The U.S. EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the federal CAA and will achieve air quality goals when implemented.

Federal Conformity Requirements

The proposed action is subject to the General Conformity Rule (GCR) (40 CFR 51, Subpart W) which is meant to ensure that Federal projects conform to applicable State Implementation Plans (SIPs) so they do not hinder efforts to achieve attainment of the NAAQS. This rule applies to Federal projects located in areas that have been designated non-attainment for any of the federal ambient air quality standards.

TABLE 3.3-3
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND MAJOR SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/ industrial mobile equipment.
	8 hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hour [a]	9.0 ppm	9 ppm	
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm	
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hour	---	0.5 ppm [b]	
	24 hour	0.04 ppm	0.14 ppm	
	Annual Avg.	---	0.030 ppm	
Respirable Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 µg/m^3	---	
Fine Particulate Matter ($PM_{2.5}$)	24 hour	---	35 µg/m^3	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 µg/m^3	12.0 µg/m^3	
Lead	Monthly Ave.	1.5 µg/m^3	---	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 µg/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal power plants, petroleum production and refining
Sulfates	24 hour	25 µg/m^3	No National Standard	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	See $PM_{2.5}$.
Vinyl chloride	24 hour	0.01 ppm	No National Standard	Polyvinyl chloride and vinyl manufacturing.

NOTE:

[a] A more stringent 8-hour carbon monoxide state standard exists around Lake Tahoe (6 ppm).

[b] Secondary national standard.

ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

SOURCES: CARB, 2016a; CARB, 2020a.

TABLE 3.3-4
YOLO COUNTY ATTAINMENT STATUS

Pollutant and Averaging Time	Designation/Classification	
	State Standards	Federal Standards
Ozone (1-hour)	Nonattainment – Transitional	No Federal Standard
Ozone (8-hour)		Nonattainment (Moderate)
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Unclassified	Nonattainment (Moderate)
Lead	Attainment	Unclassified/Attainment
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard

NOTE:
California Air Resources Board (CARB) makes area designations for ten criteria pollutants (O3, CO, NO2, SO2, PM10, PM2.5, lead, visibility reducing particles, sulfates, and hydrogen sulfide. CARB does not designate areas according to the vinyl chloride standard because it is regulated under CARB's Air Toxics Program.
* Effective October 28, 2013, the U.S. EPA formally re-designated Sacramento County as attainment for the federal PM10 standard.
SOURCE: CARB, 2019. CARB, 2021.

Hazardous Air Pollutants

Federal laws use the term "Hazardous Air Pollutants" (HAPs) to refer to the same types of compounds that are referred to as TACs under State law. Currently, 187 substances are regulated as HAPs. The federal CAA requires the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare.

State

Criteria Air Pollutants

At the state level, CARB oversees California air quality policies and regulations. California has adopted its own air quality standards (California Ambient Air Quality Standards [CAAQS]) as shown in Table 3.3-3. Most of the California standards tend to be at least as protective as the NAAQS and are often more stringent.

In 1988, California passed the California Clean Air Act (CCAA) (California Health and Safety Code Section 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment based on the State ambient air quality standards. The CCAA requires each air district in which state air quality standards are exceeded to prepare a plan that documents reasonable progress towards attainment. If an air basin (or portion thereof) exceeds the CAAQS for a particular criteria air pollutant, it is considered to be non-attainment of that criteria air pollutant until the area can demonstrate compliance. As indicated in Table 3.3-4, Yolo County is classified as non-attainment for the State ozone and PM_{10} standards, and the federal 8-hour ozone and $PM_{2.5}$ standards.

Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807. A total of 243 substances have been designated as TACs under California law and include the 187 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify, quantify, and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions.

Idling Limit Regulation, Title 13, California Code of Regulations

Title 13, Section 2485 of the California Code of Regulations requires that equipment is either shut off when not in use or is limited to 5 minutes.

Local

Yolo-Solano Air Quality Management District

The Yolo-Solano Air Quality Management District (YSAQMD) is the regional agency responsible for regulating air quality in Yolo County. The agency regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources. YSAQMD can require operators of stationary sources to obtain permits, impose emission limits, set fuel or material specifications, and establish operational limits to reduce air emissions. The YSAQMD regulates new or modified stationary sources of criteria air pollutants and TACs.

Air Quality Plans

All areas designated as non-attainment are required to prepare plans showing how the area would meet the air quality standards by its attainment dates. The following are the most recent air quality plans applicable to the area of the proposed action:

- Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan (EDCAQMD, FRAQMD, PCAPCD, SMAQMD, and YSAQMD, 2017); and
- 2015 Triennial Assessment and Plan Update (YSAQMD, 2016).

Yolo-Solano AQMD Rules and Regulations

Construction of the proposed action would be subject to the applicable YSAQMD rules and regulations with regard to operation of construction of equipment, and particulate matter generation.

Yolo County General Plan

The Yolo County General Plan includes various goals and policies aimed at improving air quality within the County. The following General Plan goals and policies related to air quality are applicable to the proposed action (Yolo County, 2009):

> **Goal LU-7: Regional Coordination.** Ensure inclusion, fair treatment and equitable outcomes for the County and it residents in regional land use planning efforts.
>
> > ***Policy LU-7.2.*** Support and participate in countywide, regional and other multi-agency planning efforts to housing, tourism, air quality, open space, green infrastructure, recreation, agriculture, habitat conservation, energy, emergency preparedness and flood protection.
>
> **Goal CO-6: Air Quality.** Improve air quality to reduce the health impacts caused by harmful emissions.

Policy CO-6.1. Improve air quality through land use planning decisions.

Policy CO-6.2. Support local and regional air quality improvement efforts.

Policy CO-6.4. Engage the public in efforts to increase awareness of the health risks associated with air pollution and to take voluntary actions that reduce emissions.

Policy CO-6.5. Encourage community participation in air quality planning.

Policy CO-6.6. Encourage implementation of the YSAQMD Best Management Practices, such as those listed below, to reduce emissions and control dust during construction activities:

- Water all active construction areas at least twice daily.
- Haul trucks shall maintain at least two feet of freeboard.
- Cover all trucks hauling soil, sand, and other loose materials.
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut-and-fill operations and hydroseed area.
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.
- Treat accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips or mulch.
- Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.

City of West Sacramento General Plan

The Safety Element of the City of West Sacramento General Plan includes policies that address ways to improve regional air quality. Air quality policies that would be applicable to the proposed action include (City of West Sacramento, 2016):

Goal S-5: To improve air quality in West Sacramento and the Sacramento Region, and protect residents from the potential effects of decreased air quality.

S-5.1: Local and Regional Programs. The City shall support and participate in local and regional air quality planning programs to ensure the earliest practicable attainment and subsequent maintenance of Federal and State ambient air quality standards.

S-5.2: Clean Air Programs. The City shall promote and implement clean air programs administered by the YSAQMD to reduce air pollutant emissions.

S-5.6: Early Coordination with YSAQMD. The City shall notify and coordinate with the YSAQMD when industrial developments are proposed within the City to ensure applicants comply with applicable air quality regulations and incorporate design features and technologies to reduce air pollution.

S-5.7: PM_{10} Emissions from Construction. The City shall require developers to reduce particulate emissions from construction (e.g. grading, excavation, and demolition) to the maximum extent feasible and consistent with YSAQMD guidance.

S-5.9: Mitigation Measures. The City shall maximize the use of current air quality mitigation measures, including offsets, into the construction and design of new development to aid in the reduction of regional air pollutant emissions.

S-5.10: Truck Idling. The City shall enforce State idling laws for commercial vehicles, including delivery and construction vehicles. The City shall also encourage the use of electrical outlets in loading zones, including signage, to reduce vehicle idling associated with operation refrigeration for delivery trucks.

3.3.2 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. This is a quantitative evaluation of the types and levels of emissions associated with the construction activities to determine if the proposed action would:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading odors) adversely affecting a substantial number of people.

The U.S. EPA has developed de minimis conformity thresholds to ensure that Federal projects conform to applicable State Implementation Plans (SIPs) so that they do not interfere with strategies used to attain the NAAQS. Furthermore, the YSAQMD has developed significance thresholds to help lead agencies determine whether a project may have a significant air quality impact. Projects with emissions that are expected to meet or exceed the recommended significance criteria would have a potentially significant adverse impact on air quality. In addition, the YSAQMD has established thresholds of significance for health risks resulting from public exposure to TACs. **Table 3.3-5** summarizes the applicable U.S. EPA's de minimis conformity thresholds, while **Table 3.3-6** presents the applicable YSAQMD thresholds of significance.

As expressed in the *amicus curiae* brief submitted for the *Sierra Club v. County of Fresno* case (*Friant Ranch Case*), the CEQA criteria pollutants significance thresholds from the air districts were set at emission levels tied to the region's attainment status. These emission levels are indexed to stationary pollution sources permitted by the air district to compel the operator to offset their emissions and they are not intended to be correlated to localized human health impacts (SJVAPCD, 2014).

TABLE 3.3-5
FEDERAL DE MINIMIS LEVELS

Pollutant	Area Type	Tons/Year
Ozone (VOC or NOx)	Serious Nonattainment	50
	Severe Nonattainment	25
	Extreme Nonattainment	10
	Other nonattainment areas outside an ozone transport region	100
Other Ozone Nonattainment Areas Inside an Ozone Transport Region	VOC	50
	NOx	100
Carbon monoxide, SO2, and NO2	All maintenance	100
PM10	Serious nonattainment	70
	Moderate nonattainment	100
PM2.5	Serious nonattainment	70
	Moderate nonattainment	100

SOURCE: U.S. EPA, 2020b.

TABLE 3.3-6
YSAQMD CRITERIA AIR POLLUTANT THRESHOLDS OF SIGNIFICANCE FOR CONSTRUCTION AND OPERATION

Pollutant	Construction and Operation
NOx	10 tons / year
ROG	10 tons / year
PM_{10}	80 pounds / day
CO	Violation of a state ambient air quality standard for CO
Cancer Risk[2]	10 in one million
Chronic Hazard Index[2]	1.0

SOURCE: YSAQMD, 2007.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have

construction-related effects on air quality in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on air quality were previously evaluated and addressed for Segments AA and AE. However, under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and therefore there would not be construction-related effects on air quality in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to air quality from continued O&M activities would be less than significant.

Proposed Action

Methodology and Assumptions

Project-related air quality impacts fall into two categories: short-term impacts due to construction and long-term impacts due to project operation. During project construction (short-term) the proposed action would generate ozone precursors and affect local particulate concentrations primarily due to fugitive dust sources and diesel exhaust. Operational (long-term) emissions associated with the existing YBEL would not be increased as a result of the proposed action.

Emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 and then compared to YSAQMD's applicable significance thresholds. Inputs to the model included construction schedule, equipment specifications, and material hauling information provided by the Project Proponent. Where project-specific information was not available, CalEEMod defaults were used. Detailed modeling assumptions are included in **Appendix A**.

Construction Impacts

Estimated emissions that would result from construction of the proposed action were compared to YSAQMD's CEQA thresholds of significance and the U.S. EPA's de minimis conformity thresholds to determine significance. According to 40 CFR 93.153, conformity determinations are required only of Federal actions that occur in nonattainment areas and result in generation of emissions that exceed established de minimis thresholds.

Construction of the proposed action would begin in spring 2022 and is expected to continue until August 2022. As shown in **Table 3.3-7**, below, emissions of NO_X, ROG, and $PM_{2.5}$ would not exceed the Federal de minimis thresholds or the YSAQMD CEQA thresholds of significance before mitigation. Therefore, emissions generated during construction of the proposed action would be considered temporary, and less than significant.

The YSAQMD has not established a threshold of significance for mobile source TAC emissions. As discussed above, the nearest receptor to the project site is located at the Valhalla Mobile Home Club. This

receptor is not in the vicinity of the project site and TAC emissions from construction equipment use would have a negligible impact to receptors at this location. Therefore, construction of the preferred action would not result in significant impacts with respect to health risk.

TABLE 3.3-7
UNMITIGATED PROJECT CONSTRUCTION EMISSIONS[1]

Construction Year	ROG (tpy)	NO_X (tpy)	PM_{10} (ppd)	$PM_{2.5}$ (tpy)
2021	0.32	4.84	25.14	0.18
YSAQMD Thresholds	10	10	80	N/A
Federal de minimis Thresholds	100	100	N/A	100
Significant (Yes or No)?	No	No	No	No

NOTES:
ppd = pounds per day; tpy = tons per year

1 Project construction emissions estimates were made using CalEEMod version 2016.3.2. See Appendix A for model outputs and more detailed assumptions.

The YSAQMD recommends that all projects, even those that do not exceed the YSAQMD PM threshold, implement Best Management Practices to reduce dust emissions. These measures are discussed further in Section 3.3.3, *Mitigation,* below. Therefore, during construction, the proposed action would implement the YSAQMD Best Management Practices to reduce PM emissions. As shown in **Table 3.3-8**, after implementation of the YSAQMD Best Management Practices, emissions of PM_{10} and $PM_{2.5}$ would be further reduced. Emissions generated during construction of the proposed action would continue to be less than significant and because construction-related emissions would be below State and federal ambient air quality standards, implementation of the proposed action would not conflict with the implementation of any State or Federal air quality attainment plan. The proposed action is located within a CO attainment area, and would not generate a significant impact with respect to CO emissions.

TABLE 3.3-8
MITIGATED PROJECT CONSTRUCTION EMISSIONS[1]

Construction Year	ROG (tpy)	NOx (tpy)	PM10 (ppd)	PM2.5 (tpy)
2021	0.32	4.84	18.23	0.17
YSAQMD Thresholds	10	10	80	N/A
Federal de minimis Thresholds	100	100	N/A	100
Significant (Yes or No)?	No	No	No	No

NOTES:
ppd = pounds per day; tpy = tons per year

1 Project construction emissions estimates were made using CalEEMod version 2016.3.2. See Appendix A for model outputs and more detailed assumptions.

Operational Impacts

Operational activity currently associated with maintenance of the existing YBEL generates emissions of ozone precursors (ROG and NO_X), PM_{10}, and $PM_{2.5}$ from vehicle trips associated with routine maintenance which may include clearance of access roads, rodent control, vegetation maintenance, management of graffiti, and performance of periodic inspections. Maintenance activity would not increase as a result of the implementation of the proposed action; therefore, it is not expected to generate increased operational emissions and would not conflict with the implementation of any State or Federal air quality attainment plan. Operational emissions from the proposed action would be considered long-term, and less than significant.

Furthermore, the YSAQMD has established health risk thresholds of significance from stationary sources; however, operation of the proposed action does not include stationary sources of TACs. The pump station is fitted with a quick connect for a portable generator. When power outages occur during high water flow events a portable generator will be used to power the pump station. The YSAQMD has not established a thresholds of significance for mobile source TACs and no threshold is proposed at this time (YSAQMD, 2007). Furthermore, maintenance activity would not increase as a result of implementation of the proposed action; therefore, the proposed action would have an occasional, and less than significant impact with regard to sensitive receptors

3.3.3 Mitigation

The YSAQMD requires that all projects should implement best management practices to reduce dust emissions and avoid localized health impacts. As discussed above, the proposed action would implement the YSAQMD recommended best management practices as **Mitigation Measure AQ-1** including but not limited to:

- Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure;
- Haul trucks shall maintain at least 2 feet of freeboard;
- Cover all trucks hauling dirt, sand, or loose materials;
- Apply non-toxic binders to exposed areas after cut and fill operations and hydroseed area;
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days);
- Plant tree windbreaks on the windward perimeter of the construction projects if adjacent to open land;
- Plant vegetative ground cover in disturbed areas as soon as possible;
- Cover inactive storage piles;
- Sweep streets if visible soil material is carried out from the construction site;
- Treat accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips or mulch;
- Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.

Furthermore, the proposed action would as **Mitigation Measure AQ-2** minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The project proponent would provide clear signage that posts this requirement for workers at the entrances to the site.

3.4 Biological Resources

This section evaluates the effects of the alternatives on the biological resources in the project area.

3.4.1 Existing Conditions

The following background data was obtained on biological resources:

- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the West Sacramento and 8 surrounding U.S. Geological Survey (USGS) 7.5-minute quadrangles (CDFW, 2020; **Appendix B)**;
- The California Native Plant Society (CNPS) online database of plant species documented on the West Sacramento and 8 surrounding USGS 7.5-minute quadrangles (CNPS, 2020; **Appendix B)**; and
- A U.S. Fish and Wildlife Service (USFWS) list of species that may occur in or be affected by projects within the project area (USFWS, 2020; **Appendix B**).

ESA conducted a biological resource survey and an aquatic resources delineation of the project area on October 15, 2020. The results of the surveys are provided herein. A Memorandum documenting the Ordinary High Water Mark of the YBEL Toe Drain Canal is available under a separate cover (ESA, 2020).

Biological Communities

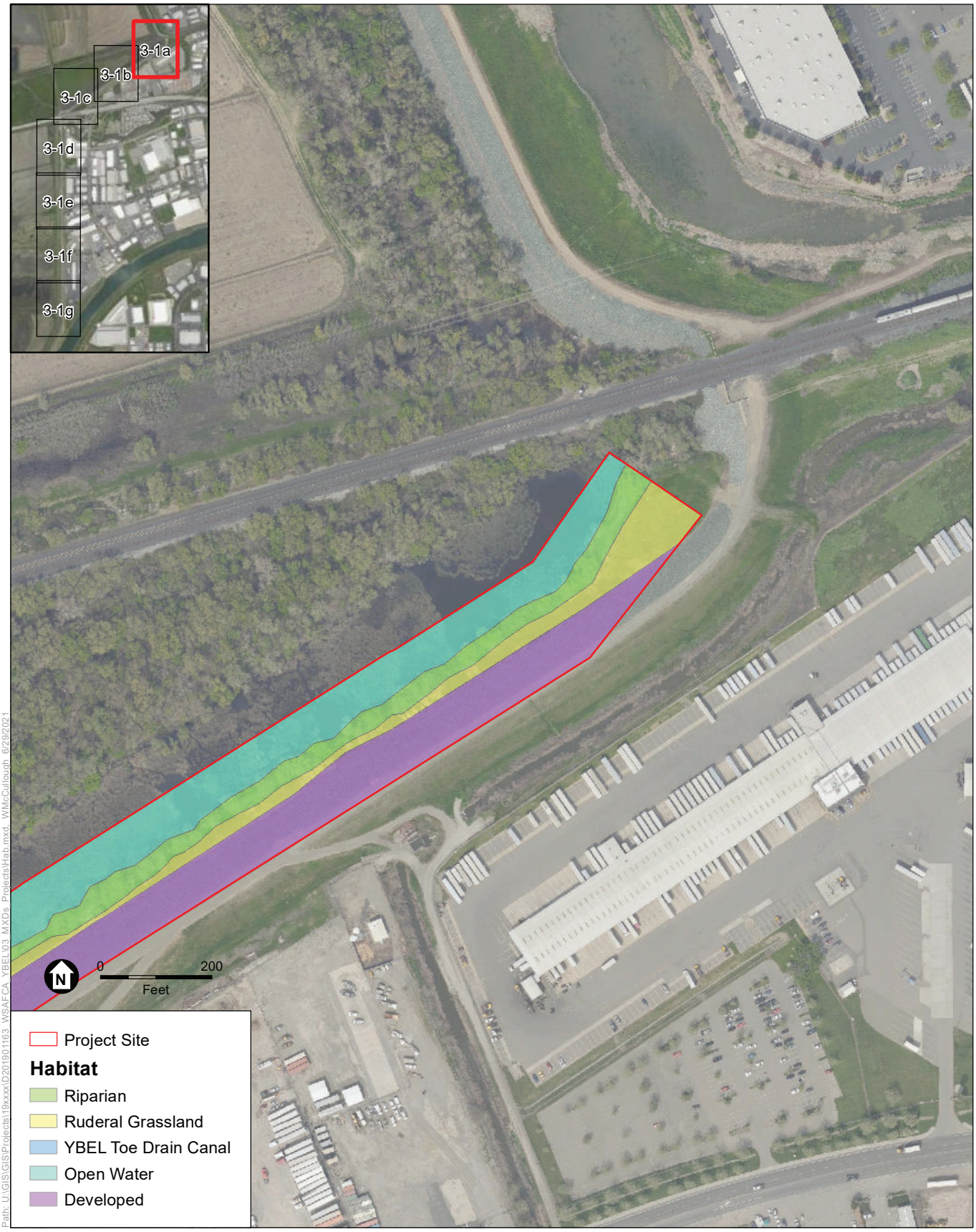
Biological communities within the project area include developed, ruderal grassland, riparian, and the YBEL Toe Drain Canal (**Figures 3-1a-g**).

Developed

Developed areas within the project area include the graded levee and the riprap along the levee slope.

Ruderal Grassland

Ruderal grassland consists of a graded bench that occurs between the developed levee toe and the riparian corridor surrounding the YBEL Toe Drain Canal. The majority of the northern half of the graded bench is comprised of little to no vegetation. Increased densities of upland herbaceous vegetation occur along the graded bench in the southern half of the project area including wall barley (*Hordeum murinum*), Bermuda grass (*Cynodon dactylon*), and wild oat (*Avena fatua*). Small mammal burrows occur at low densities throughout the graded bench.

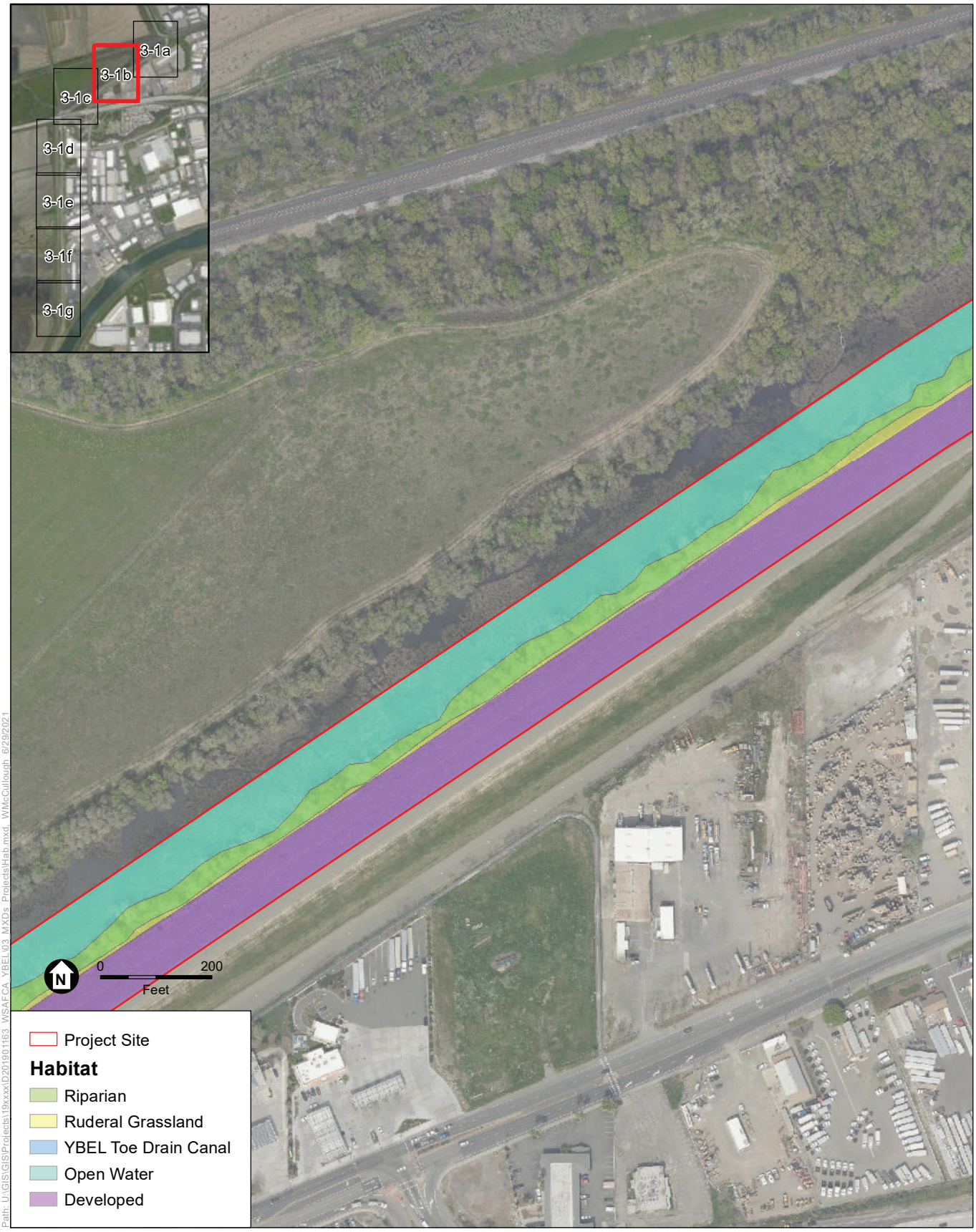


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1a
Habitat Types

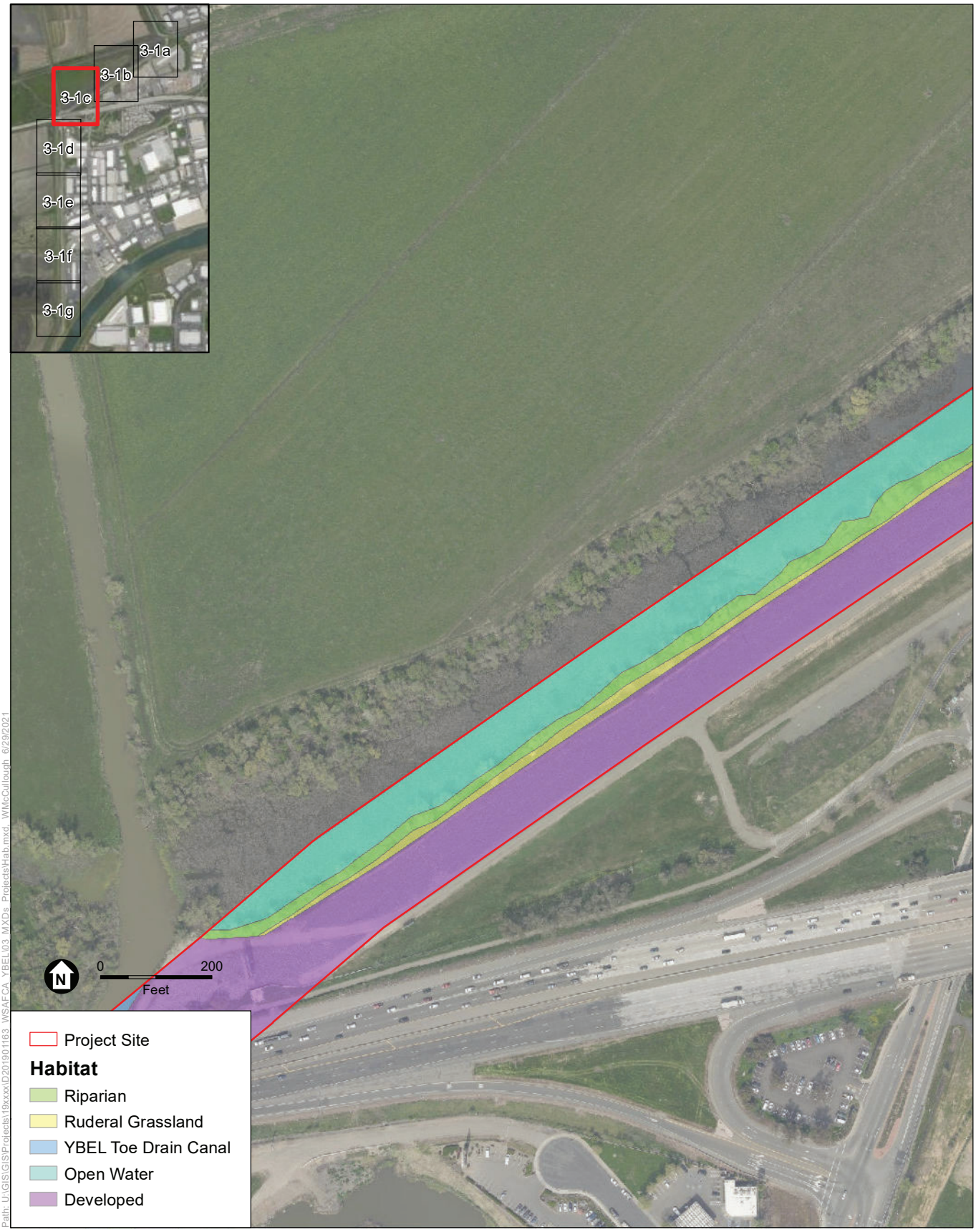
ESA



SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1b
Habitat Types



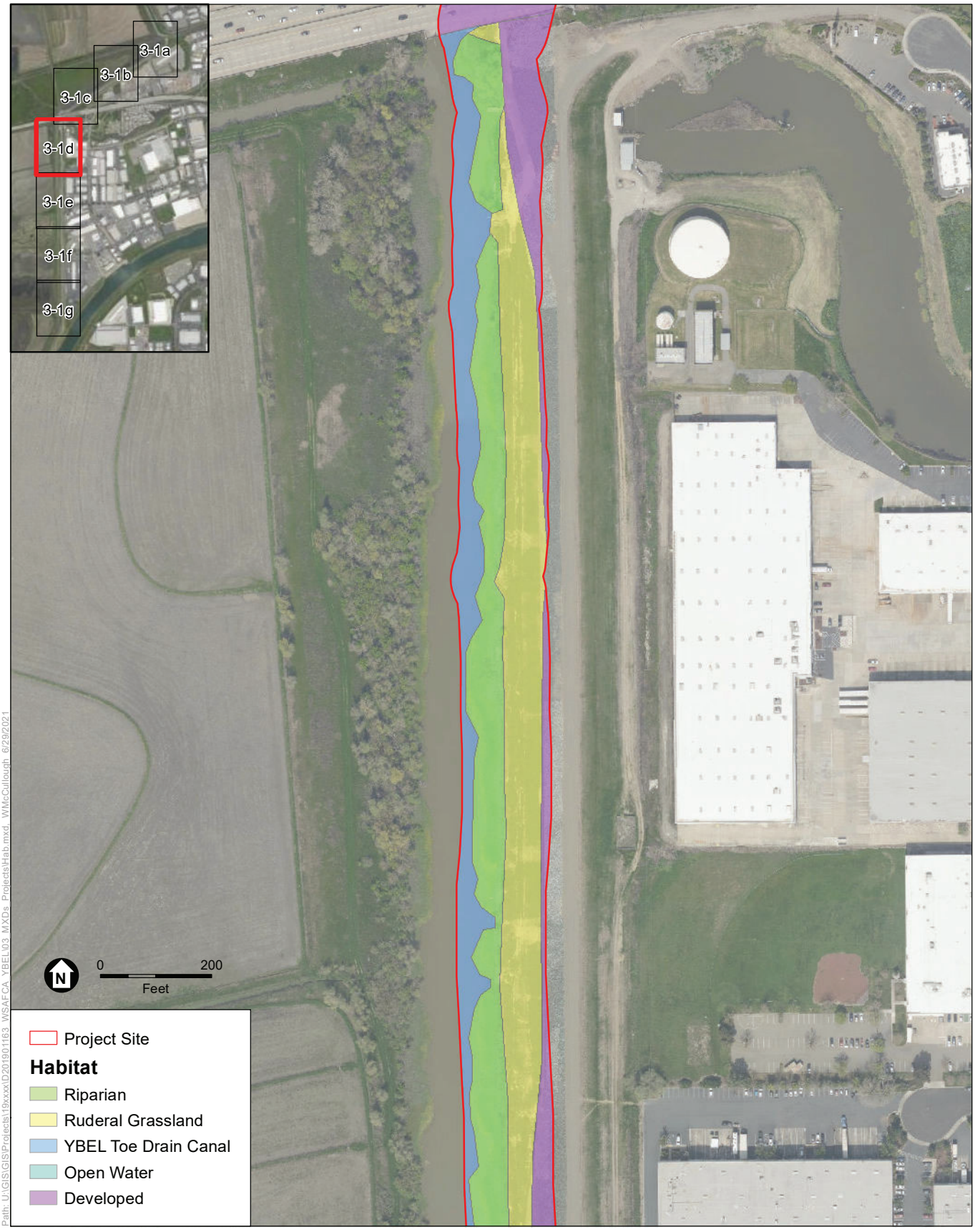
Path: U:\GIS\GIS\Projects\19xxxx\D2019011163_WSAFCA_YBEL\03_MXDs_Projects\Hab.mxd WMcCullough 6/29/2021

SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1c
Habitat Types

ESA

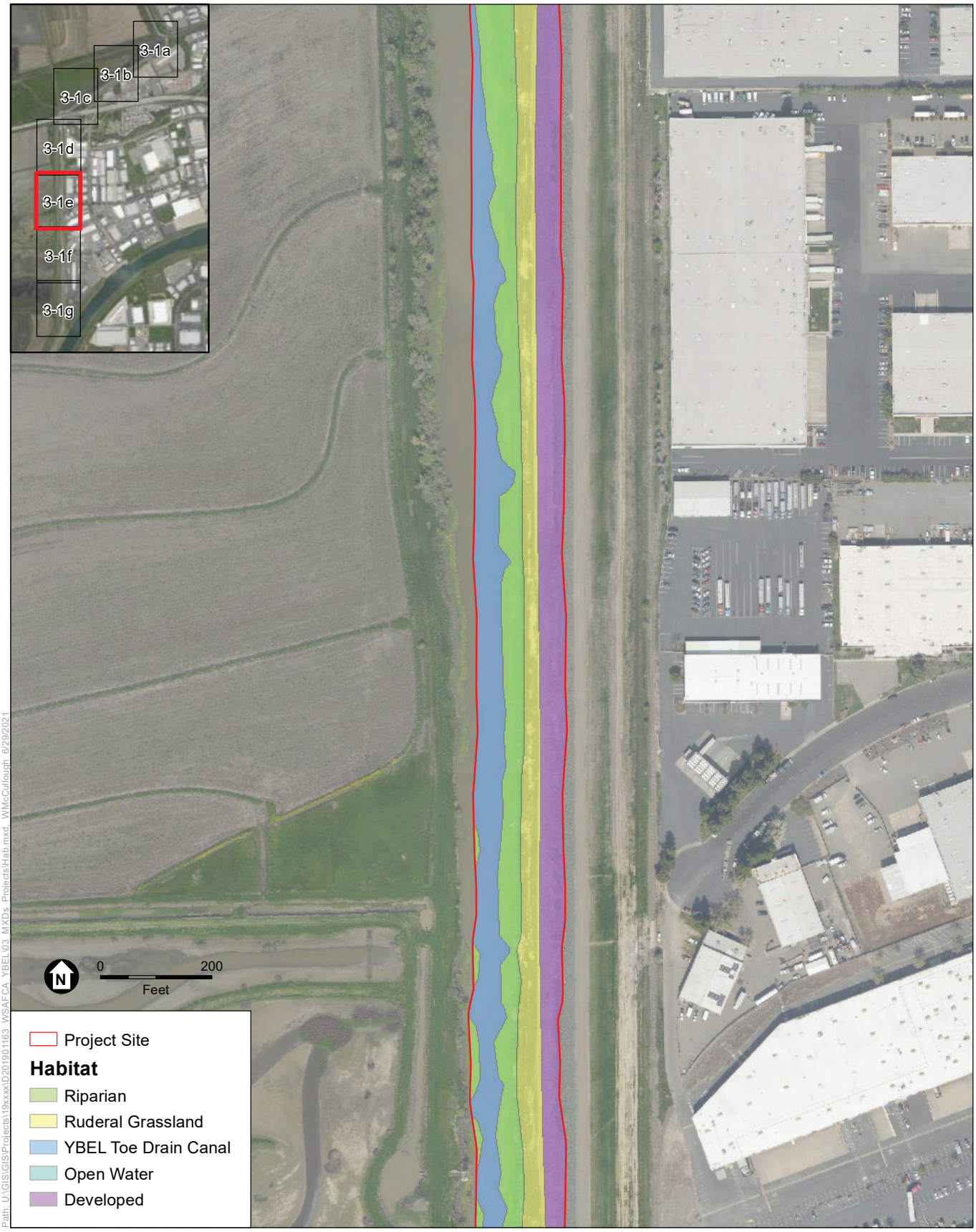


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1d
Habitat Types

ESA

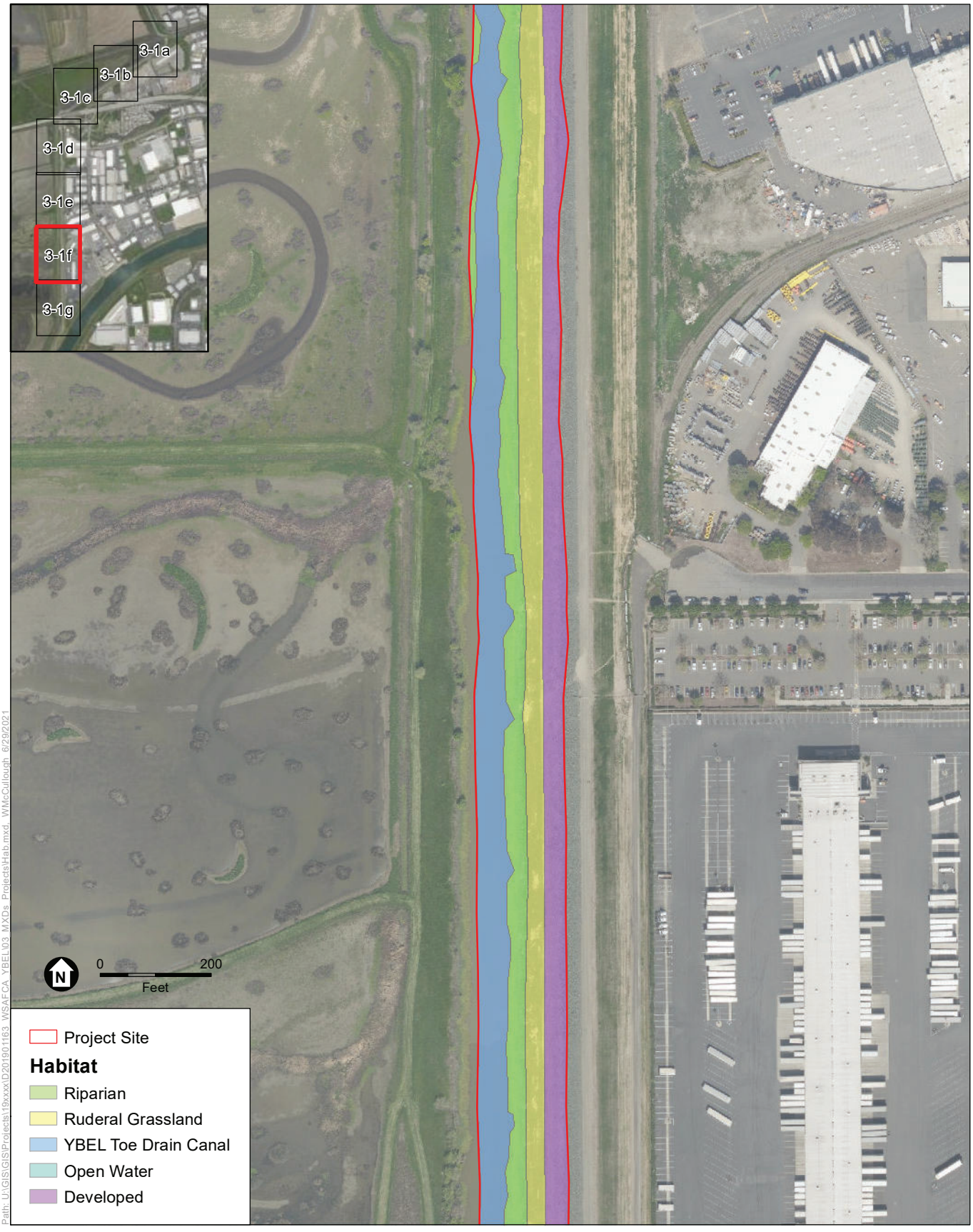


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1e
Habitat Types

ESA

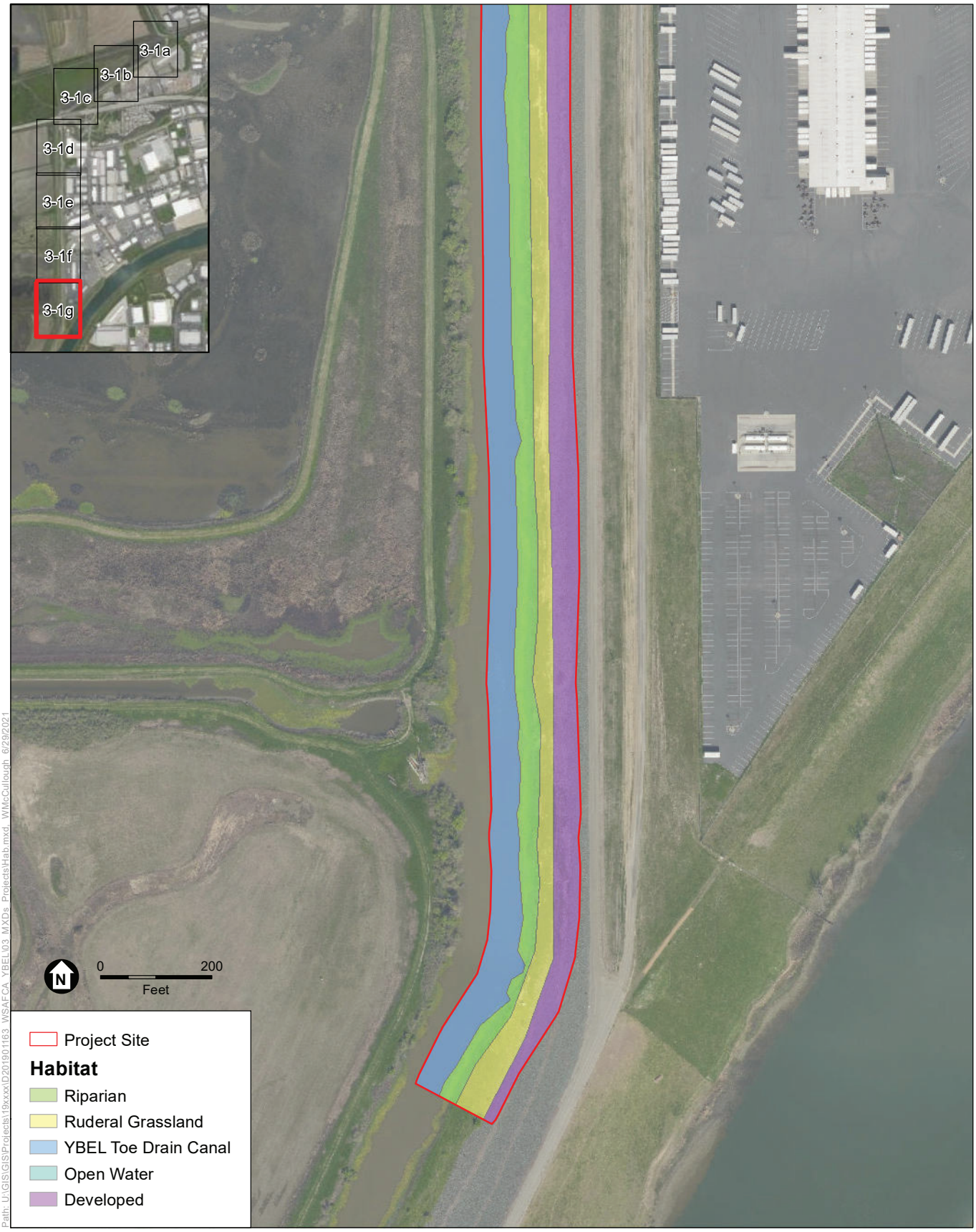


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1f
Habitat Types

ESA



SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1g
Habitat Types

ESA

Riparian

Riparian vegetation occurs along the edges of the YBEL Toe Drain Canal. The riparian vegetation along the eastern side of the drainage consists of a narrow, 5- to 10-foot-wide strip of hydrophytic herbaceous, young woody saplings, and small trees including sandbar willow (*Salix exigua*), Oregon ash (*Fraxinus latifolia*), willow (*Salix* sp.), box elder (*Acer negundo*), salt grass (*Distichlis spicata*), curly dock (*Rumex crispus*), and yellow goldenrod (*Euthamia occidentalis*). The riparian vegetation along the western side of the canal consists of a 25- to 50-foot-wide strip of more mature riparian woodland species including willow, Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Himalayan blackberry (*Rubus armeniacus*), oak (*Quercus* sp.), Oregon ash, box elder, and sandbar willow.

YBEL Toe Drain Canal

The YBEL Toe Drain Canal is a manmade perennial canal that flows north to south through the project area. The majority of the canal lacks aquatic vegetation; riparian vegetation as described above exists along the eastern and western banks.

Sensitive Natural Communities and Waters of the U.S./State

Some of the aquatic habitats at the project area may also be considered sensitive communities or potentially regulated under the Clean Water Act (CWA) or State Porter-Cologne Act. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, state, or federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The CDFW tracks sensitive natural communities in the CNDDB. Furthermore, the riparian zone along streams is typically protected under Section 1600 et seq. of the California Fish and Game Code. Potentially jurisdictional features, or water features that may be regulated under Federal or State law, have also been identified in the project area.

Wildlife Corridors

Movements of wildlife generally fall into three basic categories: (a) movements along corridors or habitat linkages associated with home range activities such as foraging, territory defense, and breeding; (b) dispersal movements—typically one-way movements (e.g., juvenile animals leaving areas where they were born and raised or individuals colonizing new areas), and; (c) temporal migration movements—these movements are essentially dispersal actions which involve a return to the place of origin (e.g., deer moving from winter grounds to summer ranges and fawning areas).

The YBEL Toe Drain Canal within the project area provides a seasonal wildlife corridor for fish species travelling northward to the Tule Canal and westward to the Yolo Bypass.

Wildlife Observed

The following birds were observed foraging within or in the vicinity of the project area during the October 15, 2020 biological survey: black phoebe (*Sayornis nigricans*), green heron (*Butorides virescens*), great blue heron (*Ardea herodias*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), northern mockingbird (*Mimus polyglottos*), California scrub-jay (*Aphelocoma californica*), lesser goldfinch (*Spinus psaltria*), and house finch (*Haemorhous mexicanus*).

Approximately 30 black-crowned night-heron (*Nycticorax nycticorax*) and great egret (*Ardea alba*) were roosting on the branches of the riparian trees along the western side of the YBEL Toe Drain Canal. While no active nests were observed, the October 15, 2020 biological survey was conducted outside of the generally accepted nesting season. The generally accepted nesting season that encompasses the majority of nesting birds extends from February 1 through September 15. The following mammals were observed: California ground squirrel (*Otospermophilus beecheyi*) and black-tailed jackrabbit (*Lepis californicus*).

Special-Status Species

Table 3.4-1 summarizes the regionally occurring special-status species considered to have the potential to occur within or adjacent to the project area. The table was based on species lists generated by CNDDB (CDFW, 2020), CNPS (CNPS, 2020), USFWS (USFWS, 2020), and information from the NMFS website (NMFS, 2021). Species lists are included in Appendix B. Special-status species likely to occur within the project area were ranked based on the habitat conditions observed within the project area during the survey. This potential to occur was based on the following categories of likelihood of occurrence:

- **None**: the species' required habitat is lacking or potentially occurring plants were not observed during the evident and identifiable season;
- **Low**: the species' required habitat is of very low quality and there are no known occurrences on or near the project area;
- **Moderate**: the species' required habitat occurs within the project area and there are known occurrences nearby, but there are no recorded observations within the project area; or
- **High**: the species has been documented within the project area and there is suitable habitat within the project area.

Those species determined to have no or low potential to occur are not discussed further. Those species which have a moderate or high potential for occurrence within the project area are summarized in **Table 3.4-1**.

TABLE 3.4-1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Fish			
California Central Valley DPS steelhead *Oncorhynchus mykiss*	FT/–	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal. There are CNDDB occurrences within 5 miles of the project area.
Central Valley ESU spring-run Chinook salmon *Oncorhynchus tshawytscha*	FT/ST	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**Moderate**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal. There are CNDDB occurrences within 5 miles of the project area.

TABLE 3.4-1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Delta smelt *Hypomesus transpacificus*	FT/CE	Euryhaline (tolerant of a wide salinity range) species that is confined to the San Francisco Estuary, principally in the Delta and Suisun Bay Found in open surface waters in the Delta. Seasonally in Suisun Bay, the Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	**None**. The project area is outside the distribution range of this species.
Green Sturgeon-Southern Distinct Population Segment (SDPS) *Acipenser medirostris*	FT/SSC	Spawns in large river systems with well-oxygenated water, with temperatures from 8.0 to 14°C. Found in the Sacramento, Klamath and Trinity Rivers.	**Moderate.** This species is likely seasonally present, but potentially present year-round in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Longfin smelt *Spirinchus thaleichthys*	--/ST	Spawns from November to June in freshwater over sandy-gravel substrates, rocks, or aquatic plants. After hatching, larvae move up into surface waters and are transported downstream into brackish-water nursery areas. In the San Francisco estuary, longfin smelt are usually found downstream of Rio Vista on the Sacramento River and from the vicinity of Medford Island downstream on the San Joaquin River. They are occasionally found upstream of these locations.	**Moderate**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal. There are CNDDB occurrences within 5 miles of the project area.
Sacramento perch *Archoplites interruptus*	–/CSC	Inhabits freshwater sloughs, slow-moving rivers, lakes, reservoirs, and farm ponds. Often found near submerged or emergent vegetation. Tolerates variable conditions, including a wide range of turbidity, temperature, salinity, and pH. Occurs mainly in inshore areas of larger lakes.	**Moderate**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal. There are CNDDB occurrences within 5 miles of the project area.
Sacramento River ESU winter-run Chinook salmon *Oncorhynchus tshawytscha*	FE/SE	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**Moderate**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal. There are CNDDB occurrences within 5 miles of the project area.
Sacramento splittail *Pogonichthys macrolepidotus*	--/CSC	Inhabits aquatic, estuary, freshwater marsh, and Sacramento/San Joaquin River flowing waters.	**Moderate**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Reptiles			
Giant garter snake *Thamnophis gigas*	FT/CT	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low-gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November–mid-March).	**Moderate.** The YBEL Toe Drain Canal provides aquatic habitat and the small mammal burrows within the disturbed areas provide upland habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Western pond turtle *Emys marmorata*	–/CSC	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low-gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**Moderate.** The YBEL Toe Drain provides aquatic habitat and the ruderal provides upland habitat. While no CNDDB occurrences are documented within 5 miles, this species has been observed in the Tule Canal just north of the project area during unrelated fieldwork.

TABLE 3.4-1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Birds			
Burrowing owl *Athene cunicularia*	–/CSC	Yearlong resident of open, dry grassland and desert habitat, and in grass, forb, and open shrub stages of pinyon-juniper and Ponderosa pine habitats, from sea level to 5,300 feet. Uses small mammal burrows, often those of ground squirrels, for roosting and nesting cover. Nest boxes, pipes, and culverts may be used if burrows are scarce. Occurs throughout California except the high mountains and northwestern coastal forests.	**High.** The disturbed areas within the project area and vicinity provide suitable nesting and wintering habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Purple martin *Progne subis*	–/CSC	In the western U.S, occurs in the Rocky Mountains, Sonoran Desert, Central Mexico, and Pacific Coast states. Breeding occurs from April into August. Inhabits open areas with an open water source nearby. Purple martins nest colonially or singly in cavities both natural and human-made in a variety of open and partly open situations, frequently near water or around town.	**Moderate.** The riparian habitat within the project area provides nesting habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Song sparrow ("Modesto" population) *Melospiza melodia*	–/CSC	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub.	**Moderate.** The riparian habitat within the project area provides nesting habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Swainson's hawk *Buteo swainsoni*	–/CT	Nests peripherally to valley riparian systems in lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. The CDFW considers 5 acres or more of annual grassland as suitable foraging habitat for Swainson's hawk (CDFW, 1994).	**High.** The mature trees in the project area and vicinity provide suitable nesting habitat. While the project area does not provide suitable foraging habitat, the agricultural land in the vicinity of the project area provides foraging habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
White-tailed kite *Elanus leucurus*	--/CFP	Yearlong resident in coastal and valley lowlands and is rarely found away from agricultural areas. Nests in trees near open foraging areas in lowland grasslands, agricultural areas, wetlands, oak-woodland and savannah habitats, and riparian areas associated with open areas.	**Moderate.** The trees within the riparian corridor in the project area and vicinity provide suitable nesting habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Mammals			
Pallid bat *Antrozous pallidus*	–/CSC	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky roosting areas.	**Moderate.** The trees within the riparian corridor and the bridge provide day roosting habitat for this species.
Plants			
Mason's lilaeopsis *Lilaeopsis masonii*	--/CR/ 1B.1	Perennial rhizomatous herb found in riparian scrub and in brackish or freshwater marshes and swamps from 0 to 35 feet. Known from the Central Valley, Bay Area, and central coast. Blooms April through November.	**Moderate.** The riparian within the project area provides suitable habitat for this species. One CNDDB record is documented within 5 miles of the project area.
Sanford's arrowhead *Sagittaria sanfordii*	--/1B.2	Emergent perennial rhizomatous herb found in freshwater marshes, swamps, ponds, and ditches from 0 to 2,200 feet. Known from the Klamath Ranges, north and south coasts, Cascade Range foothills, and Central Valley. Blooms May through October, and sometimes into November.	**Moderate.** The YBEL Toe Drain Canal provides habitat for this species.

TABLE 3.4-1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES IN THE PROJECT AREA

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Suisun Marsh aster *Symphyotrichum lentum*	--/--/ 1B.2	Perennial rhizomatous herb found in freshwater or brackish marshes and swamps from 0 to 10 feet. Known from the Sacramento Valley, Bay Area, and central coast. Blooms from May to November, and sometimes as early as April.	**Moderate.** The YBEL Toe Drain Canal provides habitat for this species. CNDDB records are documented within 5 miles of the project area.
Woolly rose-mallow *Hibiscus lasiocarpos* ssp. *occidentalis*	--/--/ 1B.2	Perennial rhizomatous herb found in freshwater marshes and swamps, often in riprap on the sides of levees, from 0 to 400 feet. Known from the Central Valley and Cascade Range foothills. Blooms June through September.	**Moderate.** The YBEL Toe Drain Canal provides habitat for this species. CNDDB records are documented within 5 miles of the project area.

NOTES:
Delta = Sacramento–San Joaquin Delta; DPS = distinct population segment; ESU = evolutionarily significant unit

STATUS CODES:

Federal:
FE = federal endangered
FEET = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting
FD = delisted
EFH = essential fish habitat
SC = species of concern

California:
CE = State endangered
CT = State threatened
CR = State rare
CSC = California species of special concern
CCT = State threatened candidate
CFP = California fully protected

Critical Habitat

Critical habitat is defined in Section 3(5)A of the Federal Endangered Species Act as the specific portions of the geographic area occupied by the species in which physical or biological features essential to the conservation of the species are found and that may require special management considerations or protection. The project area occurs within a geographical polygon designated by the USFWS as critical habitat for Delta smelt. However, the potential for Delta smelt to occur in the project area is considered unlikely as the YBEL and Toe Drain Canal are outside the distribution range for Delta smelt. Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. Adverse effects on vegetation and wildlife were considered significant if a proposed alternative would result in any of the following:

a) Have a substantial loss of native vegetation of native vegetation communities.

b) 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 CDFW or the USFWS?

c) Have an adverse effect on a species' designated critical habitat.

d) 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 CDFW or the USFWS?

e) 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?

f) 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?

g) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

h) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on biological resources in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on biological resources were previously evaluated and addressed for Segments AA and AE. However, under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and therefore there would not be construction-related effects on biological resources in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to biological resources from continued O&M activities would be less than significant.

Proposed Action

The proposed action would consist of structural modifications to the levee to address seepage, levee stability, erosion, and overtopping concerns. Levee bank construction would involve the use of heavy equipment resulting in approximately 15 acres of ground disturbance, which could result in potentially adverse effects on biological resources including special-status species. Construction activities from

runoff of exposed soils and mobilization of silt and sediments leading to increased conditions of turbidity in waterways during bank protection construction activities could directly and indirectly affect natural communities, waters of the U.S., and special-status species utilizing the waterways.

The proposed action would temporarily result in impacts on approximately 15 acres of developed areas and ruderal grassland. **Table 3.4-2** summarizes the habitat impacts as a result of the proposed action. While neither habitat is considered native, implementation of **Mitigation Measure BIO-1** would reduce adverse effects on impacted habitat to **less than significant**.

TABLE 3.4-2
HABITAT IMPACTS

Habitat Type	Impact (Acreage)
Developed	6.93
Ruderal Grassland	7.79
Riparian	--
YBEL Toe Drain Canal	--
Total	**14.72**

The proposed action could impact the following special-status species.

Special-Status Fish

The YBEL Toe Drain Canal provides suitable habitat for special-status fish including California Central Valley DPS steelhead, Central Valley ESU spring-run chinook salmon, Green Sturgeon SDPS, longfin smelt, Sacramento perch, Sacramento River ESU winter-run Chinook salmon, and Sacramento splittail.

The 2015 GRR FEIS/EIR envisioned direct and indirect effects to special status fish from increased turbidity, physical disturbances, and loss of habitat for the overall project. Within the YBEL area however, since there is little waterside vegetation, it was determined that there would be minimal additional impacts to SRA habitat and the effects from vegetation removal to special status fish species would be less than significant.

Similarly, the proposed action would avoid direct impacts to the YBEL Toe Drain Canal. Construction activities could result in indirect impacts to fish habitat including increased erosion potential. Implementation of the **Mitigation Measure BIO-2a** would reduce potential indirect effects to special-status fish to **less than significant**.

Special-Status Reptiles

Giant Gartersnake

The YBEL Toe Drain Canal provides aquatic habitat, and the small mammal burrows within the ruderal grassland provide upland habitat for giant gartersnake.

The 2015 GRR FEIS/EIR anticipated that implementation would result in temporary habitat disturbance to waterways and adjacent upland habitat, as well as the permanent loss of aquatic and upland habitat throughout the study area. Losses in the YBEL study area were anticipated to be temporary and associated with installation of the cutoff walls. While the proposed action would similarly avoid direct impacts to the

YBEL Toe Drain Canal, impacts to giant gartersnake could occur through work associated with the ruderal grassland if any giant gartersnake are utilizing the small mammal burrows. Impacts to giant gartersnake may include injury or mortality of individuals due to crushing by equipment. As in the 2015 GRR FEIS/EIR, suitable upland habitat would be temporarily impacted during construction activities associated with the proposed action.

Although the Corps consulted with the USFWS under Section 7 of the Endangered Species Act for the 2015 GRR FEIS/EIR, the 2015 GRR FEIS/EIR did not specifically include the proposed action. The Corps is currently reinitiating consultation with the USFWS to assess effects to giant garter snake and develop avoidance and minimization measures to reduce adverse effects to the species. Implementation of the **Mitigation Measure BIO-2b** would reduce adverse effects on this species to **less than significant**.

Western Pond Turtle

The YBEL Toe Drain Canal provides aquatic habitat and the ruderal grassland provides upland habitat for western pond turtle. Consistent with the findings in the 2015 GRR FEIS/EIR, the proposed action would avoid impacts to the YBEL Toe Drain Canal. However, impacts could occur through work associated with the ruderal grassland if any western pond turtles are present. Impacts to western pond turtles may include injury or mortality of individuals due to crushing by equipment. Implementation of the **Mitigation Measure BIO-2c** would reduce adverse effects on this species to temporary and **less than significant**.

Special-Status and Common Migratory Birds

Nesting Birds and Raptors

Under the Migratory Bird Treaty Act (MBTA), migratory bird species and their nests and eggs are protected from injury or death. California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs.

The project area and vicinity provide potential nesting habitat for migratory birds and raptors including burrowing owl, purple martin, song sparrow ("Modesto" population), Swainson's hawk, and white-tailed kite.

The 2015 GRR FEIS/EIR anticipated impacts to nesting birds and raptors from riparian tree, shrub, and wetland vegetation removal, as well as upland vegetation clearing, grading, resulting in significant effects to these species by removing or causing abandonment of their active nests. Implementation of avoidance and minimization measures were expected to reduce these impacts; however, they were still considered significant.

While no trees are proposed for removal within the proposed action area, active nests could be adversely affected if present within the ruderal grassland or if exposed to a substantial increase in noise or human presence during project activities. The impact would be less than significant if construction activities occur during the non-breeding season (i.e., from September 16 through January 31). However, construction activities conducted during the breeding season between February 1 and September 15 could adversely affect active nests in the project vicinity. Implementation of the **Mitigation Measure BIO-2d through BIO-2f** would reduce adverse effects on nesting birds and raptors to temporary and **less than significant**.

Pallid Bat

Pallid bat has the potential to roost in the trees within the riparian habitat or under the bridge that spans over the project area. The 2015 GRR FEIS/EIR found that construction activities such as tree removal and trimming or construction noise could result in significant impacts on roosting pallid bats, including the destruction of active roosts, the loss of individuals, or roost failure and the disruption of the wildlife movement corridor. In addition, nighttime construction activities, if needed, could disturb bats emerging from nearby roosts resulting in the disruption of foraging activities. These effects could be considered significant if the subsequent population decline was large and affected the viability of the local populations of bats. However, for the current proposed action, no trees within the riparian habitat are proposed for removal and no bridge work is proposed. Further, project activities in the vicinity of the bridge are not expected to substantially increase noise or vibration beyond the cars driving along the highway above the bridge. Therefore, adverse effects on pallid bat would be temporary and **less than significant**.

Special-Status Plants

The YBEL Toe Drain Canal and surrounding riparian corridor provide suitable habitat for special-status plants including Mason's lilaeopsis, Sanford's arrowhead, Suisun Marsh aster, and woolly rose-mallow. Because the proposed action would avoid direct impacts to the YBEL Toe Drain Canal and surrounding riparian corridor, no impacts to special-status plants are anticipated. Consistent with findings in the 2015 GRR FEIS/EIR, there would be **no impact** to special-status plants.

Critical Habitats

The 2015 GRR FEIS/EIR anticipated adverse effects to delta smelt critical habitat, primarily driven by losses of riparian vegetation. While the project area occurs within designated critical habitat for delta smelt, the proposed action would avoid impacts to the YBEL Toe Drain Canal. Therefore, there would be **no impact** on critical habitat for delta smelt.

Sensitive Natural Communities and Waters of the U.S./State

The YBEL Toe Drain Canal and the surrounding riparian habitat are considered sensitive natural communities by the CDFW as well as potentially jurisdictional waters of the U.S. It was anticipated that up to 2.5 acres of impacts to wetlands and 2 acres of impacts to riparian habitat could be affected due to installation of cutoff walls in the 2015 GRR FEIS/EIR within the YBEL area. Because the levee slopes would have been reseeded with native grasses, wildlife was expected to return to the area after construction, impacts were considered less than significant for the YBEL reach of the project as analyzed int eh 2015 GRR FEIS/EIR. As designed, the proposed action would not result in any direct impacts the YBEL Toe Drain Canal. However, construction could result in indirect impacts to these communities through increased erosion potential. Implementation of the **Mitigation Measure BIO-3 and -4** would reduce potential indirect effects to sensitive natural communities and federally protected waterways to temporary and **less than significant**.

Wildlife Corridors

The YBEL Toe Drain Canal also provides for the movement of resident and migratory fish. In addition, the riparian corridor surrounding the canal provides a wildlife migration corridor for a variety of common and special-status species. Consistent with findings in the 2015 GRR FEIS/EIR, as designed, the proposed

action would avoid these habitats. While some local disturbance would occur in the vicinity of these habitat types as a result of project construction, these activities would be limited to a small area on a temporary basis. Construction activities are not expected to permanently interfere with any movement corridors or the movement of any wildlife or native resident or migratory fish species through the area. Therefore, impacts would be temporary and **less than significant**.

Local, Regional, or State Habitat Conservation Plans

The 2015 GRR FEIS/EIR found that implementation of the project could result in significant effects due to removal or harming of heritage trees as a result of construction activities associated which conflicts with the City's tree ordinance. It was expected that implementation of mitigation measures would reduce this effect to less-than significant levels. Conversely, the proposed action would not conflict with any local policies or ordinances protecting biological resources including a tree preservation policy or ordinance. Nor is the proposed action is located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact**.

3.4.2 Mitigation

Mitigation Measure BIO-1: Native Habitat

Any ruderal grassland temporarily impacted by construction would be restored by reseeding the affected area with native grasses and forbs following construction.

Mitigation Measure BIO-2a: Special-Status Species - Special-Status Fish

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to special-status fish.

Mitigation Measure BIO-2b: Special-Status Species - Giant Gartersnake

In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to minimize potential effects on giant gartersnake. These measures are based on USFWS guidelines for restoration and standard avoidance measures included as appendices in the USFWS Programmatic Consultation with the USACE (1997).

- Unless approved otherwise by USFWS, construction will be initiated only during the giant gartersnakes' active period (May 1–October 1, when they are able to move away from disturbance).
- Construction personnel will participate in a USFWS-approved worker environmental awareness program.
- A giant gartersnake survey will be conducted 24 hours prior to construction in potential habitat. Should there be any interruption in work for greater than two weeks, a biologist would survey the project area again no later than 24 hours prior to the restart of work.
- Giant gartersnakes encountered during construction activities will be allowed to move away from construction activities on their own.
- Movement of heavy equipment to and from the construction site will be restricted to established roadways. Stockpiling of construction materials will be restricted to designated

staging areas, which will be located more than 200 feet away from giant gartersnake aquatic habitat.

- Since construction will occur within 200 feet of suitable aquatic habitat, wildlife exclusion fencing will be installed along the perimeter of the construction footprint as follows; north to south along the western boundary, parallel to the YBEL Toe Drain Canal; and from the western boundary fencing eastward to the base of the riprap. Similarly, wildlife fencing will be installed around any staging areas within 200-feet of the YBEL Toe Drain Canal. A biological monitor will be present during the installation of the fencing.

Mitigation Measure BIO-2c: Special-Status Species - Western Pond Turtle

In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to reduce potential effects on western pond turtle:

- Construction personnel will participate in a worker environmental awareness program (concurrently with the training identified for giant gartersnake).
- A preconstruction survey will be conducted for western pond turtle 24 hours prior to the start of construction (concurrently with the survey identified for giant gartersnake).
- If any western pond turtles are observed during construction in the immediate project area, the biologist will relocate the individual(s) at least 200 feet up- or downstream of the project area to similar habitat within or adjacent to the YBEL Toe Drain Canal, if feasible. If the western pond turtles cannot be captured, no work will occur in the immediate vicinity of the western pond turtle until the biologist confirms that the western pond turtle has left the immediate vicinity and would not be harmed by construction activities. If the western pond turtle does not move out of the immediate project area in a reasonable time and cannot be easily moved at the biologist's discretion CDFW may be consulted to determine the best course of action to continue construction activities associated with the proposed action.
- The wildlife exclusion fencing identified for giant gartersnake will ensure that no western pond turtles enter the construction footprint.

Mitigation Measure BIO-2d: Special-Status Species - Burrowing Owl

The following measures would be implemented to reduce the potential effects on burrowing owl:

- Pre-construction surveys for burrowing owls will be conducted by a qualified biologist within 30 days prior to the start of work activities at the project area. If construction activities are delayed for more than 30 days after the initial preconstruction survey, then a new preconstruction survey will be conducted. Surveys will be conducted in accordance with the following methods, as described within the Staff Report on Burrowing Owl Mitigation (CDFW, 2012).
- If burrowing owls are discovered in the project area vicinity during the preconstruction surveys or during construction, the biologist will be notified immediately. Occupied burrows will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- Occupied burrows during the nesting season will be avoided by establishment of a no-work buffer of 250-foot around the occupied/active burrow. Where maintenance of a 250-foot no-work buffer zone is not practical, coordination with CDFW will be conducted to determine

appropriate avoidance measures. Burrows occupied during the breeding season (February 1 to August 31) will be closely monitored by the biologist until the young fledge/leave the nest. The biologist will have the authority to stop work if it is determined that construction related activities are disturbing the owls.

- If approved by CDFW, the biologist may undertake passive relocation techniques by installing one-way doors in active and suitable burrows (that currently do not support eggs or juveniles). This would allow burrowing owls to escape but not re-enter. Owls should be excluded from the immediate impact zone and within a 160-foot buffer zone by having one-way doors placed over the entrance to prevent owls from inhabiting those burrows.

Mitigation Measure BIO-2e: Special-Status Species - Swainson's Hawk

The following measures would be implemented to reduce the potential effects to Swainson's hawk:

- If construction activities are anticipated to commence during the Swainson's hawk nesting season (March 1 to September 15), a qualified biologist will conduct a minimum of two preconstruction surveys during the recommended survey periods, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk TAC 2000). All potential nest trees within 0.25 miles of the proposed action footprint will be visually examined for potential Swainson's hawk nests, as accessible.
- If active Swainson's hawk nests are found within 0.25 miles of construction activities, a survey report will be submitted to the CDFW and the CNDDB, and an avoidance and minimization plan will be developed for approval by the CDFW prior to the start of construction. The avoidance plan will identify measures to minimize impacts to the active Swainson's hawk nest depending on the exact location of the nest. These measures may include, but are not limited to:
    - Establishing a buffer zone and work schedule to avoid impacting the nest during critical periods. If possible, no work will occur within 600 feet of the nest while it is in active use. If work will occur within 600 feet of the nest, then construction will be monitored by a qualified biologist to ensure the nest is not disturbed and that the that no work occurs within 150 feet of the nest during incubation or within ten days after hatching;
    - Having a biological monitor conduct regular monitoring of the nest during construction activities; and
    - Allowing the biologist to halt construction activities until the CDFW is consulted if the biologist determines that construction activities are disturbing the nest.

Mitigation Measure BIO-2f: Special-Status Species - Nesting Birds and Raptors (Excluding Swainson's Hawk)

The following measures would be implemented to reduce the potential effects to nesting birds and raptors:

- For any construction activities that will occur between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting birds and raptors within 7 days prior to commencement of construction activities. The survey area will include a 500-foot buffer around the construction area, where feasible. If no active nests are observed, no additional measures are required unless construction halts for 7 days. A subsequent preconstruction survey would be required within 7 days prior to re-commencement of construction activities.

- If active nests are found during the preconstruction survey, the applicant will implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone, as approved by CDFW, around the active nest. Measures will include, at minimum:
    - Establishing a 500-foot no-work buffer around active raptor nests (excluding Swainson's hawk nests) and a 100-foot no-work buffer around active migratory bird nests, if feasible. If infeasible, the biologist may determine that a reduced buffer is acceptable based on several factors including the sensitivity of the species nesting, the construction activities proposed within the buffer area, and the proximity of the construction activities to the nest.
    - If the biologist determines that a reduced buffer acceptable, the active nest(s) will be monitored by a qualified biologist during all construction activities occurring between the reduced buffer area and the originally established buffer area. If, in the professional opinion of the monitor, the project would impact the nest, the biologist will immediately inform the construction manager. The construction manager will stop construction activities occurring between the reduced buffer area and the originally established buffer area until the biologist determines that normal nesting activities have recommenced or when the biologist confirms that the nest is no longer active.

Mitigation Measure BIO-3: Sensitive Natural Communities

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to sensitive natural communities.

Mitigation Measure BIO-4: Federally Protected Waterways

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to federally listed waterways.

3.5 Cultural Resources

This section evaluates the effects of the proposed alternatives on the cultural resources in the project area. This section is based on the cultural resource analysis completed for the project (GEI, 2021a and 2021b).

3.5.1 Existing Conditions

Area of Potential Effects

As defined in the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800.16[d]), the Area of Potential Effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties are present. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

The APE for the project includes all proposed construction activities and locations, including construction staging and equipment laydown areas, levee degrade activity, construction of a subgrade drainage system, and access roads. The vertical extent of the APE is variable. The APE is situated almost entirely on the landside of levees and on the levees themselves. Access roads are either graveled levee roads or paved roads including West Capitol Avenue and Enterprise Boulevard. Staging areas are located in open lots or an open field, but all are on landscapes that have been heavily modified or constructed in the last 100 years. As shown in Figure 2-1, potential staging and borrow areas are on West Capitol Avenue and

adjacent to the Sacramento Deep Water Ship Channel that have been extensively modified/constructed since 1948 according to the 1948 USGS 7.5-minute Sacramento West quadrangle. The APE includes all areas where project components would occur.

Identification of Cultural Resources

Records Search

Review of archival documents at the California Historical Resources Information System (CHRIS) identified one resource, P-34-005225 (Sacramento River Tribal Cultural Landscape), within 0.5 mile of the APE. No pre-contact Native American archaeological resources or historic-era archaeological resources have been previously recorded in the APE or within 0.5 mile.

Geoarchaeological Sensitivity Study

The geoarchaeological sensitivity study indicates that approximately 56 percent of the APE is composed of landforms with high archaeological sensitivity (i.e., high potential for deeply buried cultural resources). All of the landforms and associated soil mapping units with high sensitivity are alluvial in origin and are largely late Holocene in age. The remaining 44 percent of the APE is characterized by mapping units with low sensitivity because they are artificial and or disturbed landforms. This includes land created by filling and reclamation, as well as channels and sloughs that were likely excavated during levee construction.

Levees themselves may contain archaeological materials that are out of context but derived from adjacent ditches/sloughs or imported from elsewhere and may also bury in situ archaeological sites. Flood basins like the current APE have probably been seasonally inundated during at least the late Holocene and are unlikely locations for long-term habitation sites, though short term resource procurement and processing locations may be present, specifically in higher elevations in marshland settings. Historic maps indicate that the entire APE was mapped as marshland with no topographic relief indicated. In addition, previous subsurface investigations of similar deposits immediately north of the APE encountered several meters of Holocene alluvial and flood basin deposits; however, no archaeological sites were identified. Based on these factors, the archaeological sensitivity of the APE is considered low.

GEI archaeologists conducted an archaeological pedestrian survey of all portions of the APE on September 29 to October 1, 2020. Tribal monitors from the Yocha Dehe Wintun Nation were also present. The surveys were conducted to intensive standards (pedestrian transects spaced no more than 15 meters apart).

No pre-contact Native American or historic-era archaeological resources were identified during the survey effort.

Two historic-era built environment resources were recorded: segments the West Sacramento Unit 2 North Levee and the Deep Water Ship Channel (DWSC) Navigation Levee.

Evaluation of Cultural Resources

West Sacramento Unit 2 North Levee

Nearly the entire length of the West Sacramento Unit 2 North Levee is located in the APE. The levee unit forms the eastern border of the Yolo Bypass. It extends from just south of the former Southern Pacific

Railroad alignment where the railroad tracks meet Lovdal Unit 2 Levee (which is outside the APE) to a point nearly 2.5 miles further south where it meets with the DWSC West Levee and the DWSC. The West Sacramento Unit 2 North Levee is located in Reclamation District (RD) 900 and the flood source for the levee is the Yolo Bypass. The levee originally dates to 1916, with improvements and expansions occurring in 1934 and again in the 1960s.

At the time of survey, the slopes of the earthen levee featured some riprap and were mostly covered with grasses and weeds. A scattering of bushes and trees was also evident. The average height of the levee is 24 feet and the crown is approximately 20 to 30 feet wide and is topped with gravel. Its average height is 24 feet. A channel known as the Toe Drain Canal extends along the west side of the levee just south of the Southern Pacific railroad tracks. It travels adjacent to the levee and continues south to the DWSC near Prospect Slough and Liberty Island. The Toe Drain represents the primary water drainage for the Yolo Bypass, emptying into the DWSC just below Liberty Island.

The West Sacramento Unit 2 North Levee does not appear to meet National Register of Historic Places (National Register) eligibility requirements as an individual resource because on its own merit it does not appear to meet the significance requirements of Criteria A-D. The Toe Drain Canal, while associated with the West Sacramento Unit 2 North Levee, does not contribute to the levee's significance. However, the West Sacramento Unit 2 North Levee segment does appear to meet National Register Criterion A as a contributor to a larger district within the context of flood management and its association with the Sacramento River Flood Control Project and the Yolo Bypass. It retains sufficient integrity to convey that significance. The resource is therefore considered a historic property for the purposes of the NHPA.

DWSC West Levee

A portion of the DWSC Navigation Levee is located in the APE. The overall length of the levee (referred to in the National Levee Database as Segment ID no. 5204000895) is approximately 19 miles and its average height is 18 feet. The segment in the APE extends approximately one-mile south from the West Sacramento, Unit 2 North Levee paralleling the west side of the DWSC and continues south.

At the time of survey, slopes of this earthen levee are covered by low-growth vegetation including grasses, weeds, bushes, and some riprap. The landside slope appears more machine-groomed. The levee crown ranges from 10 to 50 feet wide and is surfaced with gravel and serves as an access road. The Toe Drain Canal parallels the west side of the levee all the way to its end near Liberty Island. The levee is within RD 900's sphere of influence and in the Yolo Bypass. The DWSC is the flood source and body of water the levee was designed to protect.

Prior to its construction, local interests constructed a levee in the vicinity of the present-day DWSC West Levee. The original levee, constructed circa 1916, was essentially an extension of the West Sacramento Unit 2 North Levee. The DWSC West Levee was built between July 1949 and October 1964 as plans for the DWSC were underway. General maintenance and modifications have been made to the levee since its construction.

The DWSC West Levee segment does not appear to meet National Register eligibility requirements as an individual resource because on its own merit it does not appear to meet the significance requirements of Criteria A-D. However, the DWSC West Levee segment does appear to meet National Register Criterion A as a contributor to a larger district within the context of flood management and its association with the

DWSC and regional flood management. It retains sufficient integrity to convey that significance. The resource is therefore considered a historic property for the purposes of the NHPA.

3.5.2 Environmental Effects

Significance Criteria

Adverse effects on cultural resources that are listed or eligible for listing in the National Register (i.e., historic properties) are considered to be significant. Under Section 106 of the NHPA, effects to historic properties are considered to be adverse if they:

- Alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource for the National Register so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished.
- Cause a substantial adverse change in the significance of a historic property through the physical demolition, destruction, relocation, or alteration of the historic property of its immediate surroundings such that the significance of the resource would be materially impaired.

Under CEQA, impacts to cultural resources are considered to be significant if they:

- Cause a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the California Register or a local register of historic resources;
- Cause a substantial adverse change in the significance of a unique archaeological resource;
- Cause the disturbance of human remains, including those interred outside of dedicated cemeteries.

Methodology

For those resources recommended to be eligible for listing in the National Register, analysis of the effects or likely effects was based on evaluation of the changes to the existing historic properties that would result from implementing the structural modifications of the project. In making a determination of the effects to historic properties, consideration was given to:

- specific changes in the characteristics of historic properties in the APE;
- the temporary or permanent nature of changes to historic properties and the visual area around the historic properties; and
- the existing aspects of integrity that are retained by historic properties in the APE and how those aspects relate to the specific significant characteristics that make a historic property eligible for listing in the National Register.

An assessment of effects for the purposes of this EA/IS and a determination of effect under Section 106 of the NHPA is made only for those resources determined to be eligible for listing in the National Register. Resources that have been determined to be eligible for listing in the National Register are referred to as historic properties. Resources that have been found or recommended to be ineligible for listing in the National Register are not considered further in this EA/IS.

Mitigation identified in the 2015 West Sacramento Project GRR Final EIS/EIR for potential impacts to cultural resources included implementing stipulations of the West Sacramento Project GRR Programmatic Agreement (GRR PA). In accordance with the GRR PA, confirmation of eligibility and

findings of effect and appropriate mitigation would be made through consultation between USACE, the State Historic Preservation Officer (SHPO) and other Consulting Parties to the GRR PA as appropriate prior to initiating construction of the project.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on cultural resources in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on cultural resources were previously evaluated and addressed for Segments AA and AE. However, under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and therefore there would not be construction-related effects on cultural resources in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to cultural resources from continued O&M activities would be less than significant.

Proposed Action

Built-Environment Historic Properties

Two historic-era built environment resources were identified and evaluated for historical significance: segments the West Sacramento Unit 2 North Levee and the DWSC Navigation Levee. Both resources have been evaluated and recommended to be eligible for the National Register as contributors to a larger district within the context of flood management and association with the Sacramento River Flood Control Project and the Yolo Bypass. The resources are therefore considered to be historic properties for the purposes of this analysis.

When originally constructed, the levees were designed to be maintained and strengthened, which was the purpose of the Sacramento River Flood Control Project. The proposed modifications would not alter the character-defining features or the integrity of the levees, which include their overall design and form. In

addition, the materials, workmanship, and general physical characteristics that convey the significance of the levees would remain in place. The levees would continue to serve their intended purpose within the context of flood management. Therefore, the project would have no adverse effect on the West Sacramento Unit 2 North Levee and the DWSC Navigation Levee. No mitigation is required.

Previously Undiscovered Cultural Resources

The cultural resources analysis and survey did not identify archaeological resources in the APE. Despite the negative survey results, there remains the possibility that previously unknown cultural materials could be discovered during project construction and inadvertently damaged. This could be a potentially significant effect. Implementing Mitigation Measures CR-1 and CR-2 would reduce the potential for a significant effect resulting from inadvertent damage to or destruction of previously undocumented cultural materials to a less-than-significant level, because these measures would require that if cultural materials are discovered prior to or during project-related construction activities, appropriate treatment and protection measures would be implemented.

Human Remains

There are no known human remains discoveries in the APE and the vicinity. However, Native American human remains could be encountered during earthmoving activities associated with the project. This would be a potentially significant effect. Implementing Mitigation Measure CR-3 would reduce the potential for a significant effect resulting from inadvertent damage to or destruction of previously undocumented human remains to a less-than-significant level because it requires that if human remains are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, in consultation with the Native American Heritage Commission, the Most Likely Descendant (MLD), and WSAFCA, in compliance with California Health and Safety Code Section 7050 and PRC Section 5097.9.

3.5.3 Mitigation

Mitigation Measure CR-1: Cultural Resources Awareness Training.

WSAFCA shall provide a cultural resources and tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, as well as culturally affiliated Native American tribes. WSAFCA may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The training shall be conducted before any project-related construction activities begin in the APE and shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating federal and state laws and regulations.

The training shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located in the APE and shall outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The training shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

Mitigation Measure CR-2: Inadvertent Discovery of Cultural Materials.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains); tribal cultural resources; sacred sites; or landscapes is made at any time during project-related construction activities, USACE in consultation with WSAFCA and other interested parties, in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and culturally affiliated Native American tribes, shall develop appropriate protection and avoidance measures where feasible. These procedures shall be developed in accordance with the GRR PA and Historic Properties Management Plan (HPMP), which specifies procedures for post-review discoveries. Additional measures, such as development of a Historic Properties Treatment Plan prepared in accordance with the GRR PA and Historic Properties Management Plan (HPMP) may be necessary, if avoidance or protection is not possible.

Mitigation Measure CR-3: Inadvertent Discovery of Human Remains.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, WSAFCA shall immediately halt potentially damaging excavation in the area of the burial and notify the County coroner and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, they must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated MLD, in consultation with WSAFCA, shall determine the ultimate treatment and disposition of the remains.

Upon the discovery of Native American human remains, USACE in coordination with WSAFCA, shall require that all construction work must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD shall have 48 hours to complete a site inspection and make recommendations to the WSAFCA after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that WSAFCA shall employ:

- Record the site with the NAHC and the appropriate California Historical Resources Information System center.
- In consultation with the coroner and MLD proper recordation of the discovery will be properly documented and filed with the County.

If agreed to by the MLD, WSAFCA or WSAFCA's authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, WSAFCA or WSAFCA's authorized representative may also reinter the remains in a location not subject to further disturbance. If WSAFCA rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to

WSAFCA, WSAFCA shall implement mitigation for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

3.6 Tribal Cultural Resources

This section evaluates the effects of the proposed alternatives on tribal cultural resources in the project area. This evaluation is based on the changes in character and quality of views as compared to existing conditions. This section is based, in part, on the cultural resource analysis completed for the project (GEI, 2021a).

3.6.1 Existing Conditions

Native American Consultation and Coordination

USACE is the lead federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and is responsible for conducting all required consultations with Native American tribes and interested parties. The consultations specifically related to the YBEL project are a continuation of that ongoing process, and USACE is continuing to consult with interested tribes in accordance with standard procedures implementing Section 106 (36 CFR Part 800).

In support of the Section 106 tribal consultation conducted by USACE, GEI, USACE's cultural and archeological resources contractor contacted interested tribes to inform them of project updates and activities. GEI sent a letter to interested Native American tribes identified by USACE via email on August 21, 2020. The letter stated that the tribe had been identified by USACE as an interested party and that GEI would coordinate with the tribe concerning pedestrian surveys, resource recording, and any other resources of tribal significance. The letter also gave a brief project description and a summary of cultural resources investigations to date. Finally, the letter indicated the dates that GEI would be conducting a pedestrian survey of the APE.

The letters were sent to the following tribes and individuals:

- United Auburn Indian Community (UAIC); Melodi McAdams, Repatriation and Research Specialist; Matthew Moore, Tribal Historic Preservation Officer; Travis Young, Lead Tribal Monitor,
- Wilton Rancheria (Wilton): Mariah Mayberry; Herbert Griffin, Director Cultural Resources Department,
- Yocha Dehe Wintun Nation (YDWN): Anthony Roberts, Chairperson; Laverne Bill, Cultural Resources Manager.

Responses to the initial letters were:

- UAIC responded on August 24, 2020 in an email stating that since YDWN was actively involved in the Project UAIC were not anticipating active involvement at present, but wished to be kept informed.
- Wilton did not respond to the initial letter that was sent.
- YDWN responded on September 3, 2020 via letter. The letter stated that YDWN had concerns the project may impact know cultural resources; the resources were not identified in the letter and there has been no further mention of potentially impacted resources in subsequent communications. The letter further stated that the tribe would like a meeting to learn the timeline of environmental documents.

Subsequent emails were sent to the above tribes and individuals on September 18, 2020 inviting the tribes to send a representative during the cultural resources pedestrian survey if they wished. The initial emails contained the start date of the survey, as well as the invitation to participate. Responses were as follows:

- UAIC did not respond to the email inviting them to send a representative for the pedestrian survey.
- Wilton responded on September 22, 2020 stating that they were interested in sending a tribal monitor to participate in the survey. A follow up email with additional information was sent on September 23, 2020. No follow up to the last email was received, however, and Wilton did not send a tribal monitor during the pedestrian survey.
- YDWN responded on September 24, 2020. The response was sent by Alex Cedano, a tribal monitor, requesting additional meeting location information. Mr. Cedano was present for the cultural resources pedestrian survey.

GEI also sent a request to the Native American Heritage Commission (NAHC) for a search of their Sacred Lands File. The NAHC responded on August 20, 2020. Their response letter indicated that their search was positive, however no specific resources were noted.

3.6.2 Environmental Effects

Significance Criteria

CEQA requires the lead agency to consider the effects of a project on tribal cultural resources. As defined in PRC Section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources. Specifically, CEQA requires a determination of whether the project would cause a substantial adverse change in the significance of a tribal cultural resource that is:

- 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
- 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on tribal cultural resources in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on tribal cultural resources were previously evaluated and addressed for Segments AA and AE. However, under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on tribal cultural resources in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to tribal cultural resources from continued O&M activities would be less than significant.

Proposed Action

Previously Undiscovered Tribal Cultural Resources

The cultural resources analysis and survey, as well as consultation with Native American tribes, did not identify tribal cultural resources in the APE. Despite the negative results, there remains the possibility that previously unknown cultural resources, that could be considered tribal cultural resources, could be discovered during project-related construction. Impacts to tribal cultural resources would be a potentially significant effect. Implementing Mitigation Measures CR-1, CR-2, and CR-3 (see Section 3.5) would reduce the potential for a significant effect resulting from inadvertent damage to or destruction of previously undocumented tribal cultural resources to a less-than-significant level. These measures would require that if cultural materials are discovered prior to or during project-related construction activities, appropriate treatment and protection measures would be implemented.

In addition, if a tribal cultural resource were discovered during project-related construction, implementation of Mitigation Measure TCR-1 would ensure that resource is avoided and/or appropriate treatment and protection measures are implemented in consultation with the Native American tribes.

3.6.3 Mitigation

Mitigation Measure TCR-1: Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects.

If tribal cultural resources are identified in the APE prior to or during construction, the following performance standards shall be met before proceeding with construction and associated activities that may result in damage to or destruction of tribal cultural resources:

Each identified tribal cultural resource will be evaluated for California Register eligibility through application of established eligibility criteria (CCR 15064.636), in consultation with interested Native American tribes.

If a tribal cultural resource is determined to be eligible for listing on the California, USACE, in consultation with WSAFCA, will avoid damaging the resource in accordance with PRC Section 21084.3, if feasible. If WSAFCA determines that the project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation steps capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource. These measures may be considered to avoid or minimize significant impacts and constitute the standard by which an impact specifically address inadvertent discovery of human remains may be reached:

i. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

ii. Treat the resource with culturally appropriate dignity, taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:

    a. Protect the cultural character and integrity of the resource.

    b. Protect the traditional use of the resource.

    c. Protect the confidentiality of the resource.

    d. Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.

    e. Protect the resource.

3.7 Geology and Soils

This section evaluates the effects of the alternatives on geology and soils in the project area.

3.7.1 Existing Conditions

The project site is located within the Great Valley Geomorphic Province, a depositional basin, which is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, and the Klamath Mountains and Cascade Range to the north (Blackburn, 2020).

Local Geology

Geologic mapping published by the California Geological Survey (CGS) indicates the surficial geology at the project site is comprised of Holocene-age deposits identified as Latest Holocene stream channel deposits and Holocene basin deposits (Gutierrez, 2011).

Mapping by Gutierrez does not indicate that there are Pleistocene-age deposits mapped at the surface. However, the Geotechnical Data Report prepared by Blackburn Consulting indicates there are Pleistocene-age deposits present at the surface along Segment AA. In areas where Early Holocene deposits are mapped at the surface, later Holocene and Pleistocene-age deposits are expected to be present at depth beneath the project site (Gutierrez, 2011; Blackburn, 2020); including the fossiliferous, Pleistocene-age Riverbank Formation, which outcrops approximately 3 to 4 miles west of the project site (Gutierrez, 2011).

Faults and Seismicity

The project site is not within a known Earthquake Fault Zone (EFZ) as delineated on an Earthquake Zones of Required Investigation Map (EZRIM) published by the California Geological Survey (CGS) as required by the Alquist-Priolo Earthquake Fault Zoning Act. The closest EFZ is the Green Valley Fault Zone (CGS, 2020a), approximately 36 miles southwest of the project site. Also in proximity to the project site is the Huntington Creek Fault (part of the Huntington Creek-Berryessa Fault System), approximately 42 miles northwest of the project site; this fault is also classified as an EFZ (CGS, 2020b).

There are no other known Holocene-active faults (surface rupture within the last 11,700 years) that transect the project site. While there are no faults that cross the project site, there are Holocene-active and Pre-Holocene faults (last surface rupture prior to 11,700 years ago) in the vicinity of the project site (CGS, 2010). The closest fault to the project site is the Pre-Holocene Midland Fault, approximately 16 miles to the southwest of the project site. The Geotechnical Data Report prepared by Blackburn Consulting identifies the Huntington Creek-Berryessa Fault System as the most likely source of strong seismic groundshaking at the project site.

Soils

As stated in Section 2.2, *Proposed Action – West Sacramento Project Yolo Bypass East Levee Reach*, the proposed action would include structural modifications to the levee to address seepage, levee stability, erosion, and overtopping concerns. According to the Geotechnical Data Report, the soils underlying Segments AA and AD have the potential to become unstable (Blackburn, 2020), and it is the purpose of the proposed action to address these unstable soils.

The geotechnical investigation identified a possible liquefiable soil layer approximately 50 feet below the ground surface, but concluded that this layer would not trigger post-earthquake instability at the project site (Blackburn, 2020). The report further states that levee settlement due to slope failure is not anticipated (Blackburn, 2020).

According to Natural Resources Conservation Service (NRCS) Web Soil Survey data, the soils underlying the project site have a moderate expansion potential (NRCS, 2020). However, the geotechnical investigation performed by Blackburn Consulting does not specifically identify any areas within the project site where expansive soils are expected (Blackburn, 2020).

Paleontological Resources

The online collections database of the University of California Museum of Paleontology (UCMP) was searched for fossil localities from the geologic units mapped within the project site, as well as throughout the county. Data provided through the UCMP's online database include taxonomic identification, locality number and name, age, and county, and sometimes geologic formation. Precise locality data are not provided; in some cases, however, the locality name can be used to further refine the general vicinity of the locality within the county.

In general Holocene-age deposits have a low-to-high paleontological potential, which increases with depth. The older Pleistocene-age deposits have a moderate-to-high potential. According to the search of the online collections database, there have been vertebrate fossils recovered from Pleistocene-age deposits within Yolo County (UCMP, 2020a), as well as from the older Capay, Modesto, Montezuma, Red Bluff,

and Tehama formations (UCMP, 2020a). Additionally, while not recovered from Yolo County, the Riverbank Formation has produced vertebrate fossils that were recovered from Sacramento, Fresno, Madera, Merced, and Stanislaus counties (UCMP, 2020b).

3.7.2 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. A proposed alternative would result in a potentially significant impacts to geology, soils, seismicity, and paleontological resources, if implementation would result in any of the following:

- Direct or indirect cause of potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State geologist for the area or based on other substantial evidence of a known fault;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.
- Substantial soil erosion or the loss of topsoil;
- Being located on a geologic unit or soil that is unstable, or that would become unstable as a result of a project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Being located on expansive or corrosive soil, as defined in the California Building Code (2019), creating substantial direct or indirect risks to life or property;
- Having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or
- Direct or indirect destruction of a unique paleontological resource or site or unique geological feature.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on subsurface geological and soil resources in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on subsurface geological and soil resources were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on subsurface geological or soil resources in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to subsurface geological and soil resources from continued O&M activities would be less than significant.

Proposed Action

The proposed action is not within an EFZ, as delineated on the most recent EZRIM for the project area. As such, the proposed action would not result in an adverse effect and there would be no impact.

While the project site is not within an EFZ, proximity to Holocene-active and Pre-Holocene faults in the project area could result in strong seismic ground shaking at the project site. Strong seismic ground shaking can induce secondary seismic-related ground failures, such as landslides, liquefaction, and lateral spreading. Unstable soils at the project site can also contribute to the risks posed by seismic ground shaking and subsequent ground failures. However, as stated in Section 2.2, *Proposed Action – West Sacramento Project Yolo Bypass East Levee Reach*, the proposed action would include structural modifications to the levee to address seepage, levee stability, erosion, and overtopping concerns.

Blackburn Consulting performed the geotechnical analysis to address the geotechnical engineering aspects of the proposed action and to provide requirements and recommendations to inform the structural modifications and provide seismic design criteria. Adherence to the seismic design requirements and other recommendations included in the Geotechnical Data Report, as well as any future recommendations included in the geotechnical report to be completed at the 90 percent design phase, would prevent any adverse effects caused by seismic ground shaking and any secondary seismic-ground failures (i.e., liquefaction, landslide, lateral spreading, etc.). Therefore, this impact would be reduced to permanent and less than significant.

The proposed action would include ground-disturbing construction activities that could increase the risk of erosion or sediment transport. Total ground disturbance would be more than 1.0 acre, and construction would have the potential to result in soil erosion during excavation and grading. As such, the contractor would be required to comply with the Construction General Permit, described in **Appendix D**, *Compliance with Environmental Laws and Regulations*. The Construction General Permit requires

preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which requires applying specific best management practices (BMPs) to control run-on and runoff from construction work sites to avoid or minimize soil erosion. The BMPs would include but not be limited to physical barriers to prevent erosion and sedimentation; construction of sedimentation basins; limitations on work periods during storm events; and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Compliance with these independently enforceable existing requirements would reduce the potential impacts of the proposed action associated with soil erosion and loss of topsoil during construction. As such, the impact from the proposed action would be temporary and less than significant.

According to NRCS Web Soil Survey data, the soils underlying the project site have a moderate expansion potential. The geotechnical investigation performed by Blackburn Consulting does not specifically identify any expansive soils within the project site. Soil that is required to construct the seepage/stability berm and to modify the landside drainage ditch to a buried pipe within Segment AA, and soil required for levee fill for slope mitigation in Segment AD, would be required to undergo analysis before use. Because the proposed action would not involve exposing any infrastructure to the moderately expansive soils, there would be no adverse effect associated with expansive soils and there would be no impact. Additionally, any potential risk associated with expansive soils would be identified and remedied in the forthcoming 90 percent design geotechnical documents.

The proposed action would not include the use of septic tanks or alternative wastewater disposal systems. As such, the proposed action would not result in an adverse effect and there would be no impact.

The proposed action would include structural improvements to Segments AA and AD, such as installation of a stability berm, reconstruction of an existing maintenance road, installation of piping, construction of a pumping station, and other grading activities. Ground disturbance in the younger Holocene-age deposits has a low potential to uncover paleontological resources; however, disturbance of older Holocene and Pleistocene-age deposits, including the Riverbank Formation, has a moderate potential to uncover paleontological resources. This is due to the presence of vertebrate fossils within the Pleistocene-age deposits in Yolo County, as well as within the Riverbank Formation.

As the project site has been previously disturbed by past construction and earthmoving activities, it is unlikely that any construction activities associated with the proposed action would disturb or destroy any paleontological resources. Without more precise data regarding the maximum depth of ground disturbance it would not be prudent to assume that there would be no impact to paleontological resources, however unlikely. In the event that significant paleontological resources are encountered during ground disturbing activities, Mitigation Measure GEO-1 would be implemented to avoid adverse effects to paleontological resources and to reduce the impact to temporary and less than significant.

3.7.3 Mitigation

Mitigation Measure GEO-1

In the event of an unanticipated fossil discovery during construction, the severity of the impact would be reduced to a less-than-significant level with implementation of the following mitigation. Details of this mitigation include:

- Halting all earthwork or other types of ground disturbance within 100 feet of the find until a qualified paleontologist (meeting the standards of the Society of Vertebrate Paleontology [SVP]) can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site.
- If treatment and salvage is required, recommendations will be consistent with SVP guidelines (SVP, 2010) and currently accepted scientific practice. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds.

3.8 Greenhouse Gas Emissions

This section evaluates the effects of the alternatives on greenhouse gas (GHG) emissions in the proposed action area.

3.8.1 Existing Conditions

"Global warming" describes the increase in the average temperature of the Earth's near-surface air and oceans since the mid-20th Century. Since the 19th Century, increasing GHG concentrations resulting from human activity such as fossil fuel combustion, deforestation, and other activities are believed to be a major factor contributing to climate change. GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the Earth and is reflected back into space – a phenomenon sometimes referred to as the "greenhouse effect." Some GHGs naturally occur and are necessary for keeping the Earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected back into space, intensifying the natural GHG effect and resulting in the increase in global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. When concentrations of these gases exceed historical concentrations in the atmosphere, the greenhouse effect is intensified. CO_2 is the reference gas for climate change, as it is the GHG emitted in the highest volume. The effect that each of the GHGs have on global warming is the product of the mass of their emissions and their global warming potential (GWP). GWP indicates how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. For example, CH_4 and N_2O are substantially more potent GHGs than CO_2, with GWPs of approximately 30 and approximately 275 times that of CO_2, which has a GWP of 1 (U.S. EPA, 2020). In emissions inventories, GHG emissions are typically reported as metric tons of CO_2 equivalents (CO_2e).

Potential global warming impacts in California may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, increase in high ground-level ozone days, larger forest fires, and increased droughts in some parts of the state. Secondary effects may include the displacement of thousands of coastal businesses and residences, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Regulatory Setting

Federal

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has held that the United States Environmental Protection Agency (U.S. EPA) must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., twelve states and cities, including California, together with several environmental organizations sued to require the US EPA to regulate GHGs as pollutants under the CAA (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and the US EPA had the authority to regulate GHGs.

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA (U.S. EPA, 2016):

- ***Endangerment Finding:*** The current and projected concentrations of the six key GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- ***Cause or Contribute Finding:*** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the U.S. EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the U.S. EPA to develop "…mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…." The Reporting Rule applies to most entities that emit 25,000 metric tons of CO_2e or more per year. The project would not reach this threshold. Since 2010, facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the U.S. EPA to verify annual GHG emissions reports.

State

In California, the legal framework for GHG emission reduction has come about through an incremental set of Governors' Executive Orders, legislation, and regulations put in place since 2002. The major components of California's climate change initiative are identified below.

California Environmental Quality Act and Senate Bill 97

Under the California Environmental Quality Act (CEQA), lead agencies are required to disclose the reasonably foreseeable adverse physical environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute

to climate change. In turn, climate change has the potential to raise sea levels, alter rainfall and snowfall, affect habitat and create other adverse environmental effects.

Senate Bill 97. Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA Guidelines, as required by SB 97. These State CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective March 18, 2010.

State CEQA Guidelines. The State CEQA Guidelines are embodied in the California Code of Regulations (CCR), Public Resources Code, Division 13, starting with Section 21000. State CEQA Guidelines section 15064.4 specifically addresses the significance of GHG emissions, requiring a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. State CEQA Guidelines Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." The CEQA Guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (State CEQA Guidelines Section 15064(h)(3)). The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

The CEQA Guidelines also include the following direction on measures to mitigate GHG emissions, when such emissions are found to be significant:

> Consistent with Section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of GHG emissions. Measures to mitigate the significant effects of GHG emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
>
> (2) Reductions in GHG emissions resulting from a project through implementation of project features, project design, or other measures;
>
> (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's GHG emissions;
>
> (4) Measures that sequester GHG; and
>
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of GHG emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may

> also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of GHG emissions.[1]

Global Warming Solutions Act and the California Climate Change Scoping Plan

Assembly Bill 32. In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipated that the GHG reduction goals will be met, in part, through local government actions. CARB identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The AB 32 emissions reduction limit was achieved in 2017, 3 years prior to the 2020 goal.

Senate Bill 32 and Assembly Bill 197. Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amended HSC Division 25.5 and codifies the 2030 target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health. The law amended HSC Division 25.5 and established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, while AB 197 included provisions to ensure the benefits of State climate policies include disadvantaged communities.

Scoping Plan Provisions. Pursuant to AB 32, CARB adopted a *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals.[2] In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan relied on the requirements of SB 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions.

The Scoping Plan is required by AB 32 to be updated at least every 5 years. The *First Update to the Climate Change Scoping Plan* describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the State as it establishes a framework for achieving air quality and climate goals beyond the year 2020. On December 14, 2017, CARB approved the final version of California's *2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[3] The 2017 Scoping Plan Update

1 State CEQA Guidelines section 15126.4(a).

2 California Air Resources Board, 2008. *Climate Change Scoping Plan*. Adopted December 11, 2008, re-approved by CARB August 24, 2011. pp. ES-1 and 17.

3 California Air Resources Board, 2017. *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*, November 2017.

identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. The CARB determined that the target Statewide 2030 emissions limit is 260 million metric tons of CO_2e ($MMTCO_2e$), and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal represented by SB 32 and ensure achievement of the 2050 limit set forth by EO B-30-15.

Local

Yolo County General Plan

The Yolo County General Plan includes various goals and policies to address climate change and GHG impacts within the County (Yolo County, 2009). Many of these goals and policies deal with development projects and would not be applicable to the proposed action; however, the GHG-related Yolo County General Plan policies that would be applicable to the proposed action include:

> **Goal ED-5: Economic Sustainability.** Support sustainable economic development. Encourage local industry to adapt to the expected effects of climate change and minimize GHG and other emissions.
>
> > ***Policy ED-5.8.*** Promote the use of recycled materials and/or by-products of other businesses, to reduce the consumption of virgin raw materials.
>
> **Goal CO-8: Climate Change.** Reduce GHG emissions and plan for adaptation to the future consequences of global climate change.
>
> > ***Policy CO-8.2.*** Use the development review process to achieve measurable reduction in GHG emissions.

City of West Sacramento General Plan

The City of West Sacramento General Plan also includes goals within the Natural and Cultural Resources Element as well as the Safety Element to address climate change impacts from projects in the City. As is the case with the Yolo County General Plan, the majority of the City of West Sacramento General Plan goals are aimed at reducing emissions from development projects that would generate emissions during operations; therefore, many of these goals would not be applicable to the proposed action. The General Plan GHG goal that is applicable to the proposed action is (City of West Sacramento, 2016):

> **Goal S-4.** To alleviate the effects of climate change by reducing GHG emissions and adapting to expected climate change impacts.
>
> > ***S-4.5 State and Federal Action.*** The City shall support State and Federal actions to reduce GHG emissions.

Mayor's Commission on Climate Change – Achieving Carbon Zero in Sacramento and West Sacramento by 2045

The Mayor's Commission on Climate Change was published in June 2020 and includes recommendations to achieve carbon net zero emissions by 2045 in the cities of Sacramento and West Sacramento. The Mayor's Commission on Climate Change focused on three sectors including the built environment, mobility, and community health and resiliency. Many of the carbon-zero recommendations are related to

land use planning and development projects and would not be applicable to the proposed action. The only recommendation that would be applicable to the proposed action is (Local Government Commission, 2020):

> **Community Climate Resilience.** Identify climate vulnerabilities and adaptation strategies as part of the climate action plan or general plan updates by 2022. Develop and implement preparedness measures, with a priority focus initially on increasing the resilience of communities most vulnerable to climate-change impacts by investing in existing community assets and networks to increase community adaptive capacity.

3.8.2 Environmental Effects

Significance Criteria

A quantitative significance threshold for emissions of GHGs has not been established. However, the YSAQMD CEQA Guidelines state that it is still recommended to at least include a qualitative discussion of GHG s in air quality analyses for sizable projects. The alternative would result in a significant impact if it would:

- Generate(s) GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with and applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on GHG emissions in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on GHG emissions were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be GHG emissions effects from construction activities in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of

burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, GHG emissions associated with continued O&M activities would be less than significant.

Proposed Action

Methodology and Assumptions

Project-related GHG emissions would fall into two categories: short-term emissions due to construction, and long-term emissions due to operations. During project construction (short-term) the proposed action would generate GHG emissions from use of construction equipment and vehicle trips. Operational (long-term) GHG emissions associated with the existing YBEL would not be increased as a result of the proposed action.

GHG emissions associated with the proposed action were estimated for the construction phase using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Project-specific model inputs included project schedule, construction equipment specifications and haul-trip information. Where project-specific information was not available, CalEEMod defaults were used. Detailed modeling inputs are included in **Appendix A**.

GHG Emissions

During construction, the proposed action would result in temporary emissions of GHGs from use of construction equipment, worker vehicle trips, vendor trips, and haul truck trips. Construction emissions were amortized over the life of the project, assumed to be 30 years. Construction of the proposed action would result in emissions of approximately 34 MT CO_2e per year over the 30-year life of the project and these emissions as documented in Section 3.3 *Air Quality* are within the limits as determined by local/state/federal levels. Furthermore, the proposed action would not generate increased operational activity beyond the maintenance activities associated with the existing YBEL. Because the proposed action would not generate operational long-term emissions of GHGs, the proposed action would have a temporary and less than significant impact on climate change.

Consistency with Plans

The proposed action would not conflict with the applicable plans and policies adopted for the purpose of reducing emissions of GHGs. The proposed action would improve the flood protection in West Sacramento and protect the area if the frequency and magnitude of future flood events increase due to climate change. Therefore, the proposed action would be consistent with the goals of the Yolo County General Plan goals ED-5 and CO-8, as well as the City of West Sacramento General Plan Goal S-4, by improving infrastructure to adapt to climate change impacts. In addition, the proposed action would be consistent with the applicable recommendation included in the Mayor's Commission on Climate Change to increase community climate resilience.

3.8.3 Mitigation

The following mitigation measure **Mitigation Measure AQ-2**, which is also included in Section 3.3, *Air Quality,* would be implemented to further reduce GHG emissions associated with the project:

The proposed action would minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The USACE would provide clear signage that posts this requirement for workers at the entrances to the site.

3.9 Hazards and Hazardous Materials

This section evaluates the effects of the proposed alternatives on hazards and hazardous materials in the project area.

3.9.1 Existing Conditions

Definitions of Hazardous Materials

Definitions of terms used in the characterization of baseline conditions, regulatory framework, and impact analysis for hazards and hazardous materials are provided below.

- **Hazardous Material:** The term "hazardous material" has varying definitions depending on the regulatory programs. For the purposes of this EA/IS, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(n) defines hazardous material as: any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.
- **Hazardous Waste:** A "hazardous waste" is a waste that because of its quantity, concentration, or physical, chemical, or infectious characteristic, causes or significantly contributes to an increase in mortality or illness or poses substantial or potential threats to public health or the environment (42 United States Code [U.S.C.] 6903(5)). Hazardous wastes are further defined under the Resource Conservation and Recovery Act (RCRA) as substances exhibiting the characteristics of ignitability, reactivity, corrosivity, or toxicity. Chemical-specific concentrations used to define whether a material is a hazardous, designated, or nonhazardous waste include Total Threshold Limit Concentrations (TTLCs), Soluble Threshold Limit Concentrations (STLCs), and Toxic Characteristic Leaching Procedures (TCLPs), listed in California Code of Regulations (CCR) Title 22, Chapter 11, Article 3, Section 66261, and are used as waste acceptance criteria for landfills. Waste materials with chemical concentrations above TTLCs, STLCs, and TCLPs must be sent to Class I disposal facilities, may be sent to Class II disposal facilities depending on the waste material, and may not be sent to Class III disposal facilities.[4]

Potential Presence of Hazardous Materials in Soil or Groundwater

According to the State Water Resources Control Board's (SWRCB) GeoTracker database and the Department of Toxic Substances Control's (DTSC) EnviroStor database, there are five sites within one-eighth mile of proposed action components; one Cleanup Program Site and four Leaking Underground

[4] Class I disposal facilities are specifically for hazardous waste, as defined by CCR Title 22, Class II facilities are "designated" waste facilities and must acquire special permitting to accept designated types of hazardous materials, and Class III disposal facilities are strictly for non-hazardous waste (CCR Title 23, Division 3, Chapter 15).

Storage Tank (LUST) Cleanup Sites, two of which are currently open. These sites are discussed further below:

- **Kinder Morgan Yolo Bypass Petroleum Pipeline Release – Cleanup Program Site; Completed – Case Closed as of 10/5/2004**: This site is approximately 0.17-mile to the northwest of Segment AD. In 1965 a gasoline and diesel fuel leak that potentially contaminated the drinking water supply was reported. There is no further information available about this site, except that it was completed and closed as of 2004 (SWRCB, 2004). This is the only site that is upgradient of the project site.
- **Chevron #9-6726 – LUST Cleanup Site; Open – Eligible for Closure as of 3/26/2020**: This site is approximately 0.23-mile to the southwest of Segment AD. This case was opened following an unauthorized release from un underground storage tank (UST) system. Dual Phase Extraction was selected as the remediation alternative and began n 2008; as of 2020 remediation is complete and this case is eligible for closure (SWRCB, 2020a).
- **Epoch Truck Stop – LUST Cleanup Site; Open – Eligible for Closure as of 3/26/2020**: This site is approximately 0.23-mile to the southwest of Segment AD. This case was opened following an unauthorized release from an underground storage tank (UST) system. Dual Phase Extraction was selected as the remediation alternative and began in 2008; as of 2020 remediation is complete and this case is eligible for closure (SWRCB, 2020b).
- **Beneto Card Lock – LUST Cleanup Site; Completed – Case Closed as of 8/3/2011**: This site is approximately 0.07-mile to the west of the project site. In 2003, diesel and motor oil petroleum hydrocarbons were detected in soil sampling following repair of sumps and pipelines. There are no surface or groundwater sensitive receptors within 1,200 feet of the site, and any remaining concentrations of petroleum hydrocarbons in soil and groundwater do not present a risk to human health (RWQCB, 2011). Additionally, this site is downgradient of the proposed action and any residual contamination at this site would not affect the proposed action.
- **SMA Equipment – LUST Cleanup Site; Completed – Case Closed as of 5/21/2002**: This site is approximately 0.11-mile to the west of the project site. In 1997 three USTs were removed from the site. Soil and groundwater data show that motor oil and paint thinner from the former waste oil UST remain in shallow groundwater within the former UST cavity, and probably beneath the building. However, the hydrocarbons in groundwater beneath the site do not present a threat to current or future beneficial uses of water (RWQCB, 2002). This site is downgradient of the project site and any residual contamination would not affect the proposed action.

Schools and Airports

There is one school in proximity to the project site: Western Truck School, approximately 0.15-mile south of Segment AD. There are no public or private airports near the project site, however the California Highway Patrol (CHP) Academy is approximately 1 mile to the northwest of Segment AD. The nearest airports to the project site are the Sacramento Executive Airport (approximately 5.8 miles to the southeast of the project site), and the Yolo County Airport (approximately 14.5 miles to the west of the project site).

3.9.2 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. Effects

associated with implementation of a proposed alternative on hazards and hazardous materials would be considered significant if it would result in any of the following:

- A significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 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;
- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on hazards and hazardous materials in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on hazards and hazardous materials were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on hazards or hazardous materials in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as

needed. Normal O&M activities would be short-term and small scale; therefore, exposure to hazardous materials or hazards associated with continued O&M activities would be less than significant.

Proposed Action

Construction of the proposed action would involve the routine use of small quantities of hazardous materials commonly used during construction activities such as fuels, lubricants and oil for construction equipment. Storage and use of hazardous materials at the site during routine use could result in the accidental release of small quantities of hazardous materials, which could degrade soil and/or surface water within the project area. In compliance with state and federal regulations, a hazardous materials business plan and a spill prevention and countermeasures plan would be prepared as part of the proposed action.

The contractor would be required under the General Construction Permit to prepare a Storm Water Pollution Prevention Plan (SWPPP) identifying specific BMPs to avoid or minimize soil erosion. Best management practices (BMPs) would be implemented to minimize the risk of a hazardous materials release during construction activities. These are further discussed under Section 3.10 *Hydrology and Water Quality*. The use, storage, transport, and disposal of hazardous materials during construction of the proposed action would be carried out in accordance with federal, state, and county regulations. These requirements would ensure that hazardous materials used for construction would be stored in appropriate containers, with secondary containment to prevent a potential release. Additionally, project-related spills of hazardous materials would be required to be reported to appropriate regulatory entities, including but not limited to the city of Sacramento; U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Game (CDFG); and the Central Valley Regional Water Quality Control Board (CVRWQCB). Hazardous materials spills would be cleaned up immediately, and contaminated soils would be excavated and transported to approved disposal areas, consistent with state and local requirements.

Additionally, the contractor would be required to import and export all soil to and from a licensed, permitted facility that meets all Federal and State standards and requirements. This will ensure that no contaminated material would be introduced into the site. Excavated material from the project would be temporarily stored and would be disposed of at an appropriate waste site authorized to accept such waste.

There is one school in proximity to the project area: Western Truck School, approximately 0.15-mile south of Segment AD. As stated above, required compliance with the numerous existing laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for hazardous emissions and/or hazardous materials to impact nearby schools. Compliance with required law and regulations regarding the use, storage, disposal, and transportation of hazardous materials (see **Appendix D**, *Compliance with Environmental Laws and Regulations)* during construction would reduce this impact to less than significant.

As a result, adverse effects related to hazards and hazardous materials would be considered temporary and less than significant.

As stated above, there are no public or private airports within two miles of the proposed action, however the California Highway Patrol (CHP) Academy is approximately 1 mile to the northeast of Segment AD. The nearest airports to the project site are the Sacramento Executive Airport (approximately 5.8 miles to the southeast of the project site), and the Yolo County Airport (approximately 14.5 miles to the west of the project site. The noise contour and safety zone maps for both airports indicate that the project site is

not within any of these delineated zones (ALUC, 1999a; ALUC, 1999b). Therefore, it is not anticipated that any nearby airports would cause a safety hazard or excessive noise for people working in the project area, and the proposed action would result in a temporary and less than significant impact.

The project does not propose road closures or road work associated with the proposed action. Therefore, there would be no interference with an emergency evacuation or response plan, and this would result in no impact.

Based on mapping by the California Department of Forestry and Fire Protection (CAL FIRE) Forest Resource Assessment Program (FRAP) the project site is not within a Very High Fire Hazard Severity Zone (CAL FIRE, 2008). The use of construction equipment and the possible temporary on-site storage of fuels and/or other flammable construction chemicals could pose an increased fire risk resulting in injury to workers or the public during construction. However, contractors would be required to comply with hazardous materials storage and fire protection regulations, which would minimize potential for fire creation, and ensure that the risk of wildland fires during construction and would result in a temporary and less than significant impact.

3.9.3 Mitigation

The proposed action would temporarily increase the transport of materials generally regarded as hazardous that are used in construction activities. It is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, and other similarly related materials would be brought onto the project site, used, and stored during the construction period. However, transportation of hazardous materials on roadways would be regulated by the CHP and Caltrans. Storage and use of hazardous materials would be performed in accordance with applicable Federal, State and local regulations. Compliance with required law and regulations regarding the use, storage, disposal, and transportation of hazardous materials would reduce this impact to less than significant. As a result, adverse effects related to hazards and hazardous materials would be considered temporary and less than significant, and no additional mitigation would be required.

3.10 Hydrology and Water Quality

This section evaluates the potential for the proposed action and alternatives to result in adverse effects on hydrology and water quality in the project area. This evaluation is based on the changes in hydrological conditions and water quality effects associated with the project, as compared to baseline existing conditions.

3.10.1 Existing Conditions

The City of West Sacramento is located at the confluence of the American and Sacramento Rivers at the southern portion of the Sacramento River Basin. Sacramento Valley experiences a mild Mediterranean climate characterized by cool wet winters, and hot dry summers. Average total rainfall in West Sacramento is 18.5 inches per year, falling predominantly between the months of November and March (U.S. Climate Data, 2020).

As shown in Figure 1-1, waterways in the study area are confined by a series of flood control levees and bypasses comprising the Sacramento River Flood Control Project (SRFCP) put in place to protect agricultural lands and inhabited urban areas. Surface waters within the study area are defined by the flood

control channels of the Sacramento River, the Sacramento and Yolo Bypasses, and the Deep Water Ship Channel.

Sacramento River

As the longest river in California, the Sacramento River extends from the Cascade Range mountains near Mount Shasta, and flows south for 447 miles through the Central Valley within a watershed encompassing approximately 26,000 square miles. Historically, the Sacramento River and associated waterways were used for the disposal of contaminants. Recent municipal and industrial water treatment process improvements and stricter water quality regulations and stormwater management have improved regional water quality conditions. Beneficial Uses[5] of the Sacramento River include irrigation, stock watering, recreation-1 contact, warm and cold freshwater habitat, and wildlife habitat (CVRWQCB, 2018).

Surface Water Quality

Water quality in the Sacramento River is influenced by hydraulic management (flow regulation) of the upstream Shasta Dam. Water is generally of good quality, although also influenced by local processes such as agricultural return flows, urban runoff, sedimentation from scouring, among others. The river has relatively low biological oxygen demand (BOD) medium to high dissolved oxygen (DO), and low nutrient and mineral content (City of West Sacramento, 2016).

CWA Section 303(d) establishes the Total Maximum Daily Level (TMDL) process as a framework for applying state water quality standards (refer to **Appendix D**, *Compliance with Environmental Laws and Regulations* for additional details). All sections of the Sacramento River are listed on the 303(d) list for toxicity, source unknown. The Sacramento River, from Knights Landing to the Delta (the reach nearest to the project), is listed on the Section 303(d) list for chordane, DDT, deidrin, mercury, and PCBs (CVRWQCB, 2019). Mercury is primarily associated with legacy gold mining activity in the region. Sediment transport processes are also influenced by legacy issues related to hydraulic gold mining.

Sacramento and Yolo Bypasses

With the exception of conditions during a storm, flood, or other high water event, the Sacramento and Yolo Bypasses are typically dry. Water in the Sacramento and Yolo Bypasses consists of overflow from the Sacramento River during high water events, thus water quality conditions for the bypasses are generally consistent with those described for Sacramento River. Beneficial uses identified for the Yolo Bypass include irrigation, stock watering, recreation-1 contact, recreation-2 other non-contact, warm and cold fresh water habitat, warm and cold migration, spawning, and wildlife habitat (CVRWQCB, 2018). Beneficial uses identified for the Sacramento Bypass include irrigation, stock watering, recreation-1 contact, warm and cold freshwater habitat, and wildlife habitat.

Groundwater

The project area is in the Sacramento Valley groundwater basin, mostly overlying the Yolo Subbasin (Basin No. 5.21-67). Groundwater quality in the majority of the sub-basin is influenced by mineral content in soils, characterized as a sodium magnesium, calcium magnesium, or magnesium bicarbonate type. The quality is considered good for both agricultural and municipal uses in the majority of the sub-

[5] As defined in the Water Quality Control Plan for the Central Valley Regional Water Quality Control Board, Sacramento River Basin and San Joaquin Basin (Basin Plan) Fifth Edition, Revised May, 2018.

basin, notwithstanding the elevated hardness. Depth to groundwater is currently greater than 40 feet below ground surface in Yolo County, though fluctuations occur with seasons and varying conditions of drought (YSGA, 2020). The Groundwater Sustainability Agency for the Yolo Subbasin is the Yolo Subbasin Groundwater Agency (YGSA). Although there is currently no effective Groundwater Sustainability Plan (GSP) pursuant to the Sustainable Groundwater Management Act (SGMA), YGSA will be required to complete a GSP by January 1, 2022. Refer to **Appendix D**, *Compliance with Environmental Laws and Regulations* for details on the SGMA.

Flood conditions

The City of West Sacramento is in a levee flood protection zone, as determined by the Central Valley Flood Protection Board or DWR, that is protected by a YBEL, the effective flood control structure in the project area. Under existing conditions, in the event of a levee failure estimated flood depth for the City of West Sacramento would be greater than 3 feet during a 200-year event (DWR, 2020).

Tsunami and Seiche

The project site is approximately 80 miles west of the Pacific coast, and therefore not located in a region subject to tsunamis. A seiche is a standing wave in an enclosed or partially enclosed water body, such as a lake or reservoir brought on by changes in atmospheric pressure. Seiches tend to occur in large or isolated water bodies. The project site is not in a location that would be typically subject to a seiche.

3.10.2 Environmental Effects

Significance Criteria

Effects associated with hydrology and water quality would be considered significant if an alternative would result in any of the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable management of the groundwater basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or a river or through the addition of impervious surfaces in a manner that would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; 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 impede or redirect flood flows;
- In a flood hazard, tsunami, or seiche zone risk release of pollutants due to project inundation; or
- Conflict with or obstruct a water quality control plan or sustainable groundwater management plan.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of

the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on hydrology and water quality in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on hydrology and water quality were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on hydrology or water quality in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to hydrology or water quality associated with continued O&M activities would be less than significant.

Proposed Action

Levee bank construction would consist of structural improvements to the YBEL to address seepage, erosion, and overtopping concerns. The proposed action would involve the use of heavy equipment during construction resulting in approximately 15 acres of ground disturbance, which could result in potentially adverse effects to water quality for the Sacramento River in the vicinity of the proposed action. Identified direct and indirect effects include increased potential for runoff of exposed soils, mobilization of silt and sediments leading to increased conditions of turbidity in waterways during bank protection construction.

EPA is the lead Federal agency responsible for water quality management including the regulation of dredging and disposal of fill material in waters of the U.S. To manage, implement and regulate these activities, EPA has delegated its authority to USACE for Section 404 of the CWA and to the states and sovereign nations for Section 401. The Proposed Action would not involve the placement of fill materials or construction within surface waters, local waterways, other waters of the U.S or below the ordinary high-water mark. Moreover, the Project Area does not contain aquatic resources that reside under the jurisdiction of section 404 or 401 of the CWA. Staging areas are proposed at either paved areas on the landside of the levee or at previously disturbed and graded areas above the ordinary high-water mark. All construction activities in segments AA and AE would be temporary and upon completion of construction activities, this area would be returned to pre-project conditions. The existing pump station and outfall structure carries an active permit. Since the proposed pump station and outfall structure would not change the type or volume of discharge, operations for the new structure would continue under the existing permit (WDID # 5A57NP00010). A Section 404(b)(1) Water Quality Evaluation was included as

Appendix F in the 2015 GRR FEIS/EIR, as a supplemental environmental review, the Proposed Action, relies on, and will be consistent with the Section 404(b)(1) Water Quality Evaluation and its Findings of Compliance or Non-Compliance with the Restrictions on Discharge to meet water quality management objectives. Therefore, the proposed action complies sections 404 and 401 of the CWA.

In the absence of measures to prevent water contamination, cement, slurry, or fuel spills could also occur, having the potential to compromise the water quality of the Sacramento River or Deep Water Ship Channel. In compliance with state and federal regulations, as described in Section 3.9 *Hazards and Hazardous Materials*, a hazardous materials business plan and a spill prevention and countermeasures plan would be prepared as part of the proposed action. The proposed action would also be required to comply with the good housekeeping practices, best management practices (BMPs), and measures described in the County of Yolo Improvement Standards. These measures contain specific requirements for the use of cement and paint near waterways, as well as specifications to control erosion and prevent sedimentation of waterways. Implementation of the requirements stipulated in these plans and provided as mitigation for the protection of water quality would minimize release of contaminants.

As ground disturbance would consist of an area greater than one-acre in size, the contractor would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) as part of the Construction General Permit. The SWPPP would identify specific BMPs to minimize soil erosion and prevent potential contamination of adjacent waterways. The project would not be constructed during the winter rainy season; therefore, risks of release of pollutants during a flood would be minimal. With implementation of measures described in Section 3.9, and in this section and BMPs as part of the SWPPP, water quality impacts would be temporary and less than significant. Impact avoidance and mitigation measures are provided below. In the event that measures are redundant or requirements overlapping, the measure(s) more protective of water quality shall apply.

The YBEL performs a critical function as the primary effective flood control structure for West Sacramento. Thus, maintaining the structural integrity of the levee is critical to providing flood protection and alleviating flood risk to the community of West Sacramento, located to the east of the levee, and the surrounding agricultural lands to the west. Implementation of the proposed pump station and drainage infrastructure would alleviate existing flood risk. As such, operation, and maintenance of the project would result in no adverse impacts with respect to flooding; effects would be permanent and beneficial.

There is currently no adopted groundwater sustainability plan in the project area; however, it is anticipated that the project would not generate conflicts with future groundwater sustainability planning efforts because the proposed action would utilize minimal water resources during construction and would not require ongoing groundwater resources for operation and maintenance. There would be no impact or adverse effect with respect to the groundwater sustainability.

3.10.3 Mitigation

Mitigation Measure HYD-1: Prepare SWPPP

- The contractor would be required to obtain a NPDES permit, since the project would disturb one or more acres of land and involve possible storm water pollutant discharges to surface waters. In addition, the contractor would prepare a SWPPP identifying BMPs to be used to avoid or minimize any adverse effects. Implementation of the following BMPs would act as

mitigation as they would ensure that the effects on water quality would remain at less-than-significant levels. Identify all storm drains, drainage swales, and creeks located near the construction site and provide pre-construction training to make sure contractors and subcontractors are aware of their responsibilities regarding stormwater requirements to prevent pollutants from entering storm drains or waterways.

- Dispose of wastes properly; remove litter from the site daily; materials that cannot be reused or recycled must be taken to an appropriate landfill; dispose of hon hazardous construction wastes in covered dumpsters or recycling receptacles; recycle materials whenever possible.
- Conduct earthwork during low flow periods for the adjacent waterways (generally July 1–November 30).
- To the extent possible, stage construction equipment and materials on the landside of the levee reaches in previously disturbed areas.
- Minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, ingress and egress corridors, spoils disposal and soil stockpile areas, and equipment exclusion zones prior to the commencement of any grading operations. In order to minimize the mobilization of contaminated sediments (e.g., mercury) soil below the mean summer waterline shall not be disturbed, to the extent feasible.
- Stockpile soil on the landside of the levee reaches and install sediment barriers (e.g., silt fences, fiber rolls, and straw bales) around the base of stockpiles to intercept runoff and sediment during storm events. If necessary, cover stockpiles with geotextile fabric to provide further protection against wind and water erosion.
- Install sediment barriers on graded or otherwise disturbed slopes as needed to prevent sediment from migrating from the project site and entering nearby surface waters.
- Install (native or ecologically appropriate) plant materials to stabilize cut and fill slopes and other disturbed areas once construction is complete. Plant materials could include an erosion control seed mixture or shrub and tree container stock. Temporary structural BMPs, such as sediment barriers, erosion control blankets, mulch, and mulch tackifier, could be installed as needed to stabilize disturbed areas until vegetation becomes established.
- Fuel, maintain, and clean vehicles at a minimum of 175 feet distance from any riparian habitat or water body and prepare a spill response plan. All workers shall be informed of the importance of preventing spills and of the appropriate measures to follow should a spill occur. Training materials for spill prevention and response measures shall be prepared in adherence with state and federal regulations.
- Locate portable toilets a minimum of 25 feet away from drain inlets, water courses and traffic circulation; portable toilets shall be secured to prevent overturning; regular service shall be provided.
- Water utilized for dust control shall not be allowed to result in conditions of runoff. Care shall be taken to not overwater causing sediment-laden runoff. Earthwork operations shall cease when wind speeds exceed 20 mph for one hour or more.

Mitigation Measure HYD-2: Acquire Waste Discharge Requirements

- Before discharging any dewatered effluent to surface water, a Low Threat Discharge and Dewatering NPDES permit shall be obtained from the Central Valley RWQCB. Depending on the volume and characteristics of the discharge, coverage under the Central Valley RWQCB's NPDES Waste Discharge Requirements may be applied for and obtained. As part

of the permit, the permittee would develop and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Various measures that could be used include the retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and/or other BMPs.

3.11 Noise

This section evaluates the effects of the proposed alternatives on noise and vibration in the project area. The effects of vibration on buildings are also considered.

3.11.1 Background

Noise

Sound is energy transmitted by pressure waves through a medium such as air. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Noise can be defined as sound that is loud, disagreeable, unexpected, or unwanted.

Noise Exposure and Community Noise

Excessive noise exposure has been shown to cause interference with human activities at home, work, or recreation and can cause community annoyance and hearing loss, as well as affect people's psychological, sociological, physiological, and economic health and well-being. Potential human annoyance and health effects associated with noise may vary depending on factors, such as whether there is a perceptible change in ambient noise levels.

To assess noise impacts on noise-sensitive land uses, noise levels are weighted to reflect the human ear's reduced sensitivity to low frequencies (A-weighting, i.e., dBA), which correlates well with human perceptions of the annoying aspects of noise. A difference of 3 dBA is considered a barely perceptible change in environmental noise, while a 5 dBA difference is considered a readily perceptible increase. An increase of 10 dBA is perceived by people as a doubling of loudness, and almost certainly causes an adverse community response (Caltrans 1998). It should be noted that although a difference in environmental noise of less than 3 dBA may not result in a perceptible increase in noise level, the individual sources of noise that combine to make the environmental noise tend to be distinguishable from one another.

The community noise environment and human activities cause noise levels to be widely variable over time. This time-varying characteristic of environmental noise is described using statistical noise descriptors. Noise descriptors discussed in this analysis are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{dn}: The day-night noise level (L_{dn}) or the energy average of the A-weighted sound levels occurring during a 24-hour period and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

CNEL: The Community Noise Equivalent Level (CNEL) is a 24-hour L_{eq} that adds a 5 dB penalty to noise occurring during evening hours from 7:00 p.m. to 10:00 p.m., and a 10 dB penalty to sounds occurring between the hours of 10:00 p.m. to 7:00 a.m. to account for the increased sensitivity to noise events that occur during the quiet late evening and nighttime periods.

Ambient noise levels are generally considered low below 45 dBA CNEL, moderate between 45 to 60 dBA CNEL, and high above 60 dBA CNEL. Remote wilderness areas can be below 35 dBA CNEL. Ambient noise levels in small towns or rural residential areas tend to be between 50 or 60 dBA CNEL, while levels in busy urban areas are around 75 dBA CNEL. Ambient noise levels near busy freeways and airports can average 85 dBA CNEL.

Noise Attenuation

Sound level naturally decreases (attenuates) with more distance from the source. Noise from point sources, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate at a rate of 6.0 dBA per doubling of distance from a source where the ground surface between a noise source and a receiver is reflective or hard, such as paved or hard soil; and attenuate at a rate of 7.5 dBA per doubling of distance from a source where the ground surface is absorptive or soft, such as soft dirt, or vegetated areas. Noise from line sources, such as vehicles traveling on a roadway, attenuate at a rate of approximately 3.0 dBA to 4.5 dBA for each doubling of distance between the source and the receiver for hard or soft surfaces, respectively.

Vibration

Vibration is an oscillatory motion through a solid medium where the motion's amplitude can be quantified as displacement, velocity, or acceleration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Peak particle velocity (PPV) is the maximum instantaneous vibration peak, expressed in inches per second (in/sec) and most frequently used to describe vibration impacts to buildings. Root mean square (RMS) amplitude is the average of the squared vibration amplitude, expressed as decibel notation (VdB). RMS is most frequently used to describe vibration effects on the human body.

3.11.2 Existing Conditions

Existing Noise Environment

Sources of noise in and near the project area are traffic on area roadways, railroad traffic, occasional planes and helicopters, industrial, residential, commercial, and recreational activities, and natural sounds such as wind and wildlife. However, the majority of ambient noise surrounding the project site is defined mainly by vehicles travelling along I-80, which crosses nearby to segments AD and AA of the YBEL levee, and trains passing by along the Union Pacific Railroad (see Figure 1-3), which is located directly

along the most northern portion of the project site. Heavy trucking activities on West Capitol Avenue are frequently contributing to the ambient noise in the existing area. According to the Summary of Traffic Noise Modeling Results or Appendix C in the City of West Sacramento General Plan, the average sound levels surrounding the project site range from 55 to 69 L_{dn} (City of West Sacramento, 2016a).

Sensitive Land Uses and Receptors

Noise sensitive land uses, where high noise levels can disrupt sleep, mechanical equipment, or other activities, or where long-term exposure can result in health effects, are typically defined as places where people sleep such as residences, hotels, and hospitals, as well as institutional land uses where relative quiet is important during daytime and evening hours such as schools, libraries, places of worship, and care centers. The proposed action site is bordered by agricultural land to the west of the levee and industrial buildings and roadways to the east. Major freeways in the area include I-80 and U.S 50, as well as major roadways such as Enterprise Boulevard, Industrial Boulevard, and West Capitol Avenue. Residential areas are generally considered to be the land use type most sensitive to noise, and industrial/commercial areas are generally considered to be the least sensitive. The closest residential and/or commercial area would be located approximately 0.8-mile east of the project site.

Local Regulations

Noise in the project area would be regulated by the City of West Sacramento 2035 General Plan and the City of West Sacramento Municipal Code.

City of West Sacramento 2035 General Plan

The following noise and vibration-related goals are identified in the Safety Element of the *City of West Sacramento 2035 General Plan* (City of West Sacramento, 2016b).

> ***Goal S-7.2: Exterior Incremental Noise Standards.*** The City shall require new development to mitigate noise impacts on noise-sensitive uses where the projected increases in exterior noise levels exceed those shown in **Table S-7.2** (Exterior Incremental Noise Impact Standards) [shown below as **Table 3.10-1**].

> ***Goal S-7.3: Interior Noise Standards.*** The City shall require new development to mitigate noise impacts to ensure acceptable interior noise levels appropriate to the land use type as shown in Table S-7.1 (Noise Compatibility Standards) [shown below as **Table 3.10-2**].

TABLE 3.10-1
NOISE COMPATIBILITY STANDARDS

Land Use	Exterior Noise Level Standard for Outdoor Activity Areas [a]	Interior Noise Level Standard	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB
Residential (Low Density Residential, Duplex, Mobile Homes)	60 [c]	45	N/A
Residential (Multi Family)	65 [d]	45	N/A
Transient Lodging (Motels/Hotels)	65 [d]	45	N/A
Mixed-Use Developments	70	45	N/A
Schools, Libraries, Churches, Hospitals, Nursing Homes, Museums	70	45	N/A
Theaters, Auditoriums	70	N/A	35

TABLE 3.10-1
NOISE COMPATIBILITY STANDARDS

Land Use	Exterior Noise Level Standard for Outdoor Activity Areas [a]	Interior Noise Level Standard	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB
Playground, Neighborhood Parks	70	N/A	N/A
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75	N/A	N/A
Office Buildings, Business Commercials and Professional	70	N/A	45
Industrial, Manufacturing, Utilities, and Agriculture	75	N/A	45

NOTES:

a Outdoor activity areas for residential developments are considered to be the back yard patios or decks of single-family residential units, and the patios or common areas where people generally congregate for multi-family development.
Outdoor activity areas for nonresidential developments are considered to be those common areas where people generally congregate, including outdoor seating areas.
Where the location of outdoor activity areas is unknown, the exterior noise standard shall be applied to the property line of the receiving land use.

b As determined for a typical worst-case hour during periods of use.

c Where it is not possible to reduce noise in outdoor activity areas to 60 dBm L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior level of up to 65 dB, L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

d Where it is not possible to reduce noise in outdoor activity areas to 65 dB, L_{dn}/CNEL or led using a practical application of the best-available noise reduction measures, an exterior level of up to 70 dB, L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: City of West Sacramento, 2016b.

TABLE 3.10-2
EXTERIOR INCREMENTAL ENVIRONMENTAL NOISE IMPACT STANDARDS FOR NOISE-SENSITIVE USES (DBA)

Residences and Buildings Where People Normally Sleep [a]		Institutional Land Uses with Primarily Daytime and Evening Uses [b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

NOTES:

Noise levels are measured at the property line of the noise-sensitive use.

a This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

b This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, May 2006; City of West Sacramento, 2016b.

Goal S-7.4: New Stationary Noise-Producing Uses. The City shall require new stationary uses that are likely to produce noise levels exceeding the noise standards of **Table S-7.3** (Noise Level Standards from Stationary Sources) to mitigate noise impacts [shown below as **Table 3.10-3**].

TABLE 3.10-3
NOISE LEVEL STANDARDS FROM STATIONARY SOURCES

Noise Level Descriptor	Daytime (7:00 A.M. to 10:00 P.M.)	Night-time (10:00 P.M. to 7:00 A.M.)
Hourly L_{eq}, dB	55	45
Maximum level, dB	70	65

NOTES:
Noise levels are measured at the property line of the noise-sensitive use.
SOURCE: City of West Sacramento, 2016b.

Goal S-7.5. Frequent, High Noise Events. The City shall require development of noise-sensitive uses subject to a discretionary permit and proposed in areas subject to frequent, high-noise events (such as aircraft over flights or train and truck pass-bys) to adequately evaluate and mitigate the potential for noise-related impacts to ensure that noise-related annoyance, sleep disruption, speech interference, and other similar effects minimized using metrics and methodologies appropriate to the effects to be assessed and avoided.

Goal S-7.6: Vibration Standards. The City shall require construction projects and new development anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby noise-sensitive uses based on Federal Transit Administration criteria as shown in **Table S-7.4** (Groundborne Vibration Impact Criteria for General Assessment) [shown below as **Table 3.10-4**].

TABLE 3.10-4
GROUNDBORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Impact Levels (VdB)		
	Frequent Events [a]	Occasional Events [b]	Infrequent Events [c]
Category 1: Buildings where vibration would interfere with interior operations	65 [d]	65 [d]	65 [d]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

NOTES:
Vibration levels are measured in or near the vibration-sensitive use.
a "Frequent Events" us defined as more than 70 vibration events of the same source per day.
b "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
d This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.
SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, May 2006; City of West Sacramento, 2016b.

Goal S-7.10 Acoustical Study. The City shall require new development that has the potential to generate noise that will exceed the levels contained in **Tables S-7.1** through Table S-7.4 [shown above as Tables 3.10-1 through 3.10-4] and may affect a noise-sensitive use to prepare an acoustical study.

West Sacramento Municipal Code

Section 17.28.110 of the West Sacramento Municipal Code states the following regarding city noise standards.

A. **Acoustic Study.** An acoustic study shall be required for any proposed action which could create or be subject to a *noise* that exceeds the levels contained in Tables S-7.1 through S-7.4 in the General Plan [shown above as Tables 3.10-1 through 3.10-4].

B. ***Noise*** **Attenuation Measures.** Any project subject to the acoustic study requirements of subsection A, Acoustic Study, may be required as a condition of approval to incorporate *noise* attenuation measures deemed necessary to ensure that *noise* standards are not exceeded.

1. New *noise*-sensitive uses (e.g., schools, hospitals, churches, and residences) shall incorporate *noise* attenuation measures to achieve and maintain an interior *noise* level of 45 dBA.
2. *Noise* attenuation measures identified in an acoustic study shall be incorporated into the project to reduce *noise* impacts to satisfactory levels.
3. Emphasis shall be placed upon site planning and project design measures. The use of *noise* barriers shall be considered and may be required only after all feasible design-related *noise* measures have been incorporated into the project. (Ord. 19-1 § 3)

3.11.3 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. Adverse noise effects are considered significant if a proposed action alternative would result in any of the following:

- 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;
- Excess groundborne vibration or groundborne noise levels.
- 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.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on sensitive receptors in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on sensitive receptors were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee

improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on sensitive receptors residing near Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to sensitive receptors associated with noise or vibration during O&M activities would be less than significant.

Proposed Action

Noise and vibration impacts would be limited to the short-term construction phase of the project. No long-term operational noise or vibration impacts would occur. Following construction, regular maintenance activities would include clearing of maintenance roads, rodent control, vegetation maintenance, managing graffiti, and periodic inspections and would not contribute to a change in noise levels. Construction activities would result in short-term increases in ambient noise and vibration. Construction equipment anticipated to be used for the proposed action includes: cranes, tractors, graders, rollers, loaders, and excavators. **Table 3.10-5** shows the typical noise levels at 50 feet from the source produced by the types of construction equipment that would likely be used during the construction of the proposed action.

TABLE 3.10-5
REFERENCE CONSTRUCTION EQUIPMENT NOISE LEVELS
(50 FEET FROM SOURCE)

Type of Equipment	L_{max}, (dBA)	Hourly L_{eq}, (dBA/% Use)
Tractor	84	80/40%
Grader	85	81/40%
Roller	80	73/20%
Front End Loader	79	75/40%
Excavator	81	77/40%
Crane	81	73/16%

SOURCE: Federal Highway Administration, 2008. *FHWA Roadway Construction Noise Model, Version 1.1*, December 2008.

The operation of each piece of equipment would not be constant throughout the day, as equipment would be shut off when not in use. Over a typical workday, all the equipment would not operate concurrently at the same location along the YBEL levee. To quantify construction-related noise exposure that would occur at the nearest sensitive receptors, it was assumed that the two loudest pieces of construction equipment would operate at the closest location on the project site to the nearest off-site sensitive receptor (approximately 0.8-miles away). The combined L_{eq} noise level associated with the two loudest pieces of construction equipment (i.e. tractor and grader) would be approximately 84 dBA at 50 feet. The YBEL levee is predominately surrounded by agricultural land to the west and industrial areas to the east. As discussed above, the closest residential area that could be deemed a sensitive receptor is located

approximately 0.80 miles (4,224 feet) east of the proposed action site. Assuming a grader and tractor would operate at the closest point to this sensitive receptor, the closest residences to the proposed action site would be exposed to a construction noise level of approximately 36 dBA L_{eq} or less.

As described above, Section 17.28.110 of the West Sacramento Municipal Code requires an acoustical study to be required for any projects anticipated to create or be subject to a noise that exceeds the levels described in Tables 3.10-1 through 3.10-4. Proposed action construction, operation, and maintenance would not exceed any noise compatibility standards for any sensitive receptors or outdoor activity areas near residential developments as shown in Tables 3.10-1 through 3.10-4. Although it appears that the City of West Sacramento noise level standards identified in the Local Regulations discussed above are applicable to long-term operational noise sources, for the purposes of this analysis noise level standards are estimated at project construction levels at the closest sensitive receptor location to the City's daytime hourly L_{eq} standard of 55 dBA for a conservative evaluation. As described above, construction levels for the closest sensitive receptor would be below (approximately 36 dBA L_{eq}) the City's daytime hourly L_{eq} standard. In addition, noise levels would be significantly below the FTA's *Transit Noise and Vibration Impact Manual* standard which identifies a daytime 1-hour L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses. Therefore, any noise generated during short-term project construction would be in compliance and below all thresholds set by the City of West Sacramento and the FTA. Noise levels from construction would not be adverse and the impact associated with increases in ambient noise levels in the vicinity of the proposed action in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be temporary and less than significant. Noise levels from operation would not change from existing conditions, and there would be no impact.

Construction of the proposed action would require the use of equipment and vehicles that would generate vibration levels. According to the FTA's *Transit Noise and Vibration Impact Assessment Manual* and Table 3.10-4 from the City of West Sacramento's General Plan, ground borne vibration impact criteria and threshold for residences and buildings where people normally sleep is 80 VdB for infrequent noise events, such as short-term noise construction resulting from the project. Ground borne vibration from some onsite equipment, such as vibratory rollers used for compaction, could produce vibration levels offsite. The typical reference vibration level for a vibratory roller is 94 VdB at 25 feet (FTA, 2018). As the nearest residence is located approximately 0.8 mile east of the YBEL project site, vibration levels from construction caused by a vibratory roller would attenuate to a level of 27 VdB at the nearest residence and would be significantly lower than the threshold criteria defined in the City of West Sacramento General Plan and FTA guidelines. Attenuated vibration levels at these receptor locations would be substantially less than the vibration threshold discussed above; and the impact of the proposed action with respect to vibration exposure would be temporary and less than significant.

The threshold for buildings where vibration would interfere with interior operations is 65 VdB, according to Table 3.10-4 above. Although there are no historic buildings or structures located in the vicinity of the project site, the closest structure and/or building to the levee is approximately 500 feet and would be subject to an attenuated vibration level of 55 VdB. Therefore, the impact of the proposed action with respect to vibration exposure would be temporary and less than significant.

The YBEL and proposed action are not located within the vicinity of a private airstrip, an airport land use plan, or within two miles of a public airport. The nearest public airports to the project site are the

Sacramento Executive Airport (approximately 5.8 miles to the southeast of the project site), and the Yolo County Airport (approximately 14.5 miles to the west of the project site). The noise contour maps for both airports indicate that the project site is not within the delineated airport noise contour zones (ALUC, 1999a; ALUC, 1999b). The California Highway Patrol (CHP) Academy Heliport is approximately 1 mile to the northeast of the most northern portion of Segment AD. Helicopter noise associated with this heliport may be audible to construction workers at the project site; however, helicopter noise is infrequent and would mostly be masked by construction equipment noise. Therefore, it is not anticipated that any nearby airports or helipads would expose people working in the proposed action area to excessive noise levels. The proposed action would not result in an adverse effect related to aircraft noise exposure and the impact would be temporary and less than significant.

3.12 Transportation

This section evaluates the potential effects of the proposed alternatives on transportation in the project area. This evaluation includes roadways used by construction workers and haul trucks traveling to and from the construction area. Potential construction effects are increased traffic volumes, safety issues, parking problems, and effects on rail, bus, pedestrian, bicycle, and airport facilities.

The proposed action would be designed and scheduled so that construction would not close a roadway or block a travel lane, block a transit route, block a pedestrian or bicycle facility, remove parking spaces in an area of limited parking, create on-street parking demand where on-street parking is limited or is not permitted, create an operational safety hazard, or block emergency vehicle access.

3.12.1 Existing Conditions

Streets around the project area consist primarily of major arterial roadways and local residential roadways. Within the project area, access roads consist of gravel levee maintenance roads and dirt roads. These roads are gated and not accessible to public vehicle traffic.

As shown in Figure 1-2, two major freeways serve the project area: I-5 and I-80. Haul trucks and construction workers from outside of the West Sacramento area would access the area via one of these two freeways. Arterial roadways that would connect vehicles to the project area from the freeways include West Capitol Avenue, Industrial Road, Enterprise Boulevard, and Harbor Boulevard. The project area is an industrial zone, which includes a number of warehouse and logistic uses located proximate to the Sacramento Yolo Port and Sacramento Deep Water Ship Channel. To serve these uses, the arterial roadways listed above are Surface Transportation Assistance Act (STAA) or local designated truck routes. The average daily trips (ADT) for these roadways are shown on **Table 3.11-1** below.

The City of West Sacramento's bicycle facilities network in the project area includes Class II bikeways along West Capitol Avenue and Industrial Boulevard, in the project area (City of West Sacramento, 2016). There is also a Class I bike path which extends west from the West Capitol Avenue to the Yolo Causeway Bike Path. There are no bicycle facilities located within the project site.

The arterial roadways in the project area include sidewalks on at least one side of each road, providing for pedestrian access throughout the project area. The are no pedestrian facilities located within the project site.

TABLE 3.11-1
AVERAGE DAILY TRIPS

Road	Road Segment	Average Daily Trips
West Capitol Avenue	1. I-80 WB Ramp to Northport Drive	5,403
	2. Northport Drive to Harbor Boulevard	8,194
Industrial Boulevard	1. Enterprise Boulevard to Parkway Boulevard	8,174
	2. Parkway Boulevard to Harbor Boulevard	8,156
Enterprise Boulevard	1. Industrial Boulevard to Seaport Boulevard	12,404
	2. Seaport Boulevard to Channel Drive	5,483
	3. I-80 EB Ramps to Industrial Boulevard	20,490
Harbor Boulevard	1. U.S. 50 EB Ramps to Industrial Boulevard	41,544
	2. West Capitol Avenue to Evergreen Avenue	20,437

SOURCE: DKS Associates, 2014; As cited in City of West Sacramento, 2016. City of West Sacramento General Plan Update Environmental Impact Report, Appendix D. Approved November 16, 2016.

Transit service to the project area is provided by Yolobus, which is administered by the Yolo County Transportation District (YCTD). Yolobus operates eight bus routes through the West Sacramento area, providing connectivity to the City of Davis and other areas of Yolo County to the west, and the City of Sacramento to the east (Yolobus, 2020). Route 241 runs throughout the project area, providing service along West Capitol Avenue, Enterprise Avenue, Industrial Boulevard, Seaport Boulevard, and areas to the east of the project area. Route 42 runs along West Capitol Avenue and extends west to the City of Davis.

3.12.2 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. A proposed alternative would result in a potentially significant impact to transportation if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities
- A substantial deterioration of the physical condition of the nearby roadways.

The effects of construction of the alternatives are considered to be significant, requiring mitigation, if the work causes any of the following:

- Significantly increases traffic on nearby roadways.
- Closes a roadway or blocks a travel lane.
- Blocks a transit route.
- Blocks a pedestrian sidewalk or bicycle lane.
- Closes or interferes with the operation of a rail line.
- Creates an operational safety hazard
- Removes parking spaces in area of limited parking or creates significant on-street parking demand where there is little or no on-street parking.
- Blocks emergency vehicle access.

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on transportation or circulation patterns in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on transportation or circulation patterns were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on transportation or circulation patterns at or near Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as

needed. Normal O&M activities would be short-term and small scale; therefore, impacts to transportation and circulation during O&M activities would be less than significant.

Proposed Action – YBEL Project

There would be temporary effects on traffic around the project area resulting from an increase in haul trucks and construction workers' personal vehicles accessing the project area via the described haul routes. Temporary traffic impacts would include increased traffic on arterial roads during commute times. Up to 28 construction workers would be accessing the project area each day. Additionally, there would be up to 71 round-trip truck trips per day associated with the import of borrow material, steel, and concrete, and the disposal of material during project construction. These trucks would be spaced out throughout the day and would not be anticipated to interfere with commuter traffic in the morning and evening but would increase the number of vehicles accessing the project area.

As shown in Figure 2-1, construction vehicles and haul trucks accessing the project area from I-80 would connect to the area via Harbor Boulevard and Enterprise Boulevard which provide connectivity from westbound I-80 and eastbound I-80 respectively, to an access driveway accessible from West Capitol Avenue. Additional accesses to the project site are located south of I-80 at Lake Road and Channel Drive, where they end in cul-de-sacs adjacent to the levee. Each access route would be anticipated to be used as practical for each work area of the YBEL project.

Two staging areas as shown in Figure 2-1 would be used during construction, one located south of Segment AA, and another located at the City of West Sacramento Corporation Yard.

To exit the project area, haul trucks would return to Enterprise Boulevard via the ingress routes at Channel Drive or Lake Road and return to I-80 (Figure 2-1).

Construction workers would be anticipated to park in one of the proposed staging areas, identified above. No vehicles would be permitted to park on West Capitol Avenue or Enterprise Boulevard, thus reducing any potential impacts to the bike lanes on those roadways.

The proposed action would be designed and scheduled so that construction would not close any roadways or block any travel lanes and would not interfere with emergency access. There would be an increase in vehicle traffic around the project area during construction, but since these effects would be temporary and the vehicle numbers are limited enough that they are not expected to lower the levels of service in the project area, they would be considered temporary and less than significant effects. Haul trucks would move through the project area every 3 minutes during the Site Preparation phase and every 11 minutes during the Grading phase. Construction workers would commute into the project site in the morning and leave in the evening. Given the daily vehicle trips shown in Table 3.11-1, an increase of 28 construction workers and 71 haul trucks per day would not change the level of service (LOS) on roads in the project area. There is the potential for haul trucks to intermittently and temporarily increase potential traffic safety hazards for vehicles, bicyclists, pedestrians, and transit activities on public roadways. Mitigation Measure Trans-1, as described in Section 3.11.3 below, would address safety concerns and reduce impacts to project area traffic to temporary and less than significant.

The proposed action would not involve aircraft, nor would the project structures intrude into aircraft flight paths or air traffic spaces. Therefore, the proposed action would have no impact on air traffic patterns that results in substantial safety risks.

3.12.3 Mitigation

Mitigation Measure Trans-1 would be incorporated into the construction plans in order to reduce effects on traffic to a less than significant level.

> **Mitigation Measure Trans-1: Develop Traffic Control Plan**
>
> The contractor would be required to develop a Traffic Control Plan prior to construction and coordinate all use of public roads with the City of West Sacramento, or other responsible agencies. This plan would include the following measures:
>
> - Construction vehicles would not be permitted to block any roadways or driveways.
> - Access will be provided for emergency vehicles at all times.
> - Signs and flagmen would be used, as needed, to alert motorists, bicyclists, and pedestrians to the presence of haul trucks and construction vehicles at all access points.
> - Vehicles would be required to obey all speed limits, traffic laws, and transportation regulations during construction. Vehicles would not exceed 15 miles per hour on unpaved levee roads.
> - Construction workers would be encouraged to carpool and park in designated staging areas.
> - Closure of levee roads, staging areas, and construction sites would be clearly fenced and delineated with appropriate closure signage.
> - The contractor would be required to repair any roads damaged by construction.

With the implementation of the above mitigation measures, all effects on traffic in the project area would be temporary and less-than-significant.

3.13 Utilities and Service Systems

This section evaluates the effects of the proposed alternatives on utilities and service systems in the project area.

3.13.1 Existing Conditions

Utilities, specifically natural gas and electricity within the project area are provided by Pacific Gas and Electric (PG&E). PG&E pole lines are located within the project site.

Water, sewer, solid waste, and storm water services are provided and maintained by the City of West Sacramento Public Works Department. The City of West Sacramento operates and maintains a sewer collection system consisting of 12 sewer pump stations along with underlying sewer pipes across the City. The collected sewage is delivered to the Sacramento County Regional Sanitation District via a 19-mile pipeline (City of West Sacramento, 2020).

3.13.2 Environmental Effects

Significance Criteria

For this analysis, the thresholds of significance encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and intensity. The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in State CEQA Guidelines Appendix G (14 CCR 15000 et seq.) because CEQA is more stringent than NEPA. A proposed alternative would result in a potentially significant impact to utilities and service systems if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects
- 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 water reduction goals
- Interfere with the compliance to federal, state, and local management and reduction statues and regulations related to solid waste

No Action

The YBEL NEPA No Action Alternative assumes that the project analyzed in the 2015 GRR FEIS/EIR has been constructed or will be constructed as authorized. Because the 2015 GRR FEIS/EIR addressed the installation of cutoff walls at Segments AA and AE, those project elements are already authorized for construction, have been considered for their full environmental impacts, and are considered to be part of the NEPA No Action Alternative. The impacts of the YBEL Proposed Action are compared to the No Action Alternative to determine impact significance in this Supplemental EA. In accordance with NEPA, the YBEL Proposed Action includes only those elements which were not previously analyzed in the 2015 GRR FEIS/EIR. Therefore, the YBEL No Action Alternative under NEPA is the same as the No Project under CEQA.

Under the No Action Alternative, only those levee improvements authorized under 2015 GRR FEIS/EIR project would be constructed, however those authorized construction activities associated could have construction-related effects on existing utilities and service systems in the project area. Therefore, as discussed in the 2015 GRR FEIS/EIR any direct or indirect construction-related effects on existing utilities and service systems were previously evaluated and addressed for Segments AA and AE. Under the YBEL No Action Alternative, no construction activities would occur beyond what was identified in the 2015 GRR FEIS/EIR. YBEL levee improvements such as implementation of the seepage and stability berms and the seepage collection system, new pump station and discharge outfall would not be constructed and there would not be construction-related effects on utilities and service systems in Segments AA and AD.

Under the No Action Alternative, regular O&M of the levee system would continue as presently executed by the local maintaining entities (subject to revision of the governing O&M manual). Vegetation management activities include hand and mechanical (mower) removal of weeds, spraying of weeds with approved herbicides, minimal tree or shrub trimming all up to four times a year, monthly control of burrowing rodent activity by baiting with approved pesticides, and levee slope and road maintenance as needed. Normal O&M activities would be short-term and small scale; therefore, impacts to utilities and

service systems including water supply, wastewater collection, solid waste removal and disposal during O&M activities would be less than significant.

Proposed Action

Construction activities may require temporary access to existing potable water supply and sanitary sewer. Excavated material from the project not used as immediately as backfill would be temporarily stored within the staging areas for use during final grading. Suitable excavated materials would be transported and stockpiled for use as fill for other flood control or levee protection projects in the area, such as along lower American River in Sacramento. As a result, the construction of the proposed action would avoid permanent impacts on existing service systems in the area. Furthermore, the proposed action would not result the permanent relocation or construction of new water, sanitary sewer, natural gas, or wastewater facilities the result of which could have adverse environmental effects.

As previously discussed in Chapter 2, PG&E owns and operates a 12kvpower distribution line that is located east of and running parallel to Segment AA. The existing 12 kv power line is supported by two power poles, located within the project area at stations 6+90 and 38+00. The proposed action construction activities would require relocation of the power pole located at station 38+0 and the other would be replaced with a longer pole that would raise the power line to meet CVFPB Title 23 requirements Title 23 requirements. As the owner and operator, PG&E will be responsible for complying with Title 23 requirements, as such, they are preparing the design and engineering documents, and any required associated NEPA/CEQA documentation, and will be working on the power line and power pole relocation in parallel to the proposed action. As such, relocation of the power lines or the poles would have no adverse effects with respect to the utility services in the area.

The project proposes to construct a 30-inch perforated pipe subdrain system within Segment AD. The subdrain system would be connected to the existing subdrain system constructed in 2021 and would transport seepage to the newly constructed pump station. The pump station would discharge seepage runoff from the toe into the Yolo Bypass. The construction of the new subdrain system and pump station would allow for increased seepage resulting from the project, reducing impacts to the existing subdrain system in the project area. The addition of the new drainage infrastructure to discharge infrequent seepage water described above, would not result in an adverse impact with respect to existing service systems.

The proposed action would not result in an increase in population that would result in an increase demand for utilities and service systems. Therefore, operation of the proposed action would not affect utilities and service systems in the area.

3.13.3 Mitigation

There would be no significant short or long-term effects on existing utilities and service systems in the project area. As a result, adverse effects to utilities and service systems would be considered temporary and less than significant; no mitigation would be required.

3.14 Cumulative Effects Under CEQA

3.14.1 Cumulative Effects

CEQA requires consideration if two or more past, present, or reasonably foreseeable actions, when combined, have a cumulatively considerable effect on the environment. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. The CEQA Guidelines require that an IS or EIR discuss cumulative effects "when they are significant" (Section 15130). The CEQA Guidelines define cumulative effects as "two or more individual effects which, when considered together, compound or increase other environmental impacts" (Section 15355). Additionally, the CEQA Guidelines state:

> *The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to the other closely related past, present, and reasonable foreseeable probable future projects" (Section 15355).*

3.14.2 Affected Environment

The geographic area that could be affected by the proposed action varies depending on the type of environmental resources being considered. When the effects of the project are considered in combination with those of other past, present, and future projects to identify cumulative effects, the other projects that are considered may also vary depending on the type of environmental effects being assessed. The following are the general geographic areas associated with the different resources addressed in the analysis:

- Air Quality: regional area under the jurisdiction of the Yolo Solano Air Quality Management District (YSAQMD), consisting primarily of West Sacramento and Yolo County
- Climate Change: regional area under the jurisdiction of the CARB, consisting primarily of West Sacramento and Yolo County
- Traffic and Circulation: regional roadways where traffic generated by multiple simultaneous projects may interact on a cumulative basis
- Biological Resources: local area. Habitat in the vicinity of the project area with similar net gains or losses in vegetative habitat, or in areas where affected wildlife could relocate.

3.14.3 Cumulatively Considerable Projects

The following projects are planned or proposed in the vicinity of the proposed action. These projects have been the subject of environmental review and mitigation or compensation measures have been developed using Federal and local agency criteria to avoid or reduce any adverse effects to a less-than-significant status.

Lower Elkhorn Basin Levee Setback Project

The Lower Elkhorn Basin Levee Setback Project (LEBLS) consists of approximately 7 miles of setback levees in the Lower Elkhorn Basin along the east side of the Yolo Bypass and the north side of the Sacramento Bypass. The project includes removing all or portions of the existing levees that will be set back, removing portions of local reclamation district cross levees, and improving or relocating related

infrastructure. The project is in the first phase of implementation and construction began in 2020 and continues through 2021.

Sacramento River East Levee Contract 2

The USACE Sacramento District proposes 1.8 miles of levee improvements at four sites along the Sacramento River Eat Levee. The project includes installation of seepage cutoff walls on both sides of Business 80/Highway 50 just upstream of Miller Park, on the south side of the little pocket, and on the north side of the big pocket. A draft EIS/EIR was completed in June 2020. Construction is scheduled to begin spring 2021 and would be completed by October 2021.

Natomas Basin Reach B

The Natomas Basin Reach B Project includes general improvements to 9.5 miles along the Sacramento River East levee from San Juan Road to Elverta Road. The project would consist of widening the existing levee by construction of an adjacent levee, installation of approximately 4.3 miles of a seepage cutoff wall that ranges in depth between approximately 40 and 115 feet, and installation of approximately 5.6 miles of seepage berms that range in width from approximately 80 to 300 feet, and flattening the landside levee slope. A draft supplement EIS/EIR was completed in June 2020. The project is scheduled for construction between 2021 and 2024.

West Capitol Avenue Road Rehabilitation Project

The City of West Sacramento proposes to repair deteriorating pavement and enhance the safety along West Capitol Avenue. The project would also add separated bike lanes, install and retrofit existing midblock crossings, and add street illumination. The project construction schedule is January 2021 through August 2021.

The projects listed above are required to evaluate the effects of the proposed action features on environmental resources in the area. In addition, based on Federal and local agency criteria mitigation or compensation measures must be developed to avoid or reduce any adverse effects to less than significant. Those effects that cannot be avoided or reduced to less than significant are more likely to contribute to cumulative effects in the area.

3.14.4 Analysis of Cumulative Effects

The following analysis is focused on considering the potential for those effects identified in Chapter 3 to make a considerable contribution to significant adverse cumulative effects. The proposed YBEL Project would not cause long term adverse effects on the resources discussed in Chapter 3. However, some of the resources have the potential to incur temporary, short-term effects during construction. An initial assessment of potential cumulative effects indicated that air quality, climate change, traffic and circulation, and vegetation, biological resources have the potential to contribute to cumulative effects. The potential cumulative effects to these resources, in combination with potential effects from the local projects described above, are discussed below.

Air Quality

Construction of the proposed project is not expected to have any long-term effects on air quality since the operational activities (including inspection and maintenance) are expected to be similar to existing

conditions. However, construction would result in direct, short-term effects on air quality mainly related to combustion emissions and dust emissions. Implementation of mitigation measures during construction would reduce emissions to the extent possible. Since the proposed action would not require a change in the existing land use designation, long-term projected emissions of criteria pollutants would be the same with or without the project. Therefore, the proposed action individually would not result in a significant effect on air quality. However, construction of the proposed action has the potential to overlap with construction of the Sacramento River East Levee Contract 2 project and the West Capitol Avenue Road Rehabilitation Project. These concurrent construction activities could have a significant cumulative effect on air quality. It is expected that effects from these projects would be similar to the current project in that effects would be primarily due to construction activities. Therefore, construction of these projects would increase emissions of criteria pollutants, including VOC, NOX, CO, SO2, and PM emissions.

Individually these projects would mitigate emissions below significance threshold levels. If these construction projects are implemented concurrently, the combined cumulative effects could be above CEQA thresholds for air quality emissions and *de minimus* thresholds. To address these potential cumulative effects, scheduling and coordination of construction activities between project proponents (USACE and WSAFCA) and the City of West Sacramento, Sacramento Area Flood Control Agency, and representative air quality management districts would reduce any potential cumulative air quality effects to less than significant.

Climate change

It is unlikely that a single project would have a significant effect on the environment with respect to GHGs. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere, which, in turn, have been shown to be the main cause of global climate change (IPCC, 2007). While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative effect with respect to global climate change. Section 3.4.3 includes CO_2 emissions, which can also be found in **Appendix C [to come]**.

It is expected that effects from the local projects are similar to the proposed action. On an individual basis, these projects would mitigate emissions below significant threshold levels. If these construction projects are implemented concurrently, the combined cumulative effects could be above reporting requirements for GHG emissions. If this were the case, without consideration for scheduling and sequence of activities, concurrent construction projects in the West Sacramento area could have temporary, adverse cumulative effects on GHG. To address these potential cumulative effects, the USACE would attempt to coordinate the scheduling and sequence of construction activities with the City of West Sacramento and YSAQMD. Coordination on this level would reduce any potential cumulative effects to climate change to less-than-significant.

Traffic and Circulation

Construction activities associated with the proposed action would contribute to an overall increase in traffic volumes on the existing and planned roadway network on a localized and temporary basis only. Construction of the proposed project would likely overlap with the Sacramento River East Levee Contract 2 project and the West Capitol Avenue Road Rehabilitation Project. All three projects have the potential

to use some or all of the same local roadways and major transportation corridors for construction traffic as well as haul trucks.

The Sacramento River East Levee Contract 2 project would involve work along a separate section of the Sacramento River east levee and would be anticipated to utilize one or more of the site accesses from public roadways planned for use under the proposed action. The West Capitol Avenue Road Rehabilitation project would take place within City of West Sacramento right of way along West Capitol Avenue, and would include improvements to the existing roadway, bicycle, and pedestrian facilities along the corridor. Improvements would take place at and near one of the site accesses for the proposed action. Concurrent work on both the roadway project and the proposed action would have potential to conflict with one another at the site access point. The proposed construction activities would have short-term effects on traffic levels on local and regional roadways, which would temporarily decrease their LOS. While construction of the projects would temporarily increase traffic counts on roadways within the vicinity of the proposed action, the volume of trucks associated with these projects would not be of sufficient magnitude to affect the LOS on these roadways. To address these potential cumulative transportation effects, scheduling and coordination of construction activities between project proponents (USACE and WSAFCA) and the City of West Sacramento, Sacramento Area Flood Control Agency, would occur to reduce adverse effects on traffic and circulation. Additionally, implementation of Mitigation Measure Trans-1, development of a Traffic Control Plan would reduce adverse effects related to construction traffic.

Following construction, the proposed action would not contribute to cumulative regional traffic and transportation impacts associated with other projects in the region. Minimization practices at each of these project areas and maintaining relative distances between these projects would reduce cumulative effects on local traffic and circulation to less than significant.

Biological Resources

Construction of the YBEL project could directly and indirectly affect GGS, western pond turtle, and special status fish, including California Central Valley DPS steelhead, Central Valley ESU spring-run chinook salmon, longfin smelt, Sacramento perch, Sacramento River ESU winter-run Chinook salmon, and Sacramento splittail. To address these cumulative effects, the USACE is continuing its re-initiation of consultation with the USFWS and expects to complete consultation in June 2021, per the conservation measures in the revised BO, the USACE would implement mitigation measures to reduce impacts. Mitigation measures in this EA/IS have also been prescribed to offset potential impacts to GGS, western pond turtle, and special status fish. Therefore, there would be no significant cumulative effects to GGS, western pond turtle or other special status species as a result of the proposed project.

The project could also result in direct and indirect impacts to nesting raptors and other migratory birds, including burrowing owl, purple martin, song sparrow (“Modesto” population), Swainson’s hawk, and white-tailed kite. Mitigation measures in this EA/IS have been prescribed to offset potential impacts to nesting raptors and other migratory birds. As a result, cumulative effects are not anticipated for nesting raptors and migratory birds. The other projects described above are located in the vicinity of the study area and would result in short-term disturbances of wildlife habitat. In addition, some permanent loss of wildlife habitat at each of the respective project sites would occur. However, each of these projects is

juxtaposed with nearby quality habitat that could support temporary and permanent relocation of the displaced wildlife species.

All projects would produce temporary effects on vegetation and habitat associated with clearing and grubbing of the existing surfaces. The Sacramento River East Levee Contract 2 project and the West Capitol Avenue Road Rehabilitation Project would result in permanent loss of habitat. These projects have completed environmental documents to mitigate for this loss of habitat. At the conclusion of construction of the proposed action, the YBEL levee would be restored, and it is anticipated that wildlife species would be able to return to the project area. The vegetation loss associated with the seasonal wetlands, annual grassland and the trees in the other project areas would not have a significant cumulative effect on vegetation in the region.

Growth Inducement

CEQA requires a consideration of cumulative effects of the proposed action combined with the effects of other projects. CEQA Guidelines 15126.2(d) requires discussion of the ways in which alternatives could foster economic or population growth, or the construction of additional housing, either directly or indirectly. Consideration should include actions that would remove obstacles to growth. The CEQA Guidelines state, "It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment." This subsection provides a summary of the affected environment and the potential for growth inducement as a result of implementing the alternatives.

Potential for Growth Inducement

The proposed action is improvement to segments AA and AD of the YBEL levee to provide continuous flood protection to the northwest portion of the City of West Sacramento. The proposed action would not directly remove obstacles/impediments to growth, result in population increases, or encourage and facilitate other activities that could significantly affect the environment. The proposed action would not change or alter existing land uses. In other words, land use in the project area would remain the same; therefore, there would be no growth-inducing effects as a result of implementation of the proposed action. Furthermore, new development or redevelop must be consistent with the existing City of West Sacramento General Plan policies and zoning ordinances regarding land use, open space, conservation, flood protection, and public health and safety. Based on the nature of the YBEL levee improvements, construction and operation of the proposed action is not expected to alter the socioeconomic conditions in the City of West Sacramento – education, incomes and occupations and/or employment sectors would remain unchanged.

CHAPTER 4
Summary of Findings

Based on the information presented in this Environmental Assessment and Initial Study, the proposed action would not have a significant adverse effect on the environment. A Finding of No Significant Impact (FONSI) is recommended to comply with the National Environmental Policy Act (NEPA). Pending execution of the FONSI, no further documentation would be required to comply with the NEPA.

This page intentionally left blank

Appendix A
Air Quality Emissions Calculations

ESA

West SAFCA YBEL

Yolo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	54
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

West SAFCA YBEL - Yolo County, Annual

Project Characteristics - PG&E GHG emission factor based on <http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf>

Land Use -

Construction Phase - Schedule provided by client

Off-road Equipment - Equipment list provided by client. Assume that grading equipment has same specs as equipment used for site prep.

Off-road Equipment - Equipment list and specs provided by client

Trips and VMT - Trip info provided by client. Trip calcs included in AQ Appendix.

On-road Fugitive Dust - Project site and construction staging area located directly adjacent to paved staging area. Haul routes located in urbanized areas with paved roads.

Grading - Project site is 15 acres

Vehicle Trips - Maintenance activity would not increase from existing conditions as a result of the project.

Energy Use -

Construction Off-road Equipment Mitigation - Mitigation information provided by client.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	30.00	92.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	AcresOfGrading	235.75	35.00
tblGrading	MaterialExported	0.00	8,900.00
tblGrading	MaterialExported	0.00	10,200.00
tblGrading	MaterialImported	0.00	53,140.00
tblGrading	MaterialImported	0.00	10,200.00
tblOffRoadEquipment	HorsePower	158.00	436.00
tblOffRoadEquipment	HorsePower	187.00	145.00
tblOffRoadEquipment	HorsePower	231.00	120.00
tblOffRoadEquipment	HorsePower	212.00	241.00
tblOffRoadEquipment	HorsePower	212.00	241.00

tblOffRoadEquipment	HorsePower	158.00	436.00
tblOffRoadEquipment	HorsePower	187.00	145.00
tblOffRoadEquipment	HorsePower	80.00	157.00
tblOffRoadEquipment	HorsePower	80.00	157.00
tblOffRoadEquipment	HorsePower	203.00	262.00
tblOffRoadEquipment	HorsePower	203.00	262.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	94.00	99.90
tblOnRoadDust	HaulingPercentPave	94.00	99.90
tblOnRoadDust	VendorPercentPave	94.00	99.90
tblOnRoadDust	VendorPercentPave	94.00	99.90
tblOnRoadDust	WorkerPercentPave	94.00	99.90
tblOnRoadDust	WorkerPercentPave	94.00	99.90
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripLength	20.00	16.70
tblTripsAndVMT	HaulingTripLength	20.00	19.25
tblTripsAndVMT	HaulingTripNumber	2,550.00	4,080.00
tblTripsAndVMT	HaulingTripNumber	7,755.00	12,408.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3212	4.8428	1.9424	0.0112	0.4199	0.1204	0.5403	0.0684	0.1110	0.1794	0.0000	1,027.4192	1,027.4192	0.1537	0.0000	1,031.2628
Maximum	**0.3212**	**4.8428**	**1.9424**	**0.0112**	**0.4199**	**0.1204**	**0.5403**	**0.0684**	**0.1110**	**0.1794**	**0.0000**	**1,027.4192**	**1,027.4192**	**0.1537**	**0.0000**	**1,031.2628**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3212	4.8428	1.9424	0.0112	0.3026	0.1204	0.4230	0.0559	0.1110	0.1669	0.0000	1,027.4187	1,027.4187	0.1537	0.0000	1,031.2623
Maximum	**0.3212**	**4.8428**	**1.9424**	**0.0112**	**0.3026**	**0.1204**	**0.4230**	**0.0559**	**0.1110**	**0.1669**	**0.0000**	**1,027.4187**	**1,027.4187**	**0.1537**	**0.0000**	**1,031.2623**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.94**	**0.00**	**21.71**	**18.26**	**0.00**	**6.97**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-15-2021**	**7-14-2021**	3.7685	3.7685
2	**7-15-2021**	**9-30-2021**	1.3490	1.3490
		Highest	3.7685	3.7685

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.1600e-003	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.2619	0.0000	0.2619	0.0155	0.0000	0.6487
Water						0.0000	0.0000		0.0000	0.0000	0.0000	5.9584	5.9584	8.2000e-004	1.7000e-004	6.0297
Total	**6.1600e-003**	**0.0000**	**1.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2619**	**5.9587**	**6.2206**	**0.0163**	**1.7000e-004**	**6.6788**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.1600e-003	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.2619	0.0000	0.2619	0.0155	0.0000	0.6487
Water						0.0000	0.0000		0.0000	0.0000	0.0000	5.9584	5.9584	8.2000e-004	1.7000e-004	6.0297
Total	**6.1600e-003**	**0.0000**	**1.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2619**	**5.9587**	**6.2206**	**0.0163**	**1.7000e-004**	**6.6788**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2021	4/26/2021	6	10	
2	Grading	Grading	5/3/2021	8/17/2021	6	92	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 35

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Cranes	1	1.60	120	0.29
Site Preparation	Crawler Tractors	8	5.20	241	0.43
Site Preparation	Excavators	1	1.60	436	0.38
Site Preparation	Graders	3	4.80	145	0.41
Site Preparation	Rollers	3	4.80	157	0.38
Site Preparation	Rubber Tired Loaders	6	4.80	262	0.36
Grading	Crawler Tractors	5	5.80	241	0.43
Grading	Excavators	3	6.30	436	0.38
Grading	Graders	2	6.00	145	0.41
Grading	Rollers	2	3.80	157	0.38
Grading	Rubber Tired Loaders	2	6.20	262	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	22	55.00	4.00	4,080.00	10.00	7.00	16.70	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	4.00	12,408.00	10.00	7.00	19.25	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0236	0.0000	0.0236	2.7600e-003	0.0000	2.7600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.3572	0.1847	4.9000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	42.7566	42.7566	0.0138	0.0000	43.1023
Total	**0.0316**	**0.3572**	**0.1847**	**4.9000e-004**	**0.0236**	**0.0145**	**0.0381**	**2.7600e-003**	**0.0134**	**0.0161**	**0.0000**	**42.7566**	**42.7566**	**0.0138**	**0.0000**	**43.1023**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0129	0.4549	0.0760	1.4200e-003	0.0715	1.4200e-003	0.0729	0.0122	1.3500e-003	0.0135	0.0000	135.4092	135.4092	5.0000e-003	0.0000	135.5342
Vendor	5.0000e-005	2.1100e-003	3.6000e-004	1.0000e-005	3.0000e-004	0.0000	3.1000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.5138	0.5138	2.0000e-005	0.0000	0.5144
Worker	9.0000e-004	5.8000e-004	6.1000e-003	2.0000e-005	5.4700e-003	1.0000e-005	5.4800e-003	8.8000e-004	1.0000e-005	8.9000e-004	0.0000	1.7158	1.7158	4.0000e-005	0.0000	1.7168
Total	**0.0138**	**0.4576**	**0.0825**	**1.4500e-003**	**0.0772**	**1.4300e-003**	**0.0787**	**0.0131**	**1.3600e-003**	**0.0145**	**0.0000**	**137.6388**	**137.6388**	**5.0600e-003**	**0.0000**	**137.7654**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0101	0.0000	0.0101	1.1800e-003	0.0000	1.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.3572	0.1847	4.9000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	42.7565	42.7565	0.0138	0.0000	43.1023
Total	**0.0316**	**0.3572**	**0.1847**	**4.9000e-004**	**0.0101**	**0.0145**	**0.0246**	**1.1800e-003**	**0.0134**	**0.0145**	**0.0000**	**42.7565**	**42.7565**	**0.0138**	**0.0000**	**43.1023**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0129	0.4549	0.0760	1.4200e-003	0.0549	1.4200e-003	0.0563	0.0105	1.3500e-003	0.0119	0.0000	135.4092	135.4092	5.0000e-003	0.0000	135.5342
Vendor	5.0000e-005	2.1100e-003	3.6000e-004	1.0000e-005	2.3000e-004	0.0000	2.4000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.5138	0.5138	2.0000e-005	0.0000	0.5144
Worker	9.0000e-004	5.8000e-004	6.1000e-003	2.0000e-005	4.1300e-003	1.0000e-005	4.1500e-003	7.5000e-004	1.0000e-005	7.6000e-004	0.0000	1.7158	1.7158	4.0000e-005	0.0000	1.7168
Total	**0.0138**	**0.4576**	**0.0825**	**1.4500e-003**	**0.0593**	**1.4300e-003**	**0.0607**	**0.0113**	**1.3600e-003**	**0.0127**	**0.0000**	**137.6388**	**137.6388**	**5.0600e-003**	**0.0000**	**137.7654**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0338	0.0000	0.0338	4.3100e-003	0.0000	4.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2266	2.5009	1.3804	4.1800e-003		0.0994	0.0994		0.0915	0.0915	0.0000	367.4900	367.4900	0.1189	0.0000	370.4614
Total	**0.2266**	**2.5009**	**1.3804**	**4.1800e-003**	**0.0338**	**0.0994**	**0.1332**	**4.3100e-003**	**0.0915**	**0.0958**	**0.0000**	**367.4900**	**367.4900**	**0.1189**	**0.0000**	**370.4614**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0434	1.5043	0.2557	4.8900e-003	0.2505	4.9000e-003	0.2554	0.0426	4.6800e-003	0.0473	0.0000	464.7616	464.7616	0.0155	0.0000	465.1500
Vendor	4.9000e-004	0.0194	3.2900e-003	5.0000e-005	2.7700e-003	4.0000e-005	2.8200e-003	5.0000e-004	4.0000e-005	5.4000e-004	0.0000	4.7271	4.7271	2.3000e-004	0.0000	4.7327
Worker	5.2800e-003	3.4100e-003	0.0357	1.1000e-004	0.0320	8.0000e-005	0.0321	5.1600e-003	7.0000e-005	5.2300e-003	0.0000	10.0451	10.0451	2.3000e-004	0.0000	10.0510
Total	**0.0491**	**1.5271**	**0.2948**	**5.0500e-003**	**0.2853**	**5.0200e-003**	**0.2903**	**0.0483**	**4.7900e-003**	**0.0530**	**0.0000**	**479.5338**	**479.5338**	**0.0160**	**0.0000**	**479.9338**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0144	0.0000	0.0144	1.8400e-003	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2266	2.5009	1.3804	4.1800e-003		0.0994	0.0994		0.0915	0.0915	0.0000	367.4896	367.4896	0.1189	0.0000	370.4609
Total	**0.2266**	**2.5009**	**1.3804**	**4.1800e-003**	**0.0144**	**0.0994**	**0.1139**	**1.8400e-003**	**0.0915**	**0.0933**	**0.0000**	**367.4896**	**367.4896**	**0.1189**	**0.0000**	**370.4609**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0434	1.5043	0.2557	4.8900e-003	0.1925	4.9000e-003	0.1973	0.0368	4.6800e-003	0.0415	0.0000	464.7616	464.7616	0.0155	0.0000	465.1500
Vendor	4.9000e-004	0.0194	3.2900e-003	5.0000e-005	2.1500e-003	4.0000e-005	2.1900e-003	4.3000e-004	4.0000e-005	4.8000e-004	0.0000	4.7271	4.7271	2.3000e-004	0.0000	4.7327
Worker	5.2800e-003	3.4100e-003	0.0357	1.1000e-004	0.0242	8.0000e-005	0.0243	4.3800e-003	7.0000e-005	4.4500e-003	0.0000	10.0451	10.0451	2.3000e-004	0.0000	10.0510
Total	**0.0491**	**1.5271**	**0.2948**	**5.0500e-003**	**0.2188**	**5.0200e-003**	**0.2238**	**0.0416**	**4.7900e-003**	**0.0464**	**0.0000**	**479.5338**	**479.5338**	**0.0160**	**0.0000**	**479.9338**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.1600e-003	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Unmitigated	6.1600e-003	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Total	**6.1500e-003**	**0.0000**	**1.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.0000**	**2.9000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Total	**6.1500e-003**	**0.0000**	**1.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.0000**	**2.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.9584	8.2000e-004	1.7000e-004	6.0297
Unmitigated	5.9584	8.2000e-004	1.7000e-004	6.0297

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 17.8722	5.9584	8.2000e-004	1.7000e-004	6.0297
Total		**5.9584**	**8.2000e-004**	**1.7000e-004**	**6.0297**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 17.8722	5.9584	8.2000e-004	1.7000e-004	6.0297
Total		**5.9584**	**8.2000e-004**	**1.7000e-004**	**6.0297**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2619	0.0155	0.0000	0.6487
Unmitigated	0.2619	0.0155	0.0000	0.6487

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.29	0.2619	0.0155	0.0000	0.6487
Total		**0.2619**	**0.0155**	**0.0000**	**0.6487**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.29	0.2619	0.0155	0.0000	0.6487
Total		**0.2619**	**0.0155**	**0.0000**	**0.6487**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

West SAFCA YBEL - Mass Emissions Calculations

PROJECT DETAILS

Conversions

Year	Days
1	365
Tons	Pounds
1	2000

Construction Schedule

Phase	Start Date	End Date	Work Days
Site Prep	4/15/2021	4/26/2021	10
Arch Coating	5/3/2021	8/17/2021	92

Construction Work Days

Year	Work Days
2021	102

Criteria Pollutant Emissions (tpy)				
	ROG	NOx	PM10	PM2.5
2021			0.54	

GHG Emissions (MT/yr)	
	CO2e
2021	

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5
2021	6.30	94.96	10.59	3.52

GHG Emissions Amortized Over 30-yrs
34.3754267

Criteria Pollutant Emissions (tpy)				
	ROG	NOx	PM10	PM2.5
2021			0.42	

GHG Emissions (MT/yr)	
	CO2e
2021	

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5
2021	6.30	94.96	8.29	3.27

SUMMER CONSTRUCTION EMISSIONS

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5
2021	9.07	160.49	25.14	6.3149

Mitigated

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5
2021	9.07	160.49	18.22	5.5769

WINTER CONSTRUCTION EMISSIONS

UNMitigated

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5

2021	9.16	163.16	25.14	6.3235

Mitigated

Criteria Pollutant Emissions (ppd)				
	ROG	NOx	PM10	PM2.5
2021	9.16	163.16	18.23	5.5855

Appendix B

CNDDB, CNPS and IPAC Species Lists

TABLE 1
SPECIAL-STATUS SPECIES OCCURRING OR POTENTIALLY OCCURRING IN THE PROJECT AREA

Common Name ***Scientific Name***	**Status (Federal/ State)**	**Habitat Requirements**	**Potential to Occur**
Fish			
Delta smelt *Hypomesus transpacificus*	FT/SE	Found in open surface waters in the Delta. Seasonally in Suisun Bay, the Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	**None**. The project area is outside the distribution range of this species.
California Central Valley DPS steelhead *Oncorhynchus mykiss*	FT/–	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Central Valley ESU spring-run Chinook salmon *Oncorhynchus tshawytscha*	FT/ST	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Longfin smelt *Spirinchus thaleichthys*	--/ST	Spawns from November to June in freshwater over sandy-gravel substrates, rocks, or aquatic plants. After hatching, larvae move up into surface waters and are transported downstream into brackish-water nursery areas. In the San Francisco estuary, longfin smelt are usually found downstream of Rio Vista on the Sacramento River and from the vicinity of Medford Island downstream on the San Joaquin River. They are occasionally found upstream of these locations	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Sacramento perch *Archoplites interruptus*	–/CSC	Inhabits freshwater sloughs, slow-moving rivers, lakes, reservoirs, and farm ponds. Often found near submerged or emergent vegetation. Tolerates variable conditions, including a wide range of turbidity, temperature, salinity, and pH. Occurs mainly in inshore areas of larger lakes	
Sacramento River ESU winter-run Chinook salmon *Oncorhynchus tshawytscha*	FE/SE	Inhabits rivers and streams tributary to the Sacramento and San Joaquin Rivers and Delta ecosystems.	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Sacramento spittail Pogonicht hysmacrol epidotus	--/CSC	Inhabits aquatic, estuary, freshwater marsh, and Sacramento/San Joaquin River flowing waters.	**High**. This species is seasonally present in the mainstem Sacramento River and could be present within the YBEL Toe Drain Canal.
Invertebrates			
Conservancy fairy shrimp *Branchinecta conservatio*	FE/SE	Occurs in swales in grassland communities and in large turbid vernal pools, where rooted vegetation is absent.	**None.** The project area does not provide habitat for this species.

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Valley elderberry longhorn beetle Desmocerus californicus dimorphus	FT/–	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberry shrubs 2–8 inches in diameter; some preference shown for "stressed" elderberry shrubs.	**None.** The project area does not provide habitat (no elderberry shrubs present) for this species.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/–	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabits small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**None.** The project area does not provide habitat for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/–	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	**None.** The project area does not provide habitat for this species.
Amphibians			
California red-legged frog *Rana draytonii*	FT/CSC	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation.	**None.** The project area occurs outside of the known extant geographic range for this species.
California tiger salamander *Ambystoma californiense*	FT/CT	Found in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stock ponds, in grassland and oak savanna plant communities from 10 to 3,450 feet.	**None.** The project area does not provide habitat for this species.
Giant garter snake *Thamnophis gigas*	FT/CT	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low-gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November–mid-March).	**High.** The YBEL Toe Drain Canal provides aquatic habitat and the small mammal burrows within the disturbed areas provide upland habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Western pond turtle *Emys marmorata*	–/CSC	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low-gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**High.** The YBEL Toe Drain provides aquatic habitat and the ruderal provides upland habitat.
Birds			
Bank swallow *Riparia riparia*	–/CT	Nests in riverbanks and forages over riparian areas and adjacent uplands.	**None.** The project area does not provide suitable nesting habitat for this species.
California black rail *Laterallus jamaicensis coturniculus*	–/CT	Found in saltwater, brackish, and freshwater marshes. Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	**None.** The project area does not provide suitable nesting habitat for this species.
Grasshopper sparrow *Ammodramus savannarum*	–/CSC	An uncommon local summer resident and breeder in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity counties south to San Diego County. Occurs in dry, dense grasslands, especially with scattered shrubs for sitting perches. A thick cover of grasses and forbs is essential for concealment. Nests are built of grasses and forbs in slight depressions in	

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
		ground hidden by a clump of grasses or forbs. Usually nests solitarily from early April to mid-July.	
Least Bell's vireo *Vireo bellii pusillus*	FE/CE	Inhabits willow thickets and other dense riparian habitat below ± 2,000 feet. Known from canyons in San Benito and Monterey cos., coastal areas from Santa Barbara County south, and western edges of southern California, near deserts. Usually found near water, including intermittent streams.	**None.** The project area occurs outside of the extant geographical range for this species.
Mountain plover *Charadrius montanus*	–/CSC	Inhabits short grasslands, freshly plowed fields, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	**Moderate. This species has the potential to be present in the project area in the wintertime.**
Purple martin *Progne subis*	–/CSC	Widely distributed throughout nearly the entire eastern U.S. In the western U.S, occurs in the Rocky Mountains, Sonoran Desert, Central Mexico, and Pacific Coast states. Breeding occurs from April into August. Inhabits open areas with an open water source nearby. Purple martins nest colonially or singly in cavities both natural and human-made. Purple martins are not as likely to use nest boxes in California as they are in the eastern U.S.	
Song sparrow ("Modesto" population) *Melospiza melodia*	–/CSC	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub.	**High.** The riparian habitat within the project area provides nesting habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Swainson's hawk *Buteo swainsoni*	–/CT	Nests peripherally to valley riparian systems in lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	**High.** The mature trees in the project area and vicinity provide suitable nesting habitat and the agricultural land in the vicinity of the project area provides foraging habitat for this species. There are CNDDB occurrences within 5 miles of the project area.
Tricolored blackbird *Agelaius tricolor*	–/CT (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose in freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals).	**High.** While the project area does not provide suitable nesting habitat, the agricultural land in the vicinity of the project area provides suitable foraging habitat. There are CNDDB occurrences within 5 miles of the project area.
Western snowy plover *Charadrius alexandrinus nivosus*	--/CSC	Nests, feeds, and takes cover on sandy or gravelly beaches along the Pacific coast, at sand pits, dune-backed beaches at creek and river mouths, salt pans at lagoons and estuaries, and alkali lakes. Common on sandy marine and estuarine shores in fall and winter. Inland nesting areas occur at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern California, the Central Valley, and southeastern California	**None.** The project area does not provide suitable nesting habitat for this species. There are CNDDB occurrences within 5 miles of the project area.

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
		deserts. Requires a sandy, gravelly or friable soil substrate for nesting.	
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	--/CSC	Breeds commonly, but locally, east of Cascade Range and Sierra Nevada, in the Central Valley, and selectively in Imperial and Colorado River valleys in southern California. Nests and forages in fresh emergent wetland. Also feeds along shorelines and in open fields. Nests in deep and densely vegetated fresh emergent wetland, often along borders of lakes or ponds. Uncommon winter resident in the Central Valley as much of the breeding population migrates south to winter. Breeds mid-April to late July. Usually nests in large colonies with nests somewhat closely scattered.	**Low.** The project area does not provide suitable nesting habitatt for this species.
Mammals			
American badger *Taxidea taxus*	--/CSC	Found throughout most of California except the northern North Coast. Abundant in drier open stages of many shrub, forest, and herbaceous habitats with friable soils. Feeds on fossorial rodents, some reptiles, insects, earthworms, bird eggs, and carrion. Friable soils are required to dig burrows for refugia and rearing young	**Low.** The project site provides marginal denning habitat within the ruderal areas.
Pallid bat *Antrozous pallidus*	–/CSC	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky roosting areas.	**Moderate.** The trees within the riparian provide day roosting habitat for this species.
Plants			
Heartscale *Atriplex cordulata*	--/--/1B.2	Annual herb found on saline or alkaline soils in chenopod scrub, meadows and seeps, and sandy valley and foothill grassland from 3 to 1,230 feet. Known from Alameda, Butte, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Luis Obispo, Solano, and Tulare counties. Extirpated from San Joaquin, Stanislaus and Yolo counties. Blooms April through October.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Alkali milk-vetch *Astragalus tener* var. *tener*	--/--/1B.1	Annual herb found in vernally mesic meadows and subalkaline flats from 5 to 250 feet. Known from the Sacramento Valley. Blooms April through May.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	--/--/1B.1	An annual herb found in mesic habitats of cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools from 15 to 5,700 feet. Known from the high Cascade Range, Klamath Ranges, north Coast Ranges, Sacramento Valley, and Bay Area. Blooms April through July.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Bearded popcorn-flower *Plagiobothrys hystriculus*	--/--/1B.1	Annual herb found in mesic valley and foothill grassland and vernal pools and swales from 0 to 900 feet. Known only from Solano County, primarily in the Montezuma Hills. Blooms April through May.	**None.** The project site does not provide suitable habitat and occurs outside of the known extant geographic range for this species.

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
			No CNDDB records are documented for this species within 5 miles of the project area.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	--/CE/1B.2	Annual herb found in clay soils in vernal pools and along lake margins from 30 to 7,800 feet. Known from the Modoc Plateau, Warner Mountains, Cascade Range, inner north Coast Range, Central Valley, and northern and central Sierra Nevada foothills. Blooms April through August.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Brittlescale *Atriplex depressa*	--/--/1B.2	Annual herb found on alkaline, clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools from 3 to 1,050 feet. Known from Alameda, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, Solano, Stanislaus, Tulare, and Yolo cos. Blooms April through October.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
California alkali grass *Puccinellia simplex*	--/--/1B.2	Annual herb found in alkaline, vernally mesic sinks, flats, and lake margins within chenopod scrub, meadows, seeps, valley and foothill grassland, and vernal pools from 7 to 3,050 feet.	**Low.** The project site does not provide suitable habitat for this species. One CNDDB record is documented within 5 miles of the project area.
Bristly sedge *Carex comosa*	--/--/2B.1	Perennial rhizomatous herb found in wet areas in coastal prairie and valley and foothill grassland, and along lake margins from 0 to2,050 feet. Known from the Klamath Ranges, Modoc Plateau and Warner Mts., inner north coast ranges, high Cascade Range, Central Valley, Bay Area, central coast, and San Bernardino Mts. Blooms May through September	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	--/CE/1B.2	Annual herb found in clay soils in vernal pools and along lake margins from 30 to 7,800 feet. Known from the Modoc Plateau, Warner Mountains, Cascade Range, inner north Coast Range, Central Valley, and northern and central Sierra Nevada foothills. Blooms April through August.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Colusa grass *Neostapfia colusana*	FT/CE/1B.1	Annual herb found in large adobe vernal pools from 15 to 660 feet. Known from Glenn, Merced, Solano, Stanislaus, and Yolo counties. Presumed extirpated from Colusa County. Blooms May through August. Members of the Orcuttieae tribe inhabit large vernal pools or playas with inundation lasting until May or June, in areas of the pools where other plants are almost entirely absent. In the Sacramento Valley Colusa grass is known from the rim of alkaline basins	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Solano grass *Tuctoria mucronata*	FE/CE/1B.1	Annual herb found in mesic soils and vernal pools in valley and foothill grassland from 16 to 32 feet. Blooms from April through August. Known from only three occurrences: one at Olcott Lake at Jepson Prairie Preserve, one nearby on private land, and one south of Davis on DOD land.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Dwarf downingia *Downingia pusilla*	--/--/2B.2	Annual herb found in mesic valley and foothill grassland and vernal pools from 3 to 1,500 feet. Known from the north Coast Ranges,	**None.** The project site does not provide suitable habitat for this species.

Common Name ***Scientific Name***	**Status (Federal/ State)**	**Habitat Requirements**	**Potential to Occur**
		Central Valley, and Bay Area. Blooms March through May	No CNDDB records are documented for this species within 5 miles of the project area.
Ferris' milk-fetch *Astragalus tener* var. *ferrisiae*	--/--/1B.1	Annual herb found in vernally mesic meadows and subalkaline flats from 5 to 250 feet. Known from the Sacramento Valley. Blooms April through May.	**Low.** The project site does not provide suitable habitat for this species. One CNDDB record is documented within 5 miles of the project area.
Heckard's pepper-grass *Lepidium latipes* var. *heckardii*	--/--/1B.2	Annual herb found in wetlands and alkaline flats in valley and foothill grassland from 5 to 650 feet. Known from the Central Valley.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Jepson's coyote thistle *Eryngium jepsonii*	--/--/1B.2	Perennial herb found on clay soils in Valley and foothill grasslands and vernal pools from 9 to 985 feet. Known from the southern inner north Coast Range, deltaic Great Valley, and San Francisco Bay. Blooms April through August.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Keck's checkerbloom *Sidalcea keckii*	FE/--/1B.1	Annual herb found in cismontane woodland and valley and foothill grassland on serpentinite/ clay soils from 245 to 2,135 feet. Known from Colusa, Fresno, Kern, Merced, Napa, Solano, Tulare, and Yolo counties. Blooms April through June.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Legenere *Legenere limosa*	--/--/1B.1	Annual herb found in vernal pools and similar mesic areas from 3 to 2,900 feet. Known from the north Coast Ranges, Central Valley, and Bay Area. Blooms April through June.	**None.** The project site does not provide suitable habitat for this species. No CNDDB records are documented for this species within 5 miles of the project area.
Mason's lilaeopsis *Lilaeopsis masonii*	--/CR/1B.1	Perennial rhizomatous herb found in riparian scrub and in brackish or freshwater marshes and swamps from 0 to 35 feet. Known from the Central Valley, Bay Area, and central coast. Blooms April through November.	**Moderate.** The riparian within the project area provides suitable habitat for this species. One CNDDB record is documented within 5 miles of the project area.
Northern California black walnut *Juglans hindsii*	--/1B.1	Deciduous tree found in riparian forests and riparian woodlands up to 1,500 feet. Widely naturalized as a result of agricultural use as a rootstock for English walnuts. Considered native and special-status at three sites.	
Palmate-bracted birds-beak *Chloropyron palmatum (=Cordylanthus palmatus)*	FE/CE/1B.1	Annual hemiparasitic herb found in alkaline soil of chenopod scrub and Valley and foothill grassland from 16 to 510 feet. Known from Alameda, Colusa, Fresno, Glenn, Madera, and Yolo counties. Presumed extirpated in San Joaquin county. Blooms May through October.	
Pappose tarplant *Centromadia parryi* ssp. *parryi*	--/ 1B.2	Annual herb generally found in alkaline areas of chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernally mesic valley and foothill grasslands from 0 to 1,400 feet. Known from the north Coast Ranges, Sacramento Valley, and central coast. Blooms from May through November.	

Common Name *Scientific Name*	Status (Federal/ State)	Habitat Requirements	Potential to Occur
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	--/ 2B.2	Parasitic annual vine found in freshwater marshes and swamps from 50 to 920 feet. Alternanthera, Dalea, Lythrum, Polygonum, and Xanthium are reported hosts. Found in the Central Valley and south coast. Last found in California in 1948. Blooms July through October.	
Trifolium hydrophilum Saline clover	--/ 1B.2	Annual herb found in salt marshes, mesic and alkaline valley and foothill grassland, and vernal pools from 0 to 1,000 feet. Known from the Central Valley, Bay Area, central coast, and south Coast Ranges. Blooms April through June.	
Sanford's arrowhead *Sagittaria sanfordii*	--/ 1B.2	Emergent perennial rhizomatous herb found in freshwater marshes, swamps, ponds, and ditches from 0 to 2,200 feet. Known from the Klamath Ranges, north and south coasts, Cascade Range foothills, and Central Valley. Blooms May through October, and sometimes into November.	
San Joaquin spearscale *Extriplex joaquinana (=Atriplex joaquinana)*	--/ 1B.2	Annual herb found in alkaline soils of chenopod scrub, meadows and seeps, playas, and valley and foothill grassland from 3 to 2,740 feet. Known from the inner north Coast Range, Great Valley, central coast, San Francisco Bay, and east slope of the inner south Coast Range. Blooms April through October.	
Suisun Marsh aster *Symphyotrichum lentum*	--/ 1B.2	Perennial rhizomatous herb found in freshwater or brackish marshes and swamps from 0 to 10 feet. Known from the Sacramento Valley, Bay Area, and central coast. Blooms from May to November, and sometimes as early as April.	

NOTES:
Delta = Sacramento–San Joaquin Delta; DPS = distinct population segment; ESU = evolutionarily significant unit

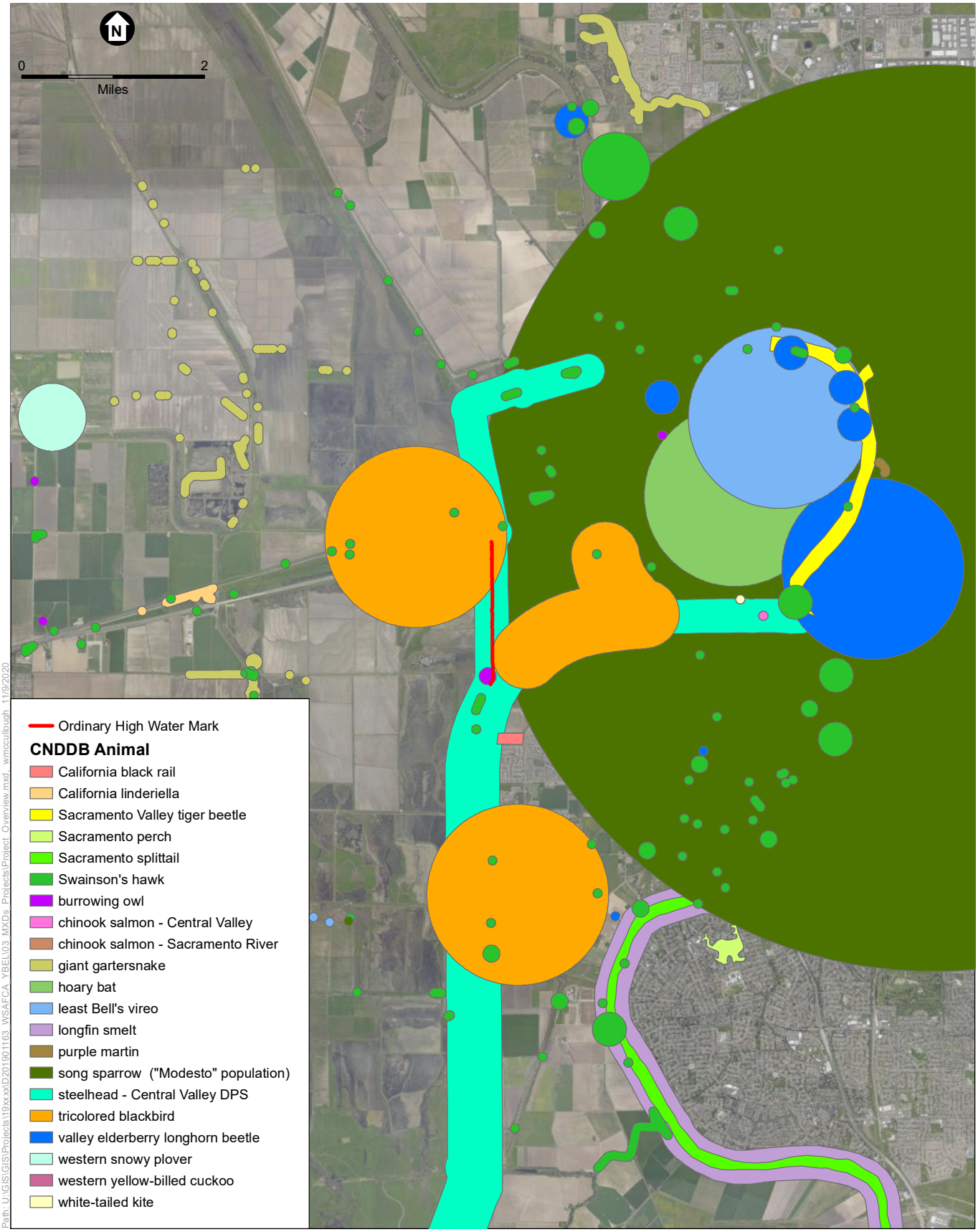
STATUS CODES:

Federal:

FE = federal endangered
FEET = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting
FD = delisted
EFH = essential fish habitat
SC = species of concern

California:

CE = State endangered
CT = State threatened
CR = State rare
CSC = California species of special concern
CCT = State threatened candidate
CFP = California fully protected



West Sacramento Area Flood Control Agency - Yolo Bypass East Levee

Figure 1
CNDDB Animal

ESA

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Grays Bend (3812166) OR Taylor Monument (3812165) OR Rio Linda (3812164) OR Davis (3812156) OR Sacramento East (3812154) OR Sacramento West (3812155) OR Saxon (3812146) OR Clarksburg (3812145) OR Florin (3812144))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Accipiter cooperii	Cooper's hawk	Birds	ABNKC12040	118	3	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	22	None	Threatened	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Ammodramus savannarum	grasshopper sparrow	Birds	ABPBXA0020	27	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	1	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Archoplites interruptus	Sacramento perch	Fish	AFCQB07010	5	1	None	None	G2G3	S1	null	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern	Aquatic, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters
Ardea alba	great egret	Birds	ABNGA04040	43	6	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	156	7	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Dicots	PDFAB0F8R3	18	4	None	None	G2T1	S1	1B.1	null	Meadow & seep, Valley & foothill grassland, Wetland
Astragalus tener var. tener	alkali milk-vetch	Dicots	PDFAB0F8R1	65	10	None	None	G2T1	S1	1B.2	null	Alkali playa, Valley & foothill grassland, Vernal pool, Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	2011	87	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-	Coastal prairie, Coastal scrub, Great Basin grassland, Great

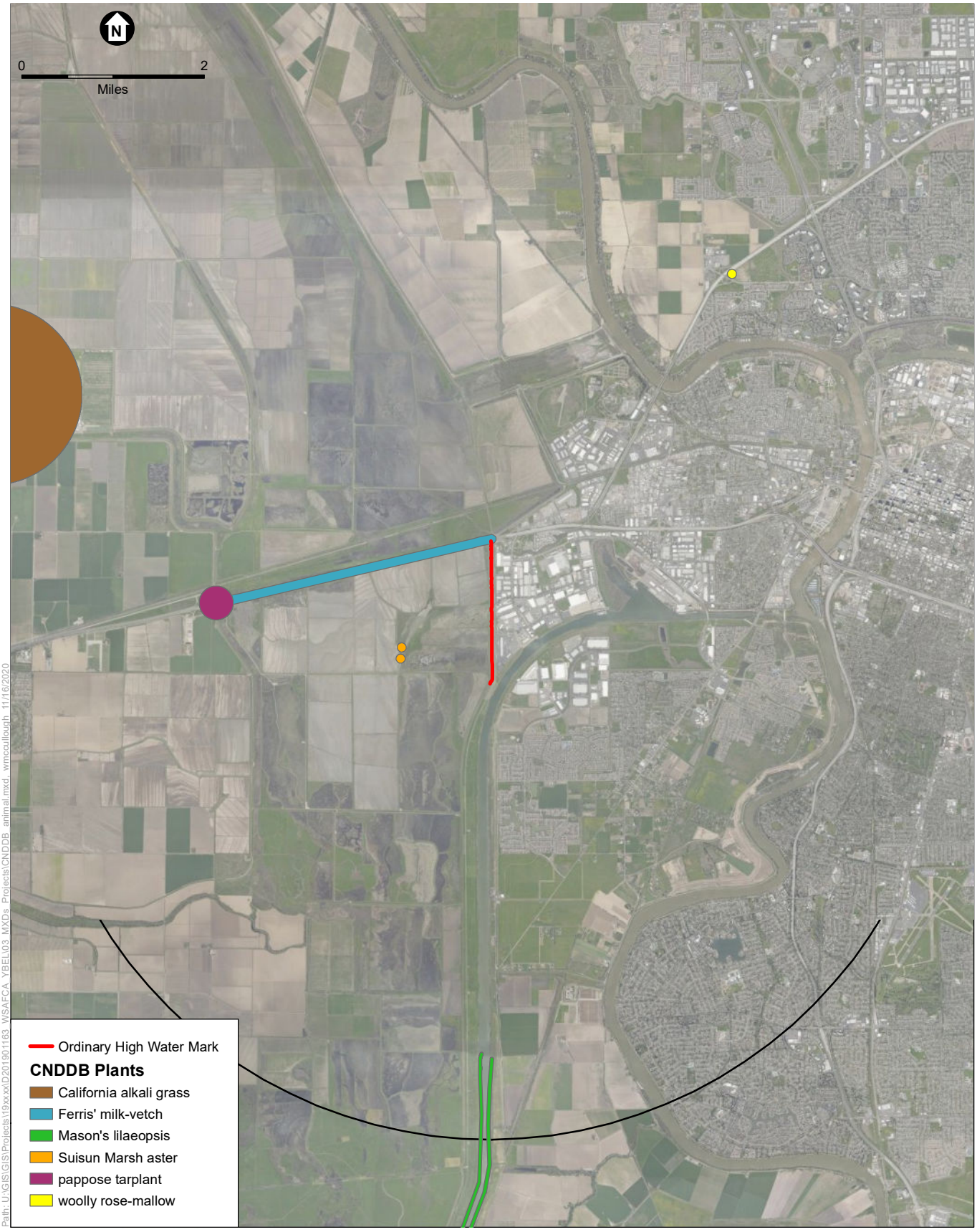
											Least Concern, USFWS_BCC-Birds of Conservation Concern	Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Atriplex cordulata var. cordulata	heartscale	Dicots	PDCHE040B0	66	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Meadow & seep, Valley & foothill grassland
Atriplex depressa	brittlescale	Dicots	PDCHE042L0	60	5	None	None	G2	S2	1B.2	null	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	312	1	None	Candidate Endangered	G3G4	S1S2	null	null	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	295	1	None	Candidate Endangered	G2G3	S1	null	USFS_S-Sensitive	null
Branchinecta conservatio	Conservancy fairy shrimp	Crustaceans	ICBRA03010	47	1	Endangered	None	G2	S2	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	791	39	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta mesovallensis	midvalley fairy shrimp	Crustaceans	ICBRA03150	144	8	None	None	G2	S2S3	null	null	Vernal pool, Wetland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	2	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2535	313	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Carex comosa	bristly sedge	Monocots	PMCYP032Y0	29	1	None	None	G5	S2	2B.1	null	Coastal prairie, Freshwater marsh, Marsh & swamp, Valley & foothill grassland, Wetland
Centromadia parryi ssp. parryi	pappose tarplant	Dicots	PDAST4R0P2	39	2	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chaparral, Coastal prairie, Marsh & swamp, Meadow & seep, Valley & foothill grassland
Charadrius alexandrinus nivosus	western snowy plover	Birds	ABNNB03031	138	2	Threatened	None	G3T3	S2S3	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Great Basin standing waters, Sand shore, Wetland
Charadrius montanus	mountain plover	Birds	ABNNB03100	90	4	None	None	G3	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Chenopod scrub, Valley & foothill grassland
Chloropyron palmatum	palmate-bracted bird's-beak	Dicots	PDSCR0J0J0	25	3	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chenopod scrub, Meadow & seep, Valley & foothill grassland, Wetland
Cicindela hirticollis abrupta	Sacramento Valley tiger beetle	Insects	IICOL02106	6	2	None	None	G5TH	SH	null	null	Sand shore

Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	165	2	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Riparian forest
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Dicots	PDCUS01111	6	1	None	None	G5T4?	SH	2B.2	null	Marsh & swamp, Wetland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	24	Threatened	None	G3T2	S3	null	null	Riparian scrub
Downingia pusilla	dwarf downingia	Dicots	PDCAM060C0	132	6	None	None	GU	S2	2B.2	null	Valley & foothill grassland, Vernal pool, Wetland
Egretta thula	snowy egret	Birds	ABNGA06030	20	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Meadow & seep, Riparian forest, Riparian woodland, Wetland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	180	18	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Elderberry Savanna	Elderberry Savanna	Riparian	CTT63440CA	4	3	None	None	G2	S2.1	null	null	Riparian scrub
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1398	7	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eryngium jepsonii	Jepson's coyote-thistle	Dicots	PDAPI0Z130	19	2	None	None	G2	S2	1B.2	null	Valley & foothill grassland, Vernal pool
Extriplex joaquinana	San Joaquin spearscale	Dicots	PDCHE041F3	127	9	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland
Falco columbarius	merlin	Birds	ABNKD06030	37	6	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Estuary, Great Basin grassland, Valley & foothill grassland
Fritillaria agrestis	stinkbells	Monocots	PMLIL0V010	32	2	None	None	G3	S3	4.2	null	Chaparral, Cismontane woodland, Pinon & juniper woodlands, Ultramafic, Valley & foothill grassland
Gonidea angulata	western ridged mussel	Mollusks	IMBIV19010	157	1	None	None	G3	S1S2	null	null	Aquatic
Gratiola heterosepala	Boggs Lake hedge-hyssop	Dicots	PDSCR0R060	99	1	None	Endangered	G2	S2	1B.2	BLM_S-Sensitive	Freshwater marsh, Marsh & swamp, Vernal pool, Wetland
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	Riparian	CTT61410CA	56	1	None	None	G2	S2.1	null	null	Riparian forest
Hibiscus lasiocarpos var.	woolly rose-mallow	Dicots	PDMAL0H0R3	173	10	None	None	G5T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho	Freshwater marsh, Marsh &

occidentalis											Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	swamp, Wetland
Lasionycteris noctivagans	silver-haired bat	Mammals	AMACC02010	139	1	None	None	G5	S3S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Lower montane coniferous forest, Oldgrowth, Riparian forest
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	238	2	None	None	G5	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Lasthenia chrysantha	alkali-sink goldfields	Dicots	PDAST5L030	55	1	None	None	G2	S2	1B.1	null	Vernal pool
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	303	1	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland
Legenere limosa	legenere	Dicots	PDCAM0C010	83	7	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_UCBG-UC Botanical Garden at Berkeley	Vernal pool, Wetland
Lepidium latipes var. heckardii	Heckard's pepper-grass	Dicots	PDBRA1M0K1	14	7	None	None	G4T1	S1	1B.2	null	Valley & foothill grassland, Vernal pool
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	324	26	Endangered	None	G4	S3S4	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Lilaeopsis masonii	Mason's lilaeopsis	Dicots	PDAPI19030	198	1	None	Rare	G2	S2	1B.1	null	Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	508	42	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Melospiza melodia	song sparrow ("Modesto" population)	Birds	ABPBXA3010	92	10	None	None	G5	S3?	null	CDFW_SSC-Species of Special Concern	null
Myrmosula pacifica	Antioch multilid wasp	Insects	IIHYM15010	3	1	None	None	GH	SH	null	null	Interior dunes
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	64	2	None	None	G4T2	S2	1B.1	null	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Neostapfia colusana	Colusa grass	Monocots	PMPOA4C010	66	3	Threatened	Endangered	G1	S1	1B.1	null	Vernal pool, Wetland
Northern Claypan Vernal Pool	Northern Claypan Vernal Pool	Herbaceous	CTT44120CA	21	1	None	None	G1	S1.1	null	null	Vernal pool, Wetland
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	8	None	None	G3	S3.1	null	null	Vernal pool, Wetland
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	4	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	5	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Oncorhynchus tshawytscha pop. 6	chinook salmon - Central Valley spring-run ESU	Fish	AFCHA0205A	13	1	Threatened	Threatened	G5	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters

Oncorhynchus tshawytscha pop. 7	chinook salmon - Sacramento River winter-run ESU	Fish	AFCHA0205B	2	1	Endangered	Endangered	G5	S1	null	AFS_EN-Endangered	Aquatic, Sacramento/San Joaquin flowing waters
Phalacrocorax auritus	double-crested cormorant	Birds	ABNFD01020	39	3	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Plagiobothrys hystriculus	bearded popcornflower	Dicots	PDBOR0V0H0	15	1	None	None	G2	S2	1B.1	null	Valley & foothill grassland, Vernal pool, Wetland
Plegadis chihi	white-faced ibis	Birds	ABNGE02020	20	1	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Marsh & swamp, Wetland
Pogonichthys macrolepidotus	Sacramento splittail	Fish	AFCJB34020	15	1	None	None	GNR	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Aquatic, Estuary, Freshwater marsh, Sacramento/San Joaquin flowing waters
Progne subis	purple martin	Birds	ABPAU01010	71	10	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, Lower montane coniferous forest
Puccinellia simplex	California alkali grass	Monocots	PMPOA53110	80	8	None	None	G3	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool
Riparia riparia	bank swallow	Birds	ABPAU08010	298	1	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	126	25	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Sidalcea keckii	Keck's checkerbloom	Dicots	PDMAL110D0	50	2	Endangered	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Ultramafic, Valley & foothill grassland
Spirinchus thaleichthys	longfin smelt	Fish	AFCHB03010	46	1	Candidate	Threatened	G5	S1	null	null	Aquatic, Estuary
Symphyotrichum lentum	Suisun Marsh aster	Dicots	PDASTE8470	175	1	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture	Brackish marsh, Freshwater marsh, Marsh & swamp, Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	594	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert

												scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Thamnophis gigas	giant gartersnake	Reptiles	ARADB36150	366	87	Threatened	Threatened	G2	S2	null	IUCN_VU-Vulnerable	Marsh & swamp, Riparian scrub, Wetland
Trifolium hydrophilum	saline clover	Dicots	PDFAB400R5	56	8	None	None	G2	S2	1B.2	null	Marsh & swamp, Valley & foothill grassland, Vernal pool, Wetland
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Monocots	PMPOA6N020	4	2	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Valley & foothill grassland, Vernal pool, Wetland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	503	2	Endangered	Endangered	G5T2	S2	null	IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List	Riparian forest, Riparian scrub, Riparian woodland
Xanthocephalus xanthocephalus	yellow-headed blackbird	Birds	ABPBXB3010	13	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Marsh & swamp, Wetland



West Sacramento Area Flood Control Agency - Yolo Bypass East Levee

Figure 2
CNDDB Plants

ESA

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

31 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812166, 3812165, 3812164, 3812156, 3812155, 3812154, 3812146 3812145 and 3812144;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3

Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Poaceae	annual herb	Apr-Aug	1B.1	S1	G1

Suggested Citation

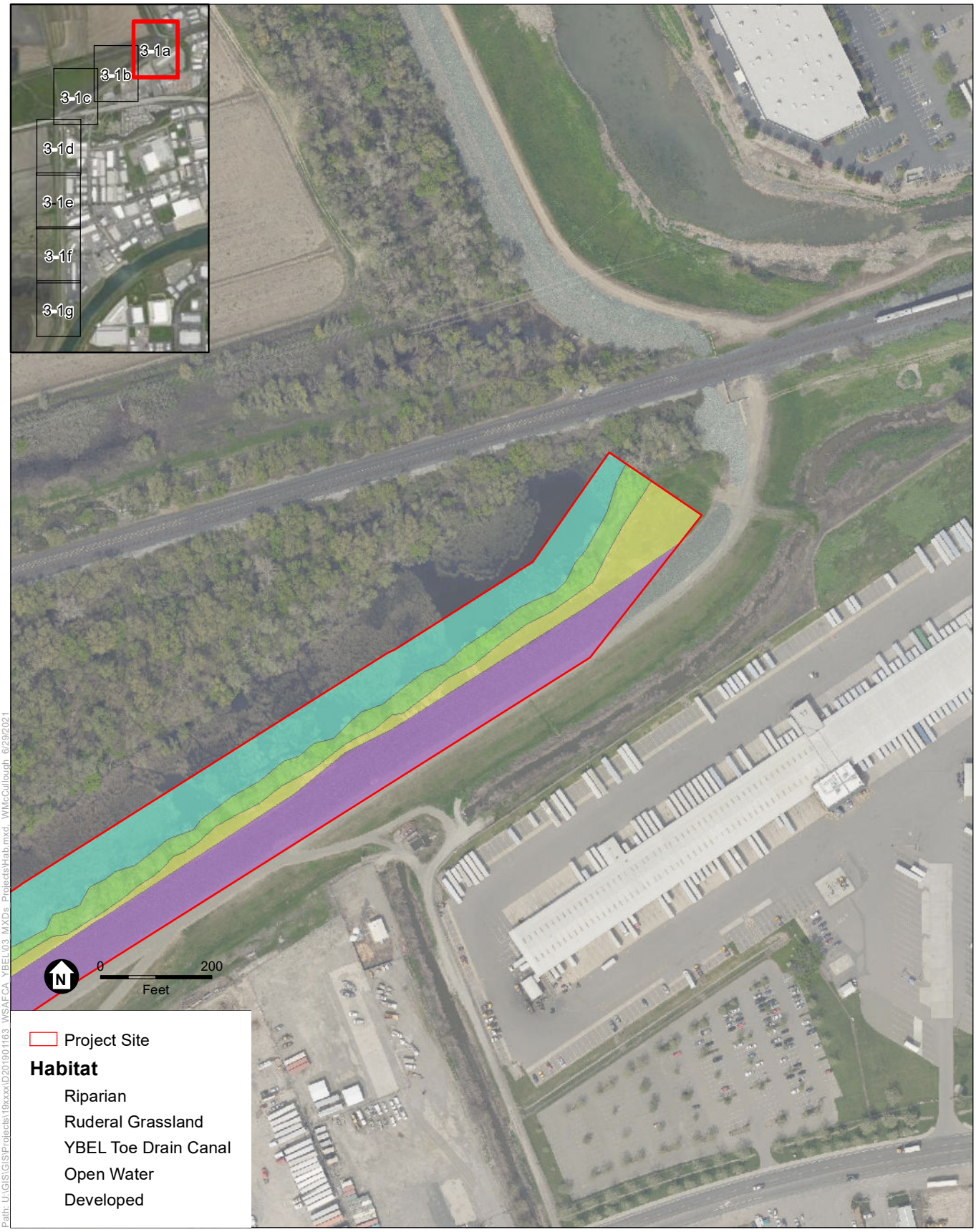
California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 13 November 2020].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

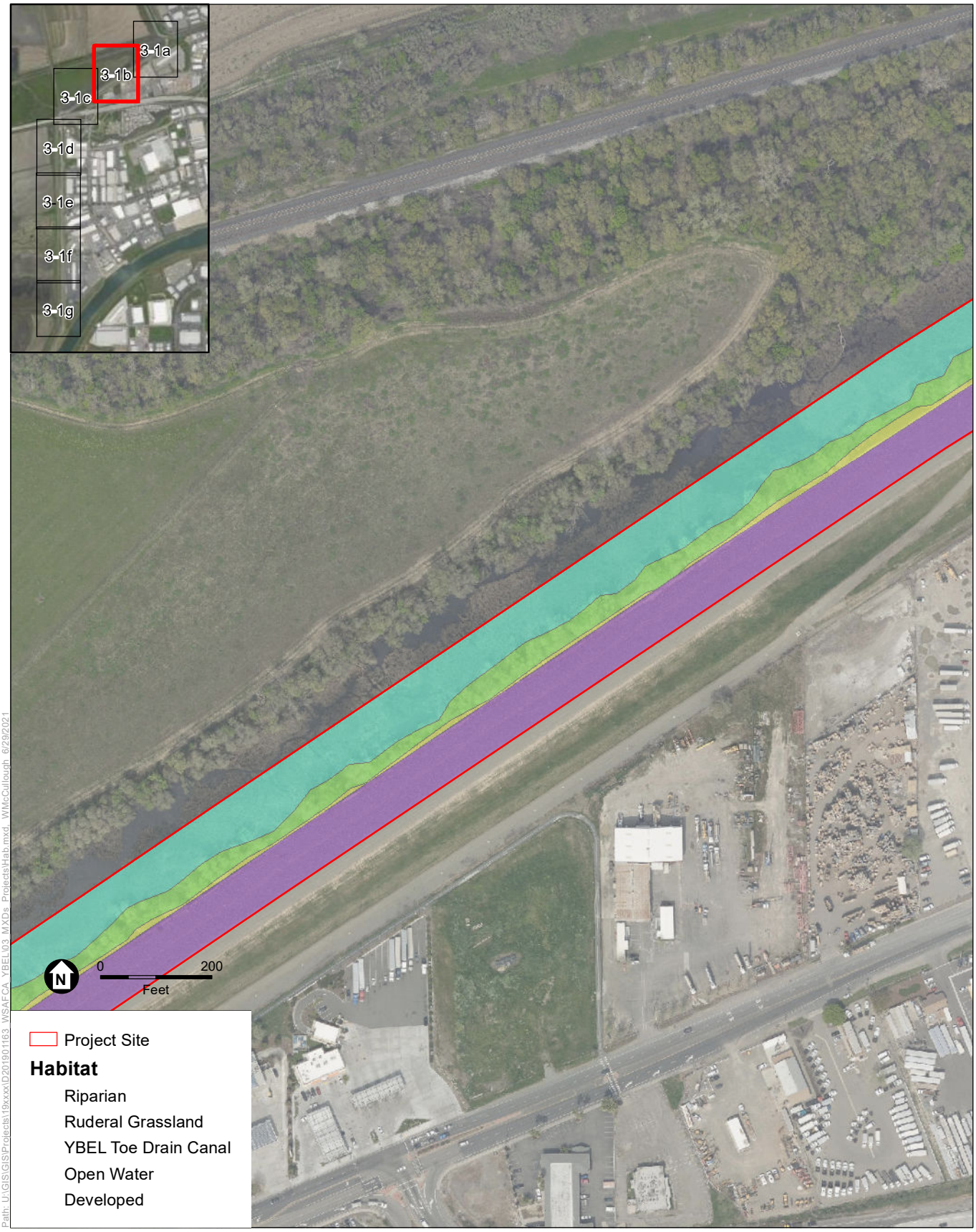


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1a
Habitat Types

ESA

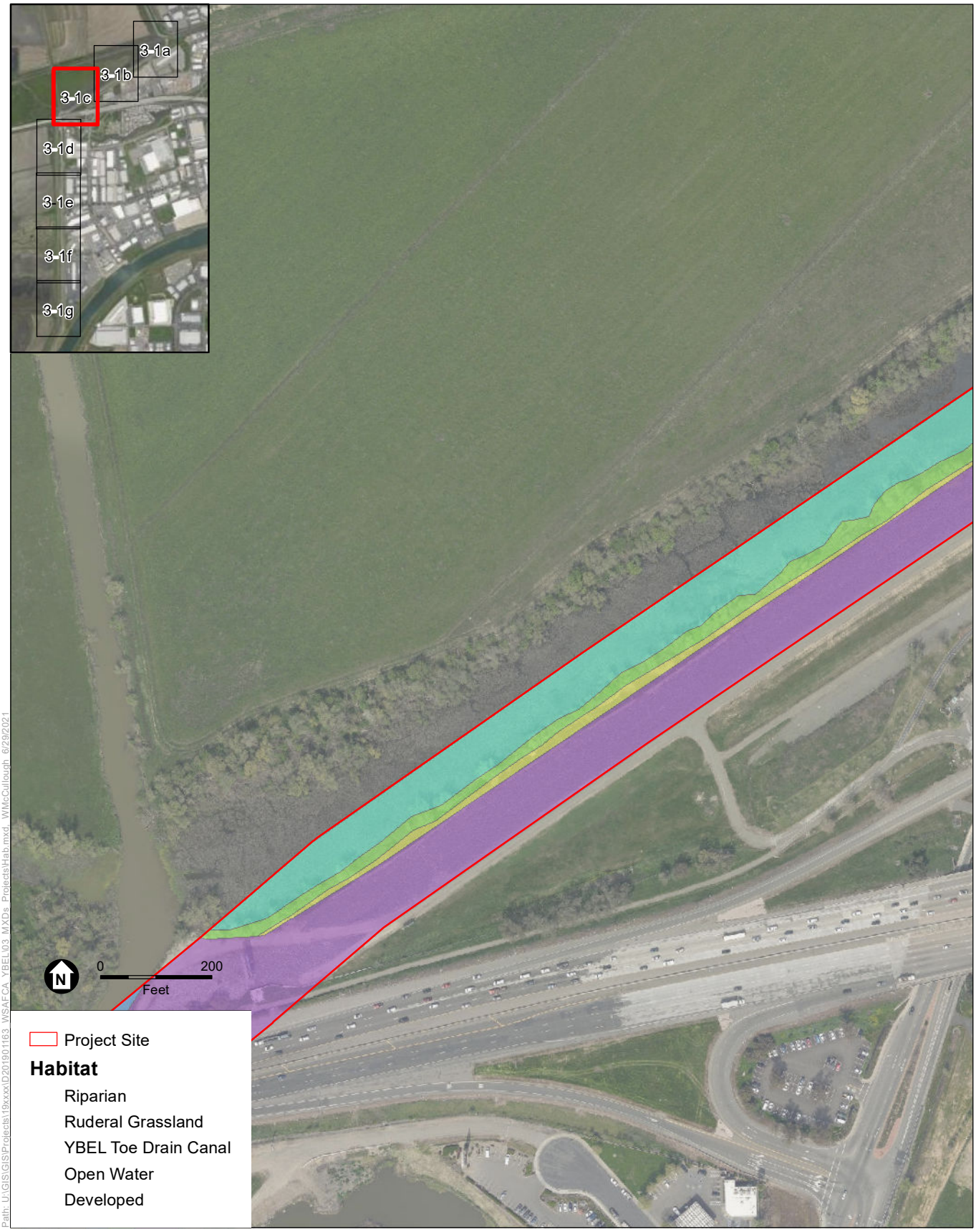


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1b
Habitat Types

ESA

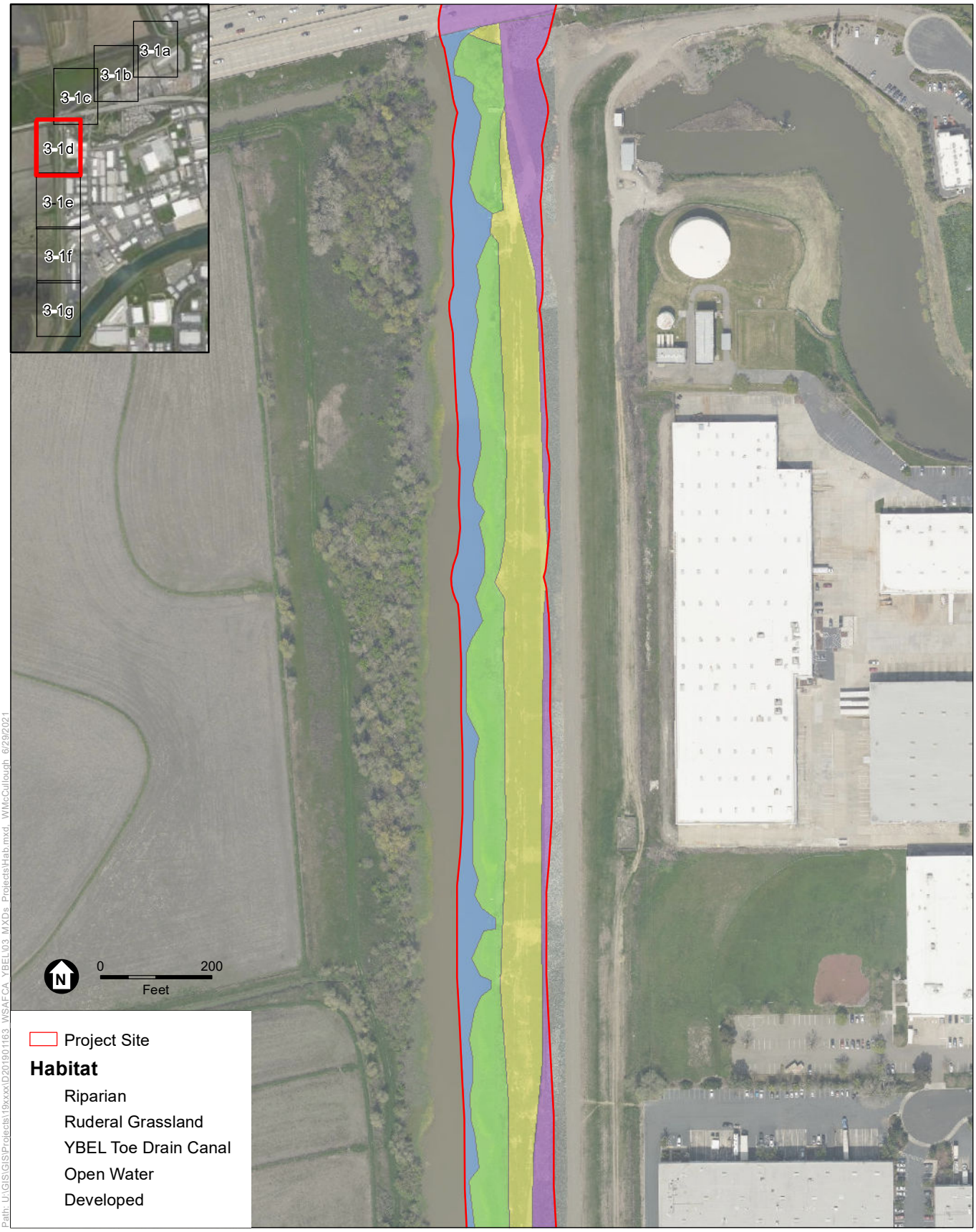


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1c
Habitat Types

ESA

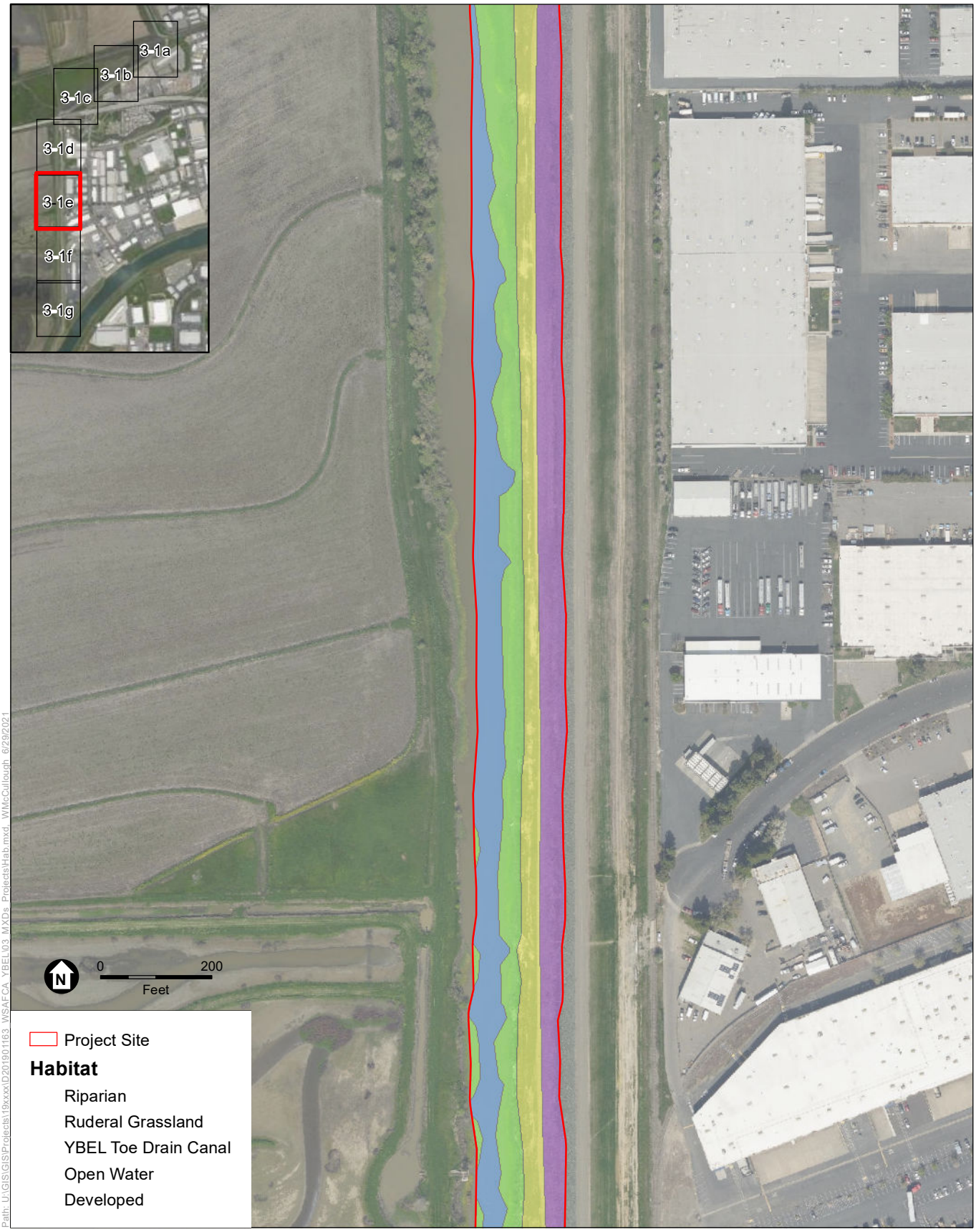


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1d
Habitat Types

ESA

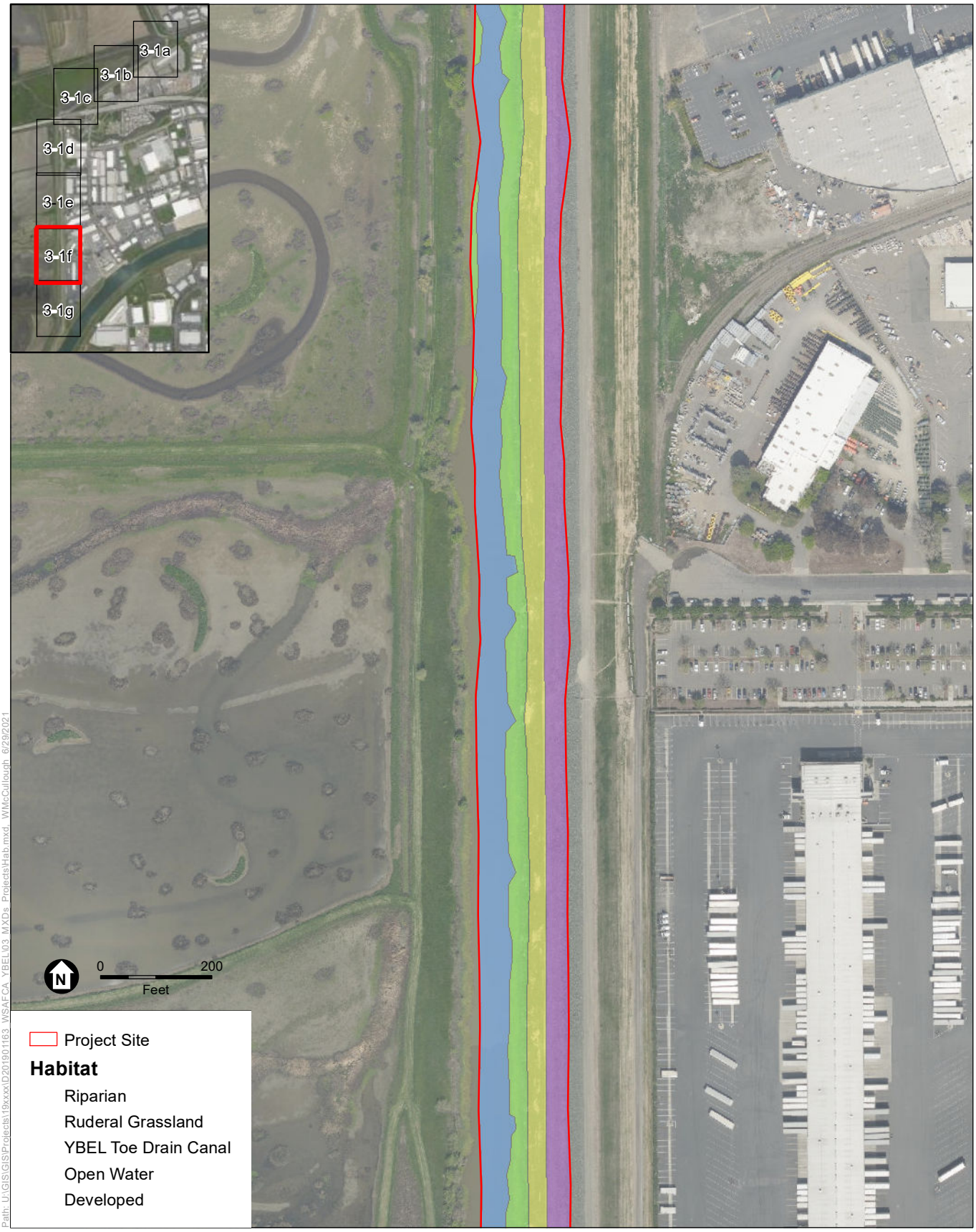


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1e
Habitat Types

ESA

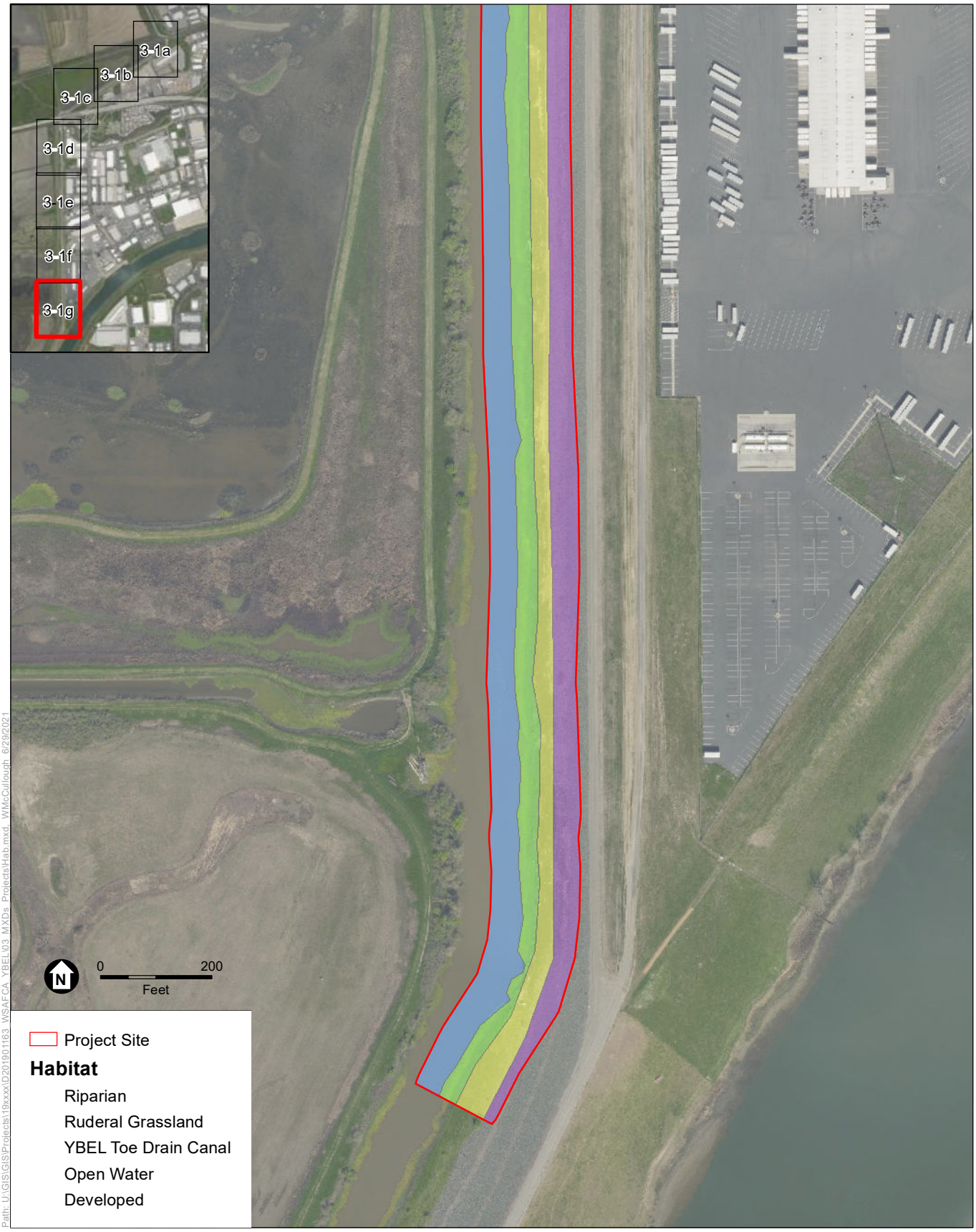


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1f
Habitat Types

ESA



SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1g
Habitat Types

ESA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654
http://kim_squires@fws.gov

In Reply Refer To: November 12, 2020
Consultation Code: 08FBDT00-2021-SLI-0032
Event Code: 08FBDT00-2021-E-00076
Project Name: Yolo Bypass East Levee

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08FBDT00-2021-SLI-0032

Event Code: 08FBDT00-2021-E-00076

Project Name: Yolo Bypass East Levee

Project Type: LAND - FLOODING

Project Description: Levee modifications

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.574334584803594N121.58155600815766W

Counties: Yolo, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5945

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

Appendix C

Cultural Resources Inventory and NRHP Evaluation reports

[Confidential]

Appendix D

Compliance with Environmental Laws and Regulations

APPENDIX D
Compliance with Environmental Laws and Regulations

The following subsections discuss compliance with relevant federal and state regulations. Summaries of the regulation follow statements of compliance.

D.1 Federal Requirements

American Indian Religious Freedom Act

Full Compliance. This act requires Federal agencies to make reasonable efforts to locate and coordinate with organizations, and communities of American Indians to ensure that religious rights are accommodated during project planning, construction, and operation. Pursuant to this act, the USACE corresponded with American Indian Tribes through U.S. Postal Service, email and voice on the proposed action. Correspondence is documented in Section 3.6.1 of the Draft EA/IS.

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470, et seq.

Full Compliance. This act prohibits the removal, sale, receipt, and interstate transportation of archaeological resources obtained illegally (without permits) from public lands. The proposed action would not occur on public lands (federal lands or Indian lands) or involve any such archaeological resources.

Clean Air Act of 1972, as amended, 42 U.S.C. 7401, et seq.

Full Compliance. Federal activities resulting in the discharge of air pollutants must conform to National Ambient Air Quality Standards and the State Implementation Plan unless the activity is explicitly exempted by EPA regulations. As discussed previously, the USACE completed an analysis of air quality effects from the proposed action and has determined that the estimated emissions would not exceed Federal de minimus thresholds or violate any Federal air quality standard. The USACE has determined that the proposed project would have no significant adverse effect on the future air quality of the area. Implementation of BMPs and mitigation measures would be implemented to reduce equipment emissions (including NOx) and PM10 to the extent possible. The USACE would also coordinate with other projects to avoid cumulative effects. Thus, the USACE has determined that the proposed action would have no significant effects on the future air quality of the area, and a conformity determination would not be required. A copy of the Draft EA/IS was provided to the YSAQMD.

Federal Endangered Species Act

Full Compliance. The federal Endangered Species Act (FESA) prohibits the "take" of endangered or threatened fish and wildlife species on public or private property, and the "take" of endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under the FESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS has interpreted the definition of "harm" to include any

significant habitat modification that could result in take. If a project would take a federally listed species, then an incidental take permit is required to authorize the take. Such a permit typically requires various measures to compensate for or to minimize the take.

Pursuant to Section 7 of the FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species, or species proposed for federal listing, may be present in the project area, and then must determine whether the project would have a potentially significant impact on such species. In addition, the federal agency must determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 United States Code [USC] 1536[3], [4]).

The USFWS administers the FESA for all terrestrial and non-marine aquatic species and the NMFS administers FESA for marine fish species, including anadromous salmonids such as salmon, sturgeon, and steelhead. Projects for which a federally listed species or its habitat is present and for which federal permits are required must receive authorization from USFWS and/or NMFS. Pursuant to the FESA, USACE reinitiated consultation with USFWS and submitted a Biological Assessment (BA) for reinitiation for potential adverse effects on federally endangered species, the BA will be submitted to USFWS in November 2021. USACE anticipates a USFWS will issue a Biological Opinion in early January 2022.

Clean Water Act of 1972, as amended, 33 U.S.C. 1251, et seq.

Full Compliance. The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. The CWA serves as the primary federal law regulating the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Clean Water Act, Section 401: Water Quality Certification

Full Compliance. Under CWA Section 401, applicants for a federal license or permit to conduct activities which may result in the discharge of a pollutant into waters of the U.S. must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. The construction would not impact waters of the U.S., compliance with Clean Water Act Section 404(b)(1) is not required. The proposed action will not discharge a pollutant into waters of the U.S., therefore, a CWA Section 401 water quality certification is not required.

Clean Water Act Section 404: Discharge of Dredged or Fill Material

Full Compliance. Section 404 of the CWA (33 U.S.C. Section 1344) authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for discharge of dredged or fill material into the waters of the United States at specified disposal sites (33 Code of Federal Regulations [CFR] Part 323). The selection and use of disposal sites will be in accordance with guidelines developed by the Administrator of USEPA in conjunction with the Secretary of the Army and published in 40 CFR Part

230 (the "guidelines"). 40 CFR Part 230 subpart C includes water quality aspects of dredge-and-fill activities. Among other topics, these guidelines address discharges that alter substrate elevation or contours, suspended particulates, water clarity, nutrients and chemical content, current patterns and water circulation, water fluctuations, and salinity gradients. Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The USACE does not issue permits to itself under CWA Section 404 for its own proposed actions. Rather, USACE conducts a 404(b)(1) analysis which would describe how USACE will comply with the guidelines and substantive requirements of the Clean Water Act. A section 404(b)(1) analysis was conducted for the West Sacramento Project overall and is included in Appendix F of the 2015 GRR FEIS/EIR. The proposed action considered in this EA will not occur in an aquatic environment or waters of the United States. In addition, the construction activities associated with the proposed action will not impact waters of the U.S., as a result the proposed action is in full compliance with CWA Section 404 is .

Clean Water Act, National Pollutant Discharge Elimination System, Construction General Permit

Full Compliance. The project would also require an NPDES permit since it would disturb 1 or more acre of land and involves possible storm water discharges to surface waters. The State of California adopted the *NPDES General Permit for Stormwater DischargesAssociated with Construction and Land Disturbance Activities*, commonly referred to as the Construction General Permit, on September 2, 2009 (Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and2012-0006-DWQ). The Construction General Permit regulates construction site stormwater management. Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the general permit for discharges of stormwater associated with construction activity. The proposed action will obtain coverage under the Construction General Permit.

Magnuson-Stevens Fishery Conservation and Management Act

Full Compliance. The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1801), by the Sustainable Fisheries Act of 1996, requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. The EFH designation applies to all species managed under a Federal Fishery Management Plan (FMP). In California, the FMP for Pacific salmon designates the Sacramento and San Joaquin Rivers as EFH for Central Valley fall-run Chinook salmon. Amendment 14 of the Pacific Salmon FMP identifies and describes mechanisms by which various factors may influence EFH and salmonids. Specifically, habitat requirements are identified and potential habitat concerns are listed. Given these designated characteristics, the primary components of EFH present in the Sacramento River north of the project site are migration pathways. The existing condition of the habitat in the area is highly disturbed in terms of flow modifications, channel modification (channelization and riprap), lack of vegetative cover, and the likely increased predation resulting from these habitat modifications. Flow modifications are primarily the result of upstream impoundments, water diversions, and associated water management, which have reduced flows in winter and spring, when natural precipitation and snow melt would otherwise result in higher flow, and increased flows in summer and fall, which are generally dry periods in California's Central Valley. The proposed action will not occur in EFH nor will it result in adverse effects to EFH and will be in *Full Compliance*.

Executive Order 11988 (Floodplain Management)

Full Compliance. Executive Order 11988 (May 24, 1977) requires Federal agencies to prepare floodplain assessments for proposed actions located in or affecting floodplains. If an agency proposes to conduct an action in a floodplain, it must consider alternatives to avoid adverse effects and incompatible development in the floodplain. If the only practicable alternative involves constructing in a floodplain, the agency must minimize potential harm to or in the floodplain and explain why the action is proposed in the floodplain. This EA/IS is proposed to improve existing flood protection facilities and does not directly or indirectly propose development in a floodplain.

Executive Order 11990, Protection of Wetlands

Full compliance. Each Federal agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless there is no practicable alternative to such construction and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. BMPs will be implemented and all project permit requirements will be adhered to in order to prevent water quality impacts to wetlands in the vicinity of the project area. The contractor would be required to obtain a NPDES permit from the CRWQCB, since the project would disturb one or more acres of land and involve possible storm water discharges to surface waters. In addition, the contractor would prepare a SWPPP identifying BMPs to be used to avoid or minimize any adverse effects of construction on surface waters and the proposed action will be in *Full Compliance.*

Executive Order 12898, Federal Action to Address Environmental Justice in Minority Population and Low-Income Populations.

Full Compliance. This Executive Order states that Federal agencies are responsible to conduct their programs, policies, and activities that substantially affect human health of the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefits of, or subjecting persons to discrimination under such programs, policies, and activities because of their race, color, or national origin. The proposed action would benefit the City of West Sacramento as a whole and would not have a disproportionately adverse effect on any populations. All nearby residents would benefit from the proposed flood control measures of the project.

Farmland Protection Policy Act

Full Compliance. Federal agencies are required to contact the Natural Resource Conservation Service for identification of prime or unique farmland that might be impacted by proposed actions. Prior to conversion of designated farmland to nonagricultural uses, agencies must consider alternatives to lessen any identified adverse effects. There are no prime and unique farmlands that would be adversely effected by implementation of the proposed action.

Fish and Wildlife Coordination Act

Full Compliance. The Fish and Wildlife Coordination Act in general requires Federal agencies to coordinate with USFWS and state fish and game agencies whenever streams or bodies of water are controlled or modified. This coordination is intended both to promote the conservation of wildlife resources by providing equal consideration for fish and wildlife in water project planning and to provide for the development and improvement of wildlife resources in connection with water projects. Federal agencies undertaking water projects are required to include recommendations made by USFWS and state fish and game agencies in project reports, and give full consideration to these recommendations.

The USFWS and CDFW participated in evaluating the West Sacramento Project, and a final coordination act report (CAR) was received on May 19, 2015 for the overall project. The final CAR in included in Appendix A of the 2015 GRR FEIS/EIR. The USFWS' recommendations and USACE responses are provided in Section 4.7 of the 2015 GRR FEIS/EIR. The CDFW and USFWS will be provided copies of the Draft EA/IS for review for the proposed action to determine if the design changes identified require an amendment to the CAR. Once coordination with CDFW and USFWS is complete the proposed action would be in *Full Compliance*.

Hazardous Materials Management

Full Compliance. The primary federal agencies with responsibility for hazardous materials management include the U.S. EPA, U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (USDOT). Federal laws, regulations, and responsible agencies are summarized in **Table 5-1**. State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law, and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are described under either the state or local agency section.

TABLE 5-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the U.S. Environmental Protection Agency (U.S. EPA) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation (USDOT)	USDOT has the regulatory responsibility for the safe transportation of hazardous materials. The USDOT regulations govern all means of transportation, except packages shipped by mail (49 Code of Federal Regulations [CFR]).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970 (Fed/OSHA)	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR 1910).
Structural and Building Components (Lead-based paint, polychlorinated biphenyls, and asbestos)	Toxic Substances Control Act	Regulates the use and management of polychlorinated biphenyls in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	U.S. EPA	The U.S. EPA monitors and regulates hazardous materials used in structural and building components and their effects on human health.

Migratory Bird Treaty Act

Full Compliance. The Migratory Bird Treaty Act (MBTA) enacts the provisions of treaties between the U.S., Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and regulates migratory birds, their occupied nests, and their eggs. Most actions that result in a taking or in permanent or temporary possession of a regulated species constitute violations of the MBTA.

Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA. Prior to construction, pre-construction bird surveys will be conducted to assess the presence of nesting birds in the project area. If active nests are found during the preconstruction survey, the applicant will implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone. As result the proposed action will not result in adverse effects to migratory birds and will be in *Full Compliance*.

National Historic Preservation Act

Full Compliance. Effects of federal undertakings on historic and archaeological resources are considered through the NHPA of 1966, as amended (54 United States Code [U.S.C.] 306108), and its implementing regulations. Before an undertaking (e.g., federal funding or issuance of a federal permit) is implemented, Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties (i.e., properties listed in or eligible for listing in the National Register) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register. Under the NHPA, a property is considered significant if it meets the National Register listing criteria a through d, at 36 Code of Federal Regulations 60.4, as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:
>
> a) Are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> b) Are associated with the lives of persons significant in our past, or
>
> c) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or
>
> d) Have yielded, or may be likely to yield, information important in prehistory or history

For a resource to be eligible for the National Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. Resources that are less than 50 years old are generally not considered eligible for the National Register.

The Section 106 review normally involves a four-step procedure, which is described in detail in the implementing regulations (36 CFR Part 800) and includes identifying historic properties in consultation with the SHPO and interested parties, assessing effects, consulting with SHPO and others to develop and execute an agreement regarding the treatment of historic properties, and proceeding with the project according to the agreement. As result the proposed action will not result in adverse effects to NHPA and will be in *Full Compliance*.

Tribal cultural resources are not specifically addressed in the NHPA; however, traditional cultural properties are a class of resource that is considered significant and is assessed as a historic property according to the criteria of the National Register of Historic Places.

Noise Control Act of 1972

Full compliance. Federal agencies with jurisdiction over any property or facility or engaged in any activity resulting, or which may result in, the emission of noise shall comply with Federal, State, interstate, and local requirements respecting control and abatement of environmental noise. The proposed action would comply with all Federal, State, and local laws.

Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.).

Full Compliance. This act establishes the National Wild and Scenic River System and requires consideration of the impacts and consultation with the responsible agencies prior to implementation of proposed action. No Wild and Scenic Rivers are located within the project area.

D.2 State of California Requirements

California Department of Fish and Game Code, Section 1601/1603 Streambed Alteration Agreement.

Full Compliance. Requires a streambed alteration agreement for any activity that would “divert or obstruct the natural flow of water, or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed.” This project does not impact a streambed.

California Department of Fish and Game Code B, Sections 3503, 3503.5, 3513, 3511, 4700, 5050, and 5515.

Full Compliance. This code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, protects all birds of prey and their eggs and nests, and states it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. It designates certain species (birds, mammals, reptiles, amphibians, and fish) as fully protected species that may not be taken or possessed at any time. Construction activities would be timed to avoid destruction of active bird nests or young of birds that breed in the area. If this is not feasible, a qualified biologist would survey the area prior to initiation of construction. If active nests are located, a protective buffer would be delineated and the entire area avoided, preventing disturbance of nests until they are no longer active.

California Endangered Species Act.

Full Compliance. Section 2080 of the Fish and Game Code prohibits "take" of any species that the California Fish and Game Commission determines to be an endangered species or a threatened species. The California Endangered Species Act (CESA) allows for take incidental to otherwise lawful development projects.

This act requires the non-Federal agency to consider the potential adverse effects of State-listed species. As a joint NEPA/CEQA document, this EA/IS has considered the potential effectsand has provided conservation measures where appropriate. There would be no adverse effect to State- listed species.

California Environmental Quality Act

Partial Compliance. The California Environmental Quality Act requires state and local public agencies to prepare an environmental impact report for discretionary actions that may have significant effects on the environment "that cannot be mitigated or avoided". This joint NEPA/CEQA document will fully comply with CEQA requirements. Adoption of a Negative Declaration or Mitigated Negative Declaration by WSAFCA will provide *Full Compliance*. A draft Mitigated Negative Declaration [will be] included in this document.

California Register of Historical Resources

Partial Compliance. The California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a historical resource must be significant at the federal, state, or local level under one or more of the following criteria (PRC Section 5024.1(c)):

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

Integrity is the authenticity of a historic resource's physical identity as shown by the survival of characteristics that existed during the period of significance. For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historic resource and to convey the reasons for its significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

California Health and Safety Code Section 7050.5

Partial Compliance. California Health and Safety Code Section 7050.5 protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery.

California Public Resources Code Sections 21074 and 21083.09

Partial Compliance. In 2014, the California Legislature enacted Assembly Bill (AB) 52, which added provisions to the Public Resources Code regarding the evaluation of impacts on tribal cultural resources under CEQA, and requirements to consult with California Native American tribes as defined in Government Code Section 65352.4. In particular, AB 52 requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archaeological resources (PRC Section 21074 and 21083.09). AB 52 defines "tribal cultural resources" in PRC Section 21074 and requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC Sections 21080.3.1, 21080.3.2, and 21082.3).

California Public Resources Code Sections 5097.98 and 5097.99

Partial Compliance. PRC Section 5097.98 (reiterated in CEQA Guidelines Section 15064.5(e)) identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery. PRC Section 5097.99 prohibits obtaining or possessing any Native American artifacts or human remains that are taken from a Native American grave or cairn (stone burial mound).

Appendix E
Document Preparation and Review

APPENDIX E
Document Preparation and Review

Preparation and Review

U.S. Army Corps of Engineers, Sacramento District

David Colby, Biological Sciences Environmental Manager/Fisheries Biologist

Mariah Brumbaugh, NEPA Regional Technical Specialist

Lorena Guerrero, Environmental Manager, Planning Division

Andrew Ugan, Archaeologist

Megan Wilburn, Biologist, Environmental Analysis Section

Review

West Sacramento Area Flood Control Agency

Brian Brown, PE, CFM

Greg Fabun, General Manager

Mark Zollo, Senior Administrative Analyst, Flood Projects

Preparation

ESA

Kelly Bayne, Biological Resources

Dave Beauchamp, Project Manager

Brandon Carroll, Geology/Soils, Hazards and Hazardous Materials

Laura Dodson, Deputy Project Manager, Biological Resources, Utilities

Maria Hensel, Hydrology and Water Quality

Heidi Koenig, Cultural Resources, Tribal Cultural Resources

Kristine Olsen, Document Preparation

Bailey Setzler, Air Quality, Greenhouse Gases, Energy

Ally Sung-Jereczek, Noise, Wildfire

Jonathon Teofilo, Transportation

Eric Zigas, QA/QC Review

Appendix F
References Cited

APPENDIX F
References Cited

F.1 Introduction

None

F.2 Project Alternatives

None

F.3 Affected Environment and Environmental Consequences

Resources Not Considered in Detail

California Department of Conservation ,2018. Mineral Land Classification Map of Concrete Aggregate in the Greater Sacramento Area Production-Consumption Region. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_245-MLC-Plate01-SECURED.pdf. Accessed November 18, 2020.

California Department of Forestry and Fire Protection (CAL FIRE), 2007a. Frequently Ask Questions About: Fire Hazard Severity Zoning and New Building Codes for California's Wildland-Urban Interface. Available: https://www.sccgov.org/sites/dpd/DocsForms/Documents/FIRE_CAL_WUI_FAQs.pdf.

———, 2007b. California's Fire Hazard Severity Zones. California Department of Forestry and Fire Protection Office of the State Fire Marshal. May, 2007. Available: https://www.sccgov.org/sites/dpd/DocsForms/Documents/Fire_Hazard_Zone_Fact_Sheet.pdf.

———, 2008. Very High Fire Hazard Severity Zones in LRA. As Recommended by CAL FIRE. September 2008.

———, 2020. California Fire Hazard Severity Zone Viewer. Updated January 13, 2020. Available: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414.

U.S. Census Bureau, 2019a. West Sacramento 5-Year Estimates. Available: https://data.census.gov/cedsci/table?q=west%20sacramento%20household%20income&tid=ACSST5Y2019.S1901&hidePreview=false. Accessed December 21, 2020.

U.S. Census Bureau, 2019b. Yolo County 5-Year Estimates. Available: https://data.census.gov/cedsci/table?q=yolo%20county&tid=PEPPOP2019.PEPANNRES&hidePreview=false. Accessed December 21, 2020.

Aesthetics

None

Air Quality

City of West Sacramento, 2016. General Plan 2035 Policy Document. November 2016. Available: https://www.cityofwestsacramento.org/home/showpublisheddocument?id=6446. Accessed December 2020.

California Air Resources Board (CARB), 2016a. Ambient Air Quality Standards. Available: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Standards last updated May 4, 2016. Accessed December 2020.

California Air Resources Board (CARB), 2016b. Overview: Diesel Exhaust and Health. Available: https://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed December 2020.

California Air Resources Board (CARB), 2018. Area Designation Maps. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed December 2020.

California Air Resources Board (CARB), 2020a. Sources of Air Pollution. Available: https://ww2.arb.ca.gov/resources/sources-air-pollution. Accessed December 2020.

California Air Resources Board (CARB), 2020b. Top 4 Summary: Select Pollutant, Years, & Area. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed December 2020.

California Air Resources Board (CARB), 2021. Vinyl Chloride & Health. Available: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed January 2021.

El Dorado County Air Quality Management District (EDCAQMD), et al., 2017. Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan. July 24, 2017. Available: http://www.ysaqmd.org/wp-content/uploads/Planning/Sac-Regional-2008-NAAQS-Attainment-and-RFP-Plan.pdf. Accessed December 2020.

SJVAPCD, Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno, 2014.

United States Environmental Protection Agency (U.S. EPA), 2016. Basic Information about NO2. Available: https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects. Accessed December 2020.

United States Environmental Protection Agency (U.S. EPA), 2018a. Ozone Basics. Available: https://www.epa.gov/ozone-pollution/ozone-basics#effects. Accessed December 2020.

United States Environmental Protection Agency (U.S. EPA), 2018b. Particulate Matter (PM) Basics. Available: https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects. Accessed December 2020.

United States Environmental Protection Agency (U.S. EPA), 2020a. CO – Active: Sacramento-Bercut Drive. Available: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319. Accessed December 2020.

United States Environmental Protection Agency (U.S. EPA), 2020b. Federal Conformity, De Minimis Tables. Last updated May 27, 2020. Available: https://www.epa.gov/general-conformity/de-minimis-tables. Accessed January 20201.

Yolo County, 2009. 2030 Countywide General Plan. November 10, 2009. Available: https://www.yolocounty.org/general-government/general-government-departments/county-administrator/general-plan/adopted-general-plan. Accessed December 2020.

Yolo-Solano Air Quality Management District (YSAQMD), 2007. Handbook for Assessing and Mitigating Air Quality Impacts. Adopted July 11, 2007. Available: http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf. Accessed December 2020.

Yolo-Solano Air Quality Management District (YSAQMD), 2016. Triennial Assessment and Plan Update. Available: http://www.ysaqmd.org/wp-content/uploads/Planning/Final-2015-Triennial-Plan.pdf. Accessed December 2020.

Biological Resources

California Department of Fish and Wildlife (CDFW). 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California. Formally Department of Fish and Game. November 8, 1994.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report of Burrowing Owl Mitigation. Department of Fish and Game. March 7, 2012.

California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database (CNDDB) List of Plant and Wildlife Species Documented on the West Sacrament and 8 Surrounding U.S. Geological Survey (USGS) 7.5-minute Quadrangles. Accessed November 13, 2020.

California Native Plant Society (CNPS). 2000. Online Database. Available: http://www.rareplants.cnps.org/. Accessed November 13, 2020.

Environmental Science Associates (ESA). 2020. Ordinary High Water Mark of the Yolo Bypass East Levee Toe Drain Canal Memorandum.

Swainson's Hawk Technical Advisory Committee (TAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. May 31, 2000.

U.S. Fish and Wildlife Service (USFWS). 2020. Species that May Occur In or Be Affected By Projects within the Project Area. Information for Planning and Consultation. Available: https://ecos.fws.gov/ipac/. Accessed November 13, 2020.

Cultural Resources

GEI Consultants, Inc., *Cultural Resources Inventory Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021a.

GEI Consultants, Inc., *Cultural Resources Evaluation Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021b.

Geology and Soils

Blackburn Consulting (Blackburn), 2020. Geotechnical Data Report – 65 % Design, North Basin Yolo Bypass East Levee Project. West Sacramento, California. June 2020.

California Department of Conservation, 2018. Mineral Land Classification Map of Concrete Aggregate in the Greater Sacramento Area Production-Consumption Region. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_245-MLC-Plate01-SECURED.pdf. Accessed November 18, 2020.

California Geological Survey (CGS), 2010. Fault Activity Map of California. Available: https://maps.conservation.ca.gov/cgs/fam/.

———, 2020a. EQ ZAPP. Earthquake Zones of Required Investigation – Green Valley Fault. California Geological Survey. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/.

———, 2020b. EQ ZAPP. Earthquake Zones of Required Investigation – Huntington Creek Fault. California Geological Survey. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed on May 5, 2020.

Gutierrez, Carlos I., 2011. Preliminary Geologic Map of the Sacramento 30’ x 60’ Quadrangle, California. California Geologic Survey. Map. Scale 1:100,000.

Society of Vertebrate Paleontology (SVP), 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Prepared by: SVP Impact Mitigation Guidelines Revision Committee.

University of California Museum of Paleontology (UCMP), 2020a. UC Museum of Paleontology Localities database, vertebrate fossil from Yolo County.

———, 2020b. UC Museum of Paleontology Localities database, vertebrates from the Riverbank Formation.

Greenhouse Gas Emissions

City of West Sacramento, 2016. *General Plan 2035 Policy Document.* November 2016. Available at https://www.cityofwestsacramento.org/home/showpublisheddocument?id=6446. Accessed December 2020.

Local Government Commission, 2020. *Mayors’ Commission on Climate Change – Achieving Carbon Zero in Sacramento and West Sacramento by 2045.* June 2020. Available: https://www.lgc.org/wordpress/wp-content/uploads/2020/06/Mayors-Commission-on-Climate-Change-Final-Report.pdf. Accessed January 2021.

U.S. Environmental Protection Agency, 2020. *Understanding Global Warming Potentials*. Available: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials. Accessed December 2020.

U.S. Environmental Protection Agency, 2016. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*. Available: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean. Accessed December 2020.

Yolo County, 2009. *2030 Countywide General Plan.* November 10, 2020. Available: https://www.yolocounty.org/home/showpublisheddocument?id=14457. Accessed December 2020.

Hazards and Hazardous Materials

California Department of Forestry and Fire Protection (CAL FIRE), 2007. Draft Fire Hazard Severity Zones in LRA for Yolo County. Fire and Resource Assessment Program. Map. Scale 1:100,000.

Regional Water Quality Control Board (RWQCB), 2002. SMA Equipment Company, 4076 Channel Drive, West Sacramento, Yolo County.

———, 2011. No Further Action Required, Former Beneto Cardlock, 4076 Seaport Boulevard, West Sacramento, Yolo County (LUSTIS NO. 570322).

State Water Resources Control Board (SWRCB), 2004. GeoTracker database search results for KMEP Yolo Bypass Petroleum Pipeline Release site. Available: http://geotracker.waterboards.ca.gov.

———, 2020a. GeoTracker database search results for the Chevron #9-6726 site. Available: http://geotracker.waterboards.ca.gov.

———, 2020b. GeoTracker database search results for the Epoch Truck Stop site. Available: http://geotracker.waterboards.ca.gov.

Hydrology and Water Quality

California Department of Water Resources (DWR), 2020. Flood Risk Map Viewer. Available: https://gis.lfpz.water.ca.gov/lfpz/. Accessed December 3, 2020.

Central Valley Regional Water Quality Control Board (CVRWQCB), 2018. The Water Quality Control Plan for the Central Valley Regional Water Quality Control Board, Fifth Edition Revised May 2018 Sacramento River Basin and the San Joaquin Basin. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/. Accessed December 4, 2020.

———, 2019. Surface Water Quality Assessment Section 303(d) 2018 Impaired Waters List Updates for the Central Valley Region. Final Staff Report June, 2019. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/#intrpt2018. Accessed December 4, 2020.

City of West Sacramento, 2016. General Plan 2035 Policy Document. Available: https://www.cityofwestsacramento.org/home/showpublisheddocument?id=6446. Accessed December 3, 2020.

U.S. Climate Data, 2020. https://www.usclimatedata.com/climate/sacramento/california/united-states/usca0967. Accessed December 11, 2020.

Yolo County, 2004. Stormwater Management Program (SWMP) Planning Document. Available: https://www.yolocounty.org/community-services/planning-public-works/public-works-division/storm-water-management. Accessed December 10, 2020.

———, 2009. Good Housekeeping Practices Part of the County of Yolo Improvement Standards, Updated November 18, 2009. Available: https://www.yolocounty.org/home/showpublisheddocument?id=12333. Accessed December 10, 2020.

Yolo Subbasin Groundwater Agency (YSGA), 2020. Fall 2020 Groundwater Levels in the YCFCWCD Service Area. Available: https://yologroundwater.specialdistrict.org/fall-2020-groundwater-levels-in-the-ycfcwcd-service-area. Accessed December 10, 2020.

Noise

Airport Land Use Commission for Sacramento (ALUC), 1999a. Yolo County Airport Comprehensive Land Use Plan. October 1999.

———, 1999b. Sacramento Executive Airport Comprehensive Land Use Plan. Airport Land Use Commission for Sacramento, Sutter, Yolo and Yuba Counties. Amended May 1999.

California Department of Transportation, 2013. *Transportation and Construction Vibration Guidance manual.* September 2013.

City of West Sacramento, 2016a. City of West Sacramento General Plan 2035. Appendix C, Traffic Noise Modeling Results. Available: https://www.cityofwestsacramento.org/home/showpublisheddocument?id=2638. Adopted November 16, 2016.

City of West Sacramento, 2016b. City of West Sacramento General Plan 2035. Safety Element. Available: file://sfo-file01/PROJECTS/SAC/19xxxx/D201901163.00%20-%20West%20SAFCA%20Yolo%20Bypass%20East%20Levee/03%20Working%20Documents/ISMND/Admin%20Record/Noise/City%20of%20West%20Sac%20GP_%20SafetyElement.pdf. Adopted November 16, 2016.

Federal Highway Administration (FTA), 2008. FHWA Roadway Construction Noise Model, Version 1.1, December 2008.

Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment. May 2006, Table 12-2, p. 12-12.

———, 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

Transportation

City of West Sacramento, 2016. City of West Sacramento General Plan Update Environmental Impact Report, Appendix D. Approved November 16, 2016.

DKS Associates, 2014; As cited in City of West Sacramento, 2016. City of West Sacramento General Plan Update Environmental Impact Report, Appendix D. Approved November 16, 2016.

Yolobus 2020. West Sacramento Route Map. Available: https://www.yolobus.com/routes/index.php/40. Accessed January 5, 2021.

Tribal Cultural Resources

GEI Consultants, Inc., *Cultural Resources Inventory Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021a.

Utilities and Service Systems

City of West Sacramento, 2020. City Utility Services. Available: https://blob.cityofwestsacramento.org/city/depts/pw/utilityservices.asp. Accessed January 7, 2020.

Attachment 1
CEQA Initial Study Checklist

YOLO BYPASS EAST LEVEE REACH

California Environmental Quality Act Initial Study
SCH NUMBER 2009072055

Prepared for
West Sacramento Area Flood Control Agency

November 2021

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE WEST SACRAMENTO AREA FLOOD CONTROL AGENCY WEST SACRAMENTO PROJECT, CALIFORNIA, YOLO BYPASS EAST LEVEE

(Pursuant to CEQA Section 21092 and CEQA Guidelines Section 15072)

In accordance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the West Sacramento Area Flood Control Agency (WSAFCA), has prepared an Initial Study and proposed Mitigated Negative Declaration (IS/MND) for the Yolo Bypass East Levee (the proposed Project). Based on the results of the Initial Study, WSAFCA determined that construction and operation of proposed Project would not have significant impacts on the environment. All potentially significant impacts identified in the Initial Study would be reduced to less than significant levels with implementation of appropriate mitigation measures.

Project Description:

The U.S. Army Corps of Engineers and its non-federal partner WSAFCA propose to install stability berms, replenish waterside revetment, reconstruct maintenance roads, and improve the levee drainage system of the Yolo Bypass East Levee (YBEL) in West Sacramento, California. The proposed Project is the first increment of the larger federal West Sacramento Project that will improve the West Sacramento Levee System.

Public Comment Period: November 5, 2021 to December 6, 2021.

NOTICE IS HEREBY GIVEN that the WSAFCA Board of Directors intends to adopt a CEQA Mitigated Negative Declaration for the proposed Project on December 16, 2021 at its regular meeting of the WSAFCA Board of Directors, in accordance with the CEQA Guidelines.

The public, all interested agencies and stakeholders are invited to review the IS/MND and submit written comments, pursuant to CEQA. The IS/MND may be accessed through the City of West Sacramento's website: https://www.cityofwestsacramento.org/government/departments/city-manager-s-office/flood-protection/levee-projects-overview

During the 30-day public review period, a virtual public meeting will be held to present the proposed project analyzed in the CEQA Initial Study. The public meeting will be held on Nov 17, 2021 at 6 pm. Information to attend the virtual public meeting is available the City of West Sacramento's website: https://www.cityofwestsacramento.org/government/departments/city-manager-s-office/flood-protection/levee-projects-overview

Written comments are due by 5 PM on December 6, 2021 and may be sent via USPS mail to:

West Sacramento Area Flood Control Agency
Attn: Greg Fabun, General Manager
1110 West Capitol Avenue
West Sacramento, California 95691

Or via email to: gregf@cityofwestsacramento.org
Please reference Yolo Bypass East Levee *comments in the subject line.*

YOLO BYPASS EAST LEVEE REACH

California Environmental Quality Act Initial Study
SCH NUMBER 2009072055

Prepared for
West Sacramento Area Flood Control Agency

November 2021

2600 Capitol Avenue
Suite 200
Sacramento, CA 95816
916.564.4500
esassoc.com

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

TABLE OF CONTENTS

Yolo Bypass East Levee Reach – Initial Study

Page

List of Figures

List of Tables

CHAPTER 1
Introduction

This initial study and proposed mitigated negative declaration (IS/MND) was prepared pursuant to Article 6, Section 15070 of the California Environmental Quality Act (CEQA) Guidelines. California Public Resources Code (PRC) Division 13, Section 21050 et seq. describes the CEQA process.

The West Sacramento Area Flood Control Agency (WSAFCA) is a non-Federal sponsor (NFS) and the lead agency under CEQA. The State of California Central Valley Flood Protection Board (CVFPB) is another NFS that has a Local Cooperation Agreement with WSAFCA. As discussed in Chapter 1 of the Environmental Assessment (EA), the U.S. Army Corps of Engineers (USACE), Sacramento District as the Federal Lead Agency under the National Environmental Policy Act (NEPA). USACE, CVFPB and WSAFCA proposes to reduce the overall flood risk to the City of West Sacramento by making structural modifications to Segments AA and AD of the Yolo Bypass East Levee (YBEL). USACE and WSAFCA propose to install stability berms, replenish waterside revetment, reconstruct maintenance roads, and improve the levee drainage system. The proposed project is the first increment of the larger federal West Sacramento Project that will improve the West Sacramento Levee System and conducted under the USACE Civil Works Program. The proposed project would be constructed in summer 2022.

This Initial Study (IS) is a California Environmental Quality Act (CEQA) document that will address project-level design changes from the 2015 West Sacramento General Revaluation Report Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The 2015 EIS/EIR (State Clearinghouse No. 2009072055) covered nine levee reaches within West Sacramento, including portions of the Sacramento River, Yolo Bypass, Sacramento Bypass, and the Sacramento Deep Water Ship Channel. This supplemental IS reviews the proposed project, YBEL Reach. The decisions are to adopt a Mitigated Negative Declaration (MND) under CEQA based on the findings included in this IS.

1.1 Organization of the Document

This document is organized to assist the reader in understanding the potential impacts of the proposed Project on the environment and to fulfill CEQA requirements. The IS contains the following sections:

Chapter 1, *Introduction*, describes this document's purpose under CEQA, describes the public participation process, and summarizes the applicable regulatory requirements and CEQA lead agency contact information.

Chapter 2, *Project Description*, provides an introduction to the Project, including Project background, needs, and objectives, and describes the proposed facilities. This section provides a detailed description of the proposed Project, its location and components, and the required entitlements anticipated for implementation of the proposed Project.

Chapter 3, *Initial Study*, presents the CEQA Initial Study Environmental Checklist and analyzes the potential environmental impacts of the proposed Project. The checklist identifies environmental issue areas that could be affected by the proposed Project and lists the determination of whether the Project's potential effects on those resources would be significant, less than significant with mitigation, less than significant, or no impact. The checklist also contains the rationale and support for each determination and describes mitigation measures that would avoid or reduce potentially significant impacts on the environment to less-than-significant levels.

Chapter 4, *Report Preparers*, presents a list of the individuals who have contributed to this IS/MND.

Chapter 5, *Mitigation Monitoring and Reporting Plan*, provides a table outlining the Project's mitigation measures for each of the impacted resource areas. The MMRP lists the responsible party, timing, and implementation of each mitigation measure for the proposed project.

1.2 Purpose of the Mitigated Negative Declaration

The purpose of the IS is to provide a basis for deciding whether to prepare an environmental impact report, an MND, or a negative declaration. Based on its findings, WSAFCA determined that a MND would satisfy the requirements of CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.).

CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts on the environment. It is anticipated that this CEQA IS document will form the basis for state review by California responsible agencies such as the California Department of Water Resources, Central Valley Flood Protection Board (CVFPB). Federal review under the NEPA accompany the CEQA process, as an environmental assessment (EA) will support federal NEPA review. For more detail regarding agency uses of this IS, refer to section 1.7 of the EA *Decisions to Be Made* and section of this IS 1.5 *Agency Use of This Document*.

Section 15063(d) of the CEQA Guidelines states the content requirements of an IS as follows:

> 15063(d) Contents. An Initial Study shall contain in brief form:
>
> (1) A description of the project including the location of the project;
>
> (2) An identification of the environmental setting;
>
> (3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
>
> (4) A discussion of the ways to mitigate the significant effects identified, if any;

(5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;

(6) The name of the person or persons who prepared or participated in the Initial Study.

1.3 Decision to Prepare a Mitigated Negative Declaration for this Project

As discussed above, this Project is subject to the requirements of CEQA and WSAFCA is the CEQA lead agency for this Project. Before making a decision to approve a project, the lead agency must identify and document the potential significant environmental effects of the project in accordance with CEQA. This IS/MND has been prepared under the direction of WSAFCA to fulfill these requirements.

The IS analysis indicates that some impacts would be potentially significant, but that Project modifications (such as resource avoidance and impact minimization measures) as well as the recommended mitigation measures would result in the impacts being reduced to less-than-significant levels. In accordance with CEQA Guidelines Section 15070, an MND is the appropriate document for this Project because the IS identifies potentially significant effects. However:

a. Revisions to the project plan were made that would avoid, or reduce, the effects to a point where clearly no significant effects would occur; and

b. There is no substantial evidence that the project, as revised, may have a significant effect on the environment.

1.4 Public Review Process

The draft IS/MND is being circulated to state and local agencies, interested organizations, and individuals who might have had interest in, and wish to review and provide comments on, the project description, the proposed mitigation measures, or other aspects of the report. The 30-day public review period per CEQA Guidelines Section 15105(b) will commence on November 5, 2021and run through December 6, 2021.

This draft IS/MND and supporting documentation is posted on WSAFCA's website during this public review period: https://www.cityofwestsacramento.org/government/departments/city-manager-s-office/flood-protection/levee-projects-overview.

Printed copies of the draft IS/MND and supporting documents are also available for review at:

Arthur F. Turner Community Library
1212 Merkley Ave
West Sacramento, CA 95691

Via written request for a paper copy or download directly from the City of West Sacramento's website at https://www.cityofwestsacramento.org/government/departments/city-manager-s-office/flood-protection/levee-projects-overview.

Written comments regarding the IS/MND should be directed to the attention of Greg Fabun at the address provided below.

Greg Fabun, WSAFCA General Manager
Flood Protection Division
City of West Sacramento
1110 West Capitol Avenue, 2nd Floor
West Sacramento, CA 95691

e-mail: gregf@cityofwestsacramento.org

1.5 Agency Use of This Document

CEQA *responsible agencies* are state and local agencies that have some responsibility or authority for carrying out or approving a project. In many instances, these public agencies must make a discretionary decision to issue an approval or permit, provide a right-of-way or encroachment, or provide funding or other resources critical to the execution of a project. *Trustee agencies* are state agencies that have the authority by law for the protection of natural resources held in trust for the public. CVFPB is an example of a responsible agency anticipated to have jurisdiction over resources potentially affected by the proposed project.

This IS/MND is intended to assist federal, state, and local agencies with some form of discretionary jurisdiction to carry out their responsibilities for permit review or approval authority over various aspects of a project. The proposed project would likely require specific permitting, approvals and/or review by the agencies listed in **Table 1-1**.

TABLE 1-1
ANTICIPATED PERMITS AND APPROVALS

Potential Permit or Approval	Agency
Adoption of YBEL IS/MND	West Sacramento Area Flood Control Agency
Concurrence of YBEL IS/MND; Encroachment Permit per CCR Title 23, Division 1, Table 8.1	Central Valley Flood Protection Board
Biological Assessment, West Sacramento Project, Yolo Bypass East Levee Reach	U.S. Fish and Wildlife Service
Consistency Determination	Delta Stewardship Council
National Pollutant Discharge Elimination System with Waste Discharge Requirements	Central Valley Regional Water Quality Control Board (Region 5)
Storm Water Pollution Prevention Plan (SWPPP) under the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009 DWQ) under the NPDES	Central Valley Regional Water Quality Control Board (Region 5)
National Historic Preservation Act, Section 106 Consultation	California State Historic Preservation Officer

CHAPTER 2
Project Description

2.1 Proposed Project

The Yolo Bypass East Levee (YBEL) was originally constructed prior to the formation of Reclamation District 900 in 1911. Levee improvements and repairs are necessary to maintain structural integrity of the YBEL and to meet current performance guidelines and requirements. The USACE proposes to reduce the overall flood risk to the City of West Sacramento by making structural modifications to Segments AA and AD of the YBEL. The proposed project consists of structural modifications to the levee, to address seepage, levee stability, erosion, and overtopping concerns. The modifications would occur on approximately 3,300 linear feet of the YBEL, including 2,475 linear feet along the AA segment and 825 linear feet along the AD segment. The total project area would be approximately 15 acres.

Structural modifications are proposed on approximately 2,475 linear feet (station 22+00 to station 53+00) of Segment AA. Primary improvements include installation of a stability berm adjacent to the existing levee, replenishment of existing waterside revetment extending north from the Navigation Levee to the I-80 Causeway, reconstruction of the existing maintenance road adjacent to the levee, and installation of piping in the drainage ditch.

Structural modifications are proposed along 825 linear feet (station 114+00 to station 124+00) of Segment AD. Primary improvements include landside embankment grading and extending a subgrade levee drainage system. The extension consists of approximately 800-feet of 30-inch diameter perforated pipe to alleviate ongoing seepage. A new pump station would be constructed as part of the levee drainage system with capacity to discharge seepage away from the levee prism into the Yolo Bypass. The new pump station would be sited at station 122+00, adjacent to RD 900's existing pump station (Racetrack pump station) and would be sized to pump and discharge up to 33.6 cubic feet per second during a 100-yr flood event into the Yolo Bypass in years when the Yolo Bypass is flooded and the drainage system is active and collecting drainage water that would be discharged back to the Yolo Bypass. Additionally, the landside levee slope would be constructed at 3.5H:1V with a drainage blanket along the base of the reconstructed levee.

The proposed project is the first increment of the larger federal West Sacramento Project that will improve the West Sacramento Levee System and conducted under the USACE Civil Works Program (**Figure 1**). The proposed project would be constructed in summer 2022. As a complementary document to the NEPA EA, this IS is based on the same project information, construction activities and analysis contained in the NEPA EA. A complete description of the anticipated construction schedule and activities, including anticipated workers, equipment, staging areas, site preparation, restoration and operations and maintenance is found in NEPA EA sections 2.3.1 through 2.3.8.

2.2 Need for Proposed Project

The project purpose is to reduce the overall flood risk to the City of West Sacramento, California. An unacceptably high risk of flooding from levee failure threatens the public safety of people, as well as property and critical infrastructure, throughout West Sacramento and the region. In addition to the high probability of flooding, the consequences of flooding at the project site would be catastrophic. The flooding would rapidly inundate an urbanized area with minimal warning or evacuation time. Providing flood risk management would reduce loss of life and damage to property in the study area.

Furthermore, the State of California has developed new standards and criteria for protecting urban areas to reduce flood risk. Bringing the West Sacramento project levees up to these standards would reduce risk of uncontrolled flooding in the study area that could result in significant damages.

California Senate Bill (SB) 5 of 2007, the Central Valley Flood Protection Act (Act), required that Department of Water Resources (DWR) and the CVFPB address flooding problems in the Central Valley and report to the Legislature in 2012 with updates every 5 years. This landmark legislation obligated the State and local governments to approach flood management in a much more holistic way. Importantly, the Act required that urban communities (communities with a population with 10,000 people or communities expected to have 10,000 people within 10 years) achieve a 200-year level of protection by 2016 or no new development entitlements may be granted unless the communities certify they have made (and annually are making) adequate progress in implementation and will achieve the State's 200-year standard by 2025. The Act also required that DWR prepare maps showing areas subject to inundation in a 200-year event and provide annual notices to all homes protected by levees to ensure homeowners understand their flood risk. Significantly, the Act also required that DWR prepare and the CVFPB adopt a Central Valley Flood Protection Plan (CVFPP) by July of 2012. This plan was to provide the framework for modification of and future investment decisions in the Central Valley's flood protection system. On June 29, 2012, the CVFPB did adopt the CVFPP which included a strategy for reducing the flood risk of the citizens of the Central Valley. The plan focuses on: (1) urban areas obtaining at least 200-year protection through structural improvements; (2) significant upgrades to system-wide facilities (such as bypasses) to add additional robustness and redundancies to the system; (3) investment in small community systems (structural improvements or nonstructural improvements, such as home elevation) to achieve at least 100-year protection; (4) spot repairs and operation and maintenance improvements for the rural areas of the Valley; and (5) investment

to update emergency response and recovery plans. In 2007, West Sacramento voters approved an assessment on property to fund the local portion of costs to improve the West Sacramento levee system. The assessment has been used to construct improvements under the State's Early Implementation and Urban Flood Risk Reduction Programs in advance of the federal West Sacramento Project (WSP). YBEL is the first levee increment to be improved under the WSP. The WSP will meet the USACE's and State's current levee design criteria and provide at least a 0.5% annual chance of exceedance (200 year) level of protection.

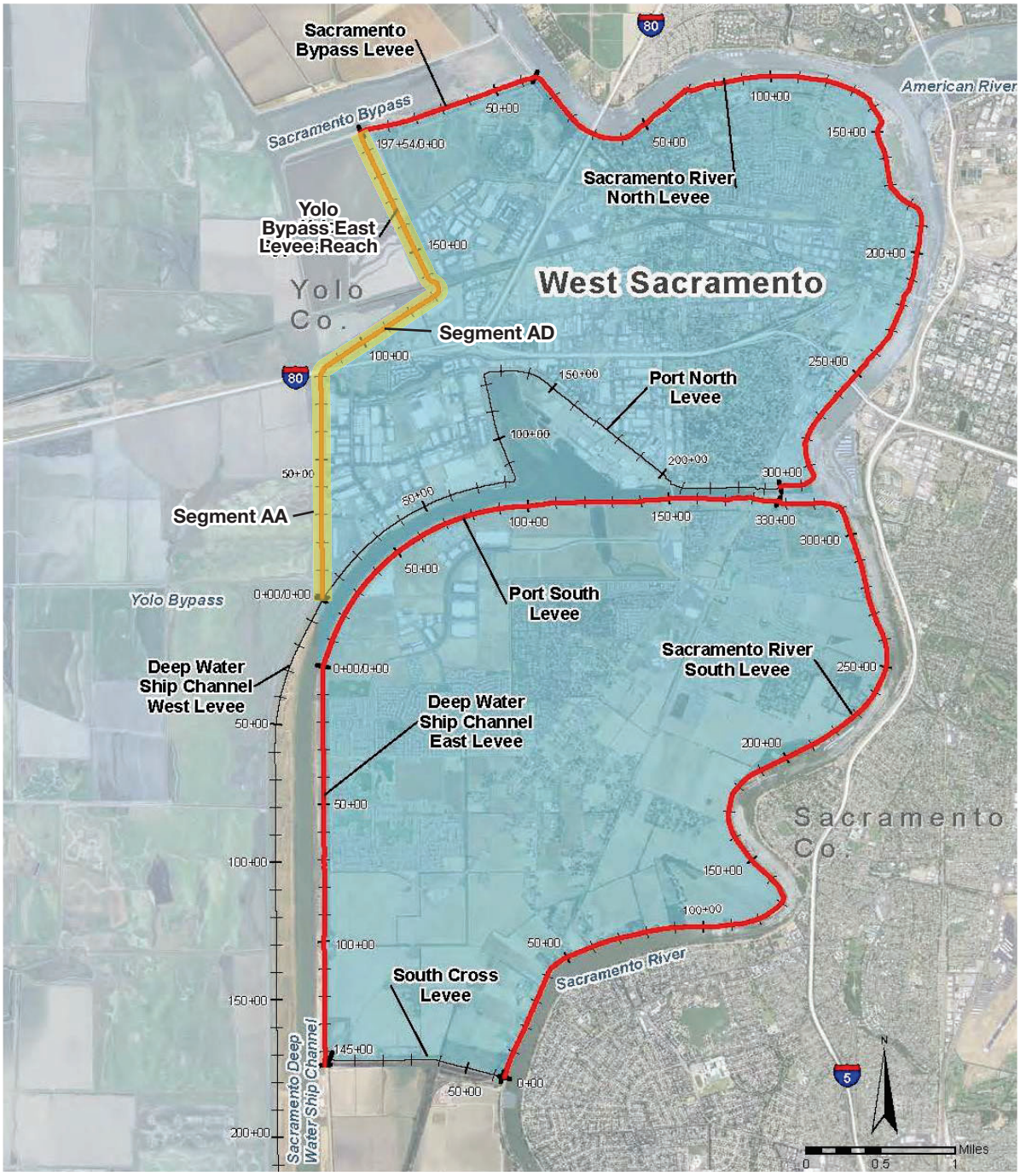
In 2007, West Sacramento voters approved an assessment on property to fund the local portion of costs to improve the West Sacramento levee system. The assessment has been used to construct improvements under the State's Early Implementation and Urban Flood Risk Reduction Programs in advance of the federal West Sacramento Project (WSP). YBEL as shown in **Figure 1** is the first levee increment to be improved under the WSP.

2.3 Project Location

The project site is located within the City of West Sacramento, and resides within WSAFCA's boundaries, which encompass portions of the YBEL, specifically, segments AA and AD are subject to the proposed levee repairs, as shown in **Figures 2 and 3**. The flood protection system associated with these waterways consists of over 50 miles of levees in RD 900, RD 537, and DWR's Maintenance Area 4, that completely surround the City of West Sacramento. The City of West Sacramento is located in eastern Yolo County at the confluence of the American and Sacramento Rivers. The City of West Sacramento lies within the natural floodplain of the Sacramento River, which bounds the city along the north and east. It is made up of a small amount of high ground between the Tower Bridge to south of Highway 50 along the Sacramento River, and reclaimed land protected from floods by levees and the Yolo and Sacramento Bypass systems.

2.4 Background and Previous Environmental Documents

The history of the Sacramento River Flood Control Project (SRFCP) dates back to the mid-1800s with the initial construction of levees along the Sacramento, American, Feather, and Yuba Rivers. The early history of the SRFCP was characterized by trial and error, with initial construction followed by a levee failure, followed by improvement (strengthening and/or raising), followed by another levee failure, etc. This continued until the California Legislature authorized a comprehensive plan for controlling the floodwaters of the Sacramento River and its tributaries in the Flood Control Plan of 1911. Federal participation in the SRFCP began shortly after authorization in 1917 and continues to this day.



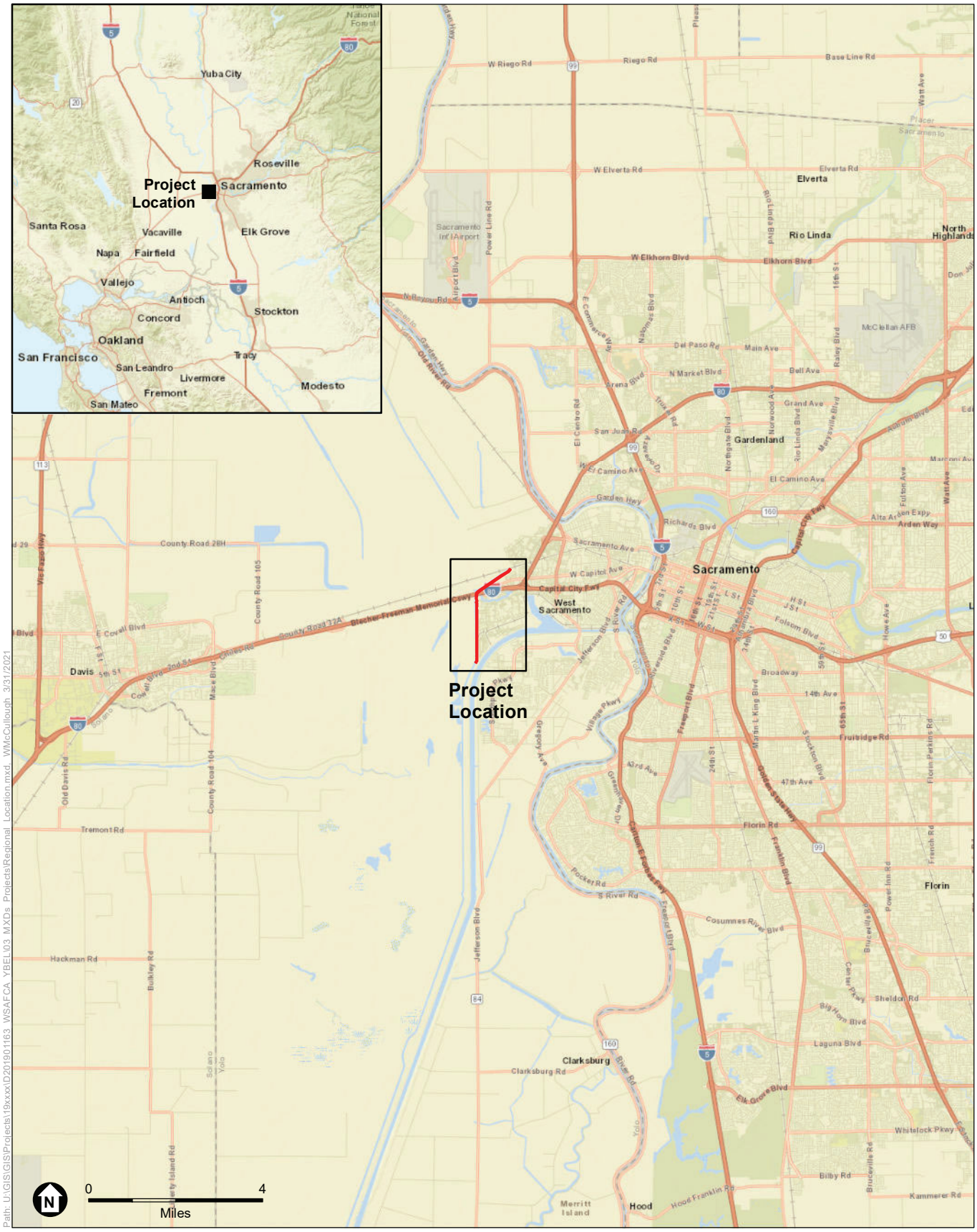
SOURCE: Post Authorization Change Report, 2014

Yolo Bypass East Levee Environmental Assessment

Figure 1
West Sacramento Levee Area

ESA

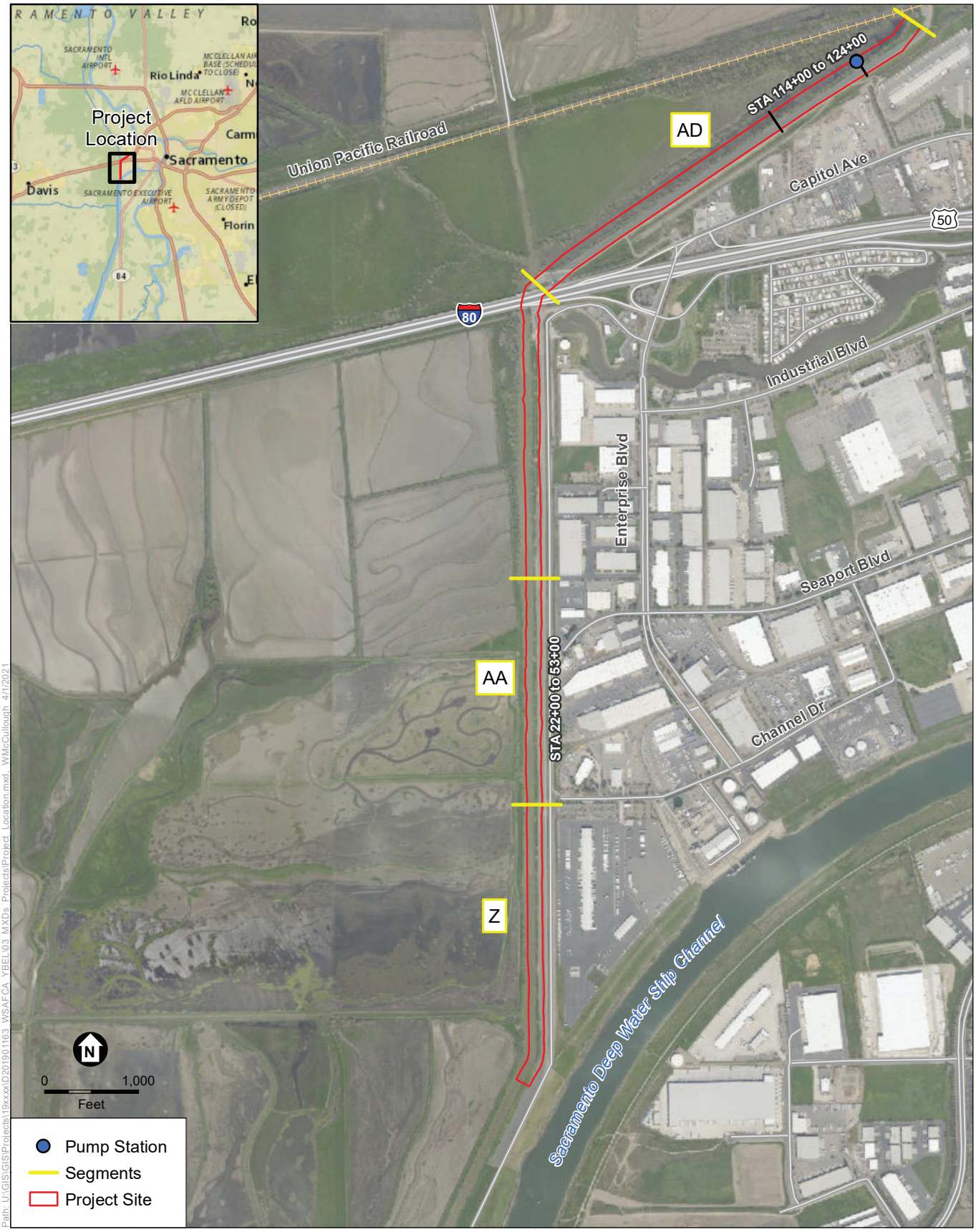
D2019011163.00 - West SAFCA Yolo Bypass East Levee\05 Graphics-GIS-Modeling\Illustrator



SOURCE: ESRI, 2021

Yolo Bypass East Levee Environmental Assessment

Figure 2
Regional Location



Yolo Bypass East Levee Environmental Assessment

Figure 3
Project Location

ESA

Historically, from the mid-1800s onward, most hydraulic engineers at the Federal, State, and local level thought that the most effective way to control flood flows in the river system was to construct levees close to the main channel. This approach served two purposes. First, it allowed reclamation of as much land as possible for agricultural purposes. Second, it kept flows in the main channel and thus helped to flush out the hydraulic mining debris that clogged much of the river system and impaired navigation. The record floods of 1907 and 1909 forced a reevaluation of this historic approach. It was clear from the size of these flood events in relation to existing channel capacities that major bypass systems were needed to control excess flood flows. These bypasses were designed to divert flood flows away from urban centers. Throughout the SRFCP, the frequency upon which flow starts to divert from the Sacramento River to the bypass system, varies between a 3-year to 5-year flood event.

The series of storms that struck California in February of 1986 resulted in the flood of record for many areas in northern and central California. The estimated peak flows associated with the 1986 flood were nearly equal to or exceeded the design flows of the Sacramento River, Sacramento Bypass, and the Yolo Bypass in the vicinity of West Sacramento. As a result of the problems experienced during the 1986 flood, the USACE initiated a study of the levees comprising the SRFCP that were impacted by the flood. Due to the large scale of the study, the review was split into five phases. The first phase of this study included West Sacramento and was documented through an Initial Appraisal Report titled, Sacramento Urban Area Levee Reconstruction Project, California dated May 1988. This phase included the review of approximately 110 miles of levee and recommended the improvement of 34 miles.

The USACE was preparing construction plans and specifications for the levee improvements authorized in the WRDA of 1992, when the 1997 New Year's Day Flood occurred. It was one of the largest experienced in northern California since beginning of record keeping and exceeded the 1906 event. In the wake of the 1997 flood, the USACE identified underseepage as an area of greater concern in the design and repair of levees. This resulted in a number of design revisions to the levee improvements recommended in the West Sacramento Project Design Memorandum. These design revisions and the associated increase to the total estimated project cost were captured in a supplemental authorization through the Energy and Water Development Appropriation Act of 1999 (PL 105-245).

Through the course of implementation of authorized project features, it was found that the scope of the authorized project was not adequate to address the residual flood risk for the West Sacramento area, and construction of the features authorized thus far had caused the project to reach its authorized cost limit. The Corps conducted a general revaluation study of the West Sacramento Project which included measures to address seepage, stability, erosion, and levee height concerns throughout the system of levees that surround West Sacramento and documented the findings in the West Sacramento GRR. In December 2015, the FEIS/EIR was published for the West Sacramento GRR; followed by the Chief's Report (signed on April 26, 2016) with a Record of Decision signed on August 22, 2016.

This page intentionally left blank

CHAPTER 3
Initial Study

1. Project Title:	Yolo Bypass East Levee Reach Improvement Project
2. Lead Agency Name and Address:	**West Sacramento Area Flood Control Agency** 1110 West Capitol Avenue West Sacramento, CA 95691
3. Contact Person and Phone Number:	Mark Zollo Senior Administrative Analyst Flood Protection 1110 West Capitol Avenue West Sacramento, CA 95691
4. Project Location:	Reach of the YBEL in the City of West Sacramento, California
5. Project Sponsor's Name and Address:	West Sacramento Area Flood Control Agency U.S. Army Corps of Engineers 1325 J Street, Sacramento, 95814
6. General Plan Designation(s):	Agricultural (AG)
7. Zoning:	Agricultural – General (AG)

8. Description of Project:

The Yolo Bypass East Levee was originally constructed prior to the formation of Reclamation District 900 in 1911. As such, portions of the levee predate contemporary guidance for levee construction. Levee improvements and repairs are necessary to maintain structural integrity of the YBEL and to meet current performance guidelines and requirements. The YBEL has undergone several structural improvements in the last forty years, the most recent in 1999 and 1998; however, other segments of the YBEL received structural improvement and repair in the mid-1990s and back to 1983. As a continuation of these efforts, the USACE proposes to reduce the overall flood risk to the City of West Sacramento by making structural modifications to Segments AA and AD of the YBEL. The USACE proposes to install stability berms, replenish waterside revetment, reconstruct maintenance roads, and improve the levee drainage system. The proposed project is the first increment of the larger federal West Sacramento Project that will improve the West Sacramento Levee System and conducted under the USACE Civil Works Program.

9. Surrounding Land Uses and Setting.

The project site is located within the City of West Sacramento, and within WSAFCA's boundaries, fully encompasses the YBEL, including the proposed levee repairs at segments AA and AD as shown in **Figures 2 and 3**. The flood protection system associated with these waterways consists of over 50 miles of levees in Reclamation District (RD) 900, RD 537, and DWR's Maintenance Area 4, that completely surround the City of West Sacramento. The City of West Sacramento is located in eastern Yolo County at the confluence of the American and Sacramento Rivers. The City of West Sacramento lies within the natural floodplain of the Sacramento River, which bounds the city along the north and east. It is made up of a small amount of high ground south of Highway 50 along the Sacramento River, and reclaimed land protected from floods by levees and the Yolo and Sacramento Bypass systems.

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

- Re-initiated Consultation with USFWS (Revised Biological Opinion/Statement of Take)
- Central Valley Flood Protection Board, Encroachment Permit pursuant to CCR Title 23, Division 1, Table 8.1
- RWQCB National Pollutant Discharge Elimination System (NPDES) Waste Discharge Requirements for the new pump station
- State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit); Stormwater Pollution Prevention Plan (SWPPP)
- State Historic Preservation Officer, National Historic Preservation Act, Section 106 Consultation and Concurrence coordinated with USACE Clean Water Act Section 404 permit
- Yolo County, Grading Permit

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

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

Consultation pursuant to PRC Section 21080.3.1 was completed by the Lead Agency, WSAFCA. Outreach occurred through contact letters mailed to three California Native American tribes on November 12, 2020. Yoche Dehe Winton Nation (YDWN), United Auburn Indian Community (UAIC) and Winton Rancheria provided responses during the 30-day consultation period. A complete discussion of tribal consultation is provided in Section 3.6 of the NEPA EA. YDWN provided input on mitigation measures for tribal cultural resources that could be inadvertently discovered during construction activities.

3.1 Environmental Factors Potentially Affected

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

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

11/04/2021

Signature Date

Signature Date

3.2 Environmental Checklist

3.2.1 Aesthetics

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) 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 daytime or nighttime views in the area?	☐	☐	☐	☒

Discussion

Section 3.2 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for aesthetic resources.

a) The project area is not located within a local, state or federally designated scenic vista; therefore, there would be **no impact** to scenic vistas or other designated scenic resources.

b - c) As described in Section 3.2 of the EA, site preparation for the proposed project would not involve removal of trees or shrubs, but would involve clearing non-native groundcover. All construction activities would be contained to the project boundaries, which is currently degraded and lacking in visual appeal. Once construction is completed, all disturbed areas would be restored and all equipment and trucks would be removed. Disturbed areas would be reseeded with native grasses and forbs to promote revegetation. The staging areas would also be reseeded and planted with native grasses and forbs and would be returned to pre-project conditions. The grasses, as well as annuals and some small shrubs, would be expected to grow relatively quickly and improve that condition of the viewshed within a year or two.

The proposed project includes a new pump station within Segment AD at station 122+00. The pump station is similar in size to the existing Racetrack pump station and would be designed similar to the surrounding urban environment, therefore, there would be no effect on scenic vistas. Additionally, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality.

As a result, the project would have a **less than significant** impact on scenic resources and visual character in the area.

d) As shown in Figure 3, the project area is in a quasi-industrial setting where primary sources of nighttime light and daytime glare occur on the eastern side of the YBEL within the commercial spaces; the western side is open space and further west, the Yolo Bypass. Light sources on the western side are attributed to nighttime agricultural activities and passing vehicles. The proposed action would not install or add substantial new sources of light or glare to the project vicinity. Furthermore, construction would typically occur during 8-hour daytime shifts and is not anticipated to extend into the nighttime. Operation of the proposed project would not require additional nighttime light compared to current conditions. Given the relatively short-term nature of project construction activities and the urbanized location of the project area, project-related lighting impacts would be **less than significant**.

3.2.2 Agriculture and Forestry Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
II. AGRICULTURE 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:				
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?	☐	☐	☐	☒

Discussion

Subsection 3.1.2 of the EA describes the effects of the proposed project on land use, agriculture, and forestry.

a, e) As described in Section 3.1.3 of the EA, there are no prime and unique farmlands within the project area. Therefore, there would be **no impact**.

b) As described in Section 3.1.3 of the EA, the project area is not enrolled in or restricted by a Williamson Act contract. There would be **no impact** related to an existing Williamson Act contract.

c, d) As described in Section 3.1.3 of the EA, to forest land or timberland exists on or adjacent to the project area. There would be **no impact**.

3.2.3 Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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:				
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?	☐	☐	☐	☒

Discussion

Section 3.3 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for air quality.

a) As described in Section 3.3 of the EA, the Yolo-Solano Air Quality Management District (YSAQMD) is the regulatory agency responsible for regulating air quality in Yolo County. Yolo County is considered a federal non-attainment area for ozone and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and as an attainment-maintenance area for the federal carbon monoxide (CO) and particulate matter less than ten microns in diameter (PM_{10}) standards (CARB, 2018).

The YSAQMD's primary means of implementing air quality plans is by adopting rules and regulations (YSAQMD, 2007). District rules that would be applicable to the proposed project include limits on emissions of visible air contaminants, PM, sulfur compounds, as well as prohibition of pollutant discharge that may be considered a nuisance. The proposed project would comply with all applicable YSAQMD rules and regulations; therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans and the impact would be considered **less than significant**.

b) The YSAQMD has developed thresholds of significance for criteria air pollutant emissions to be used for determining significant impacts under the California Environmental Quality Act (CEQA). The thresholds of significance are based on the Air Quality environmental checklist included in Appendix G of the CEQA Guidelines. The YSAQMD has determined that projects with criteria pollutant emissions below the thresholds of significance would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction of the proposed project would generate emissions of criteria air pollutants, including ozone precursors (reactive organic compounds [ROG] and nitrous oxides [NO_x]) and particulate matter (PM) from construction equipment and vehicle trips that would generate fugitive dust and diesel exhaust. The YSAQMD recommends that all projects, even those that do not exceed the YSAQMD PM threshold, implement Best Management Practices to reduce dust emissions. Therefore, during construction, the proposed project would implement the YSAQMD Best Management Practices to reduce PM emissions, discussed below. Furthermore, emissions of criteria air pollutants from the proposed project would be temporary and would cease at the conclusion of the construction activities. Construction emissions that would be generated from construction of the proposed project, before implementation of mitigation, are summarized in **Table 3.3-7** in the EA.

As discussed above, the proposed project would implement the YSAQMD Best Management Practices to reduce PM emissions. Therefore, PM emissions associated with construction of the proposed project would be reduced and less than the emissions presented in **Table 3.3-7** in the EA.

Operational activity currently associated with maintenance of the existing YBEL generates emissions of ROG, NO_x, PM_{10}, and $PM_{2.5}$ from vehicle trips associated with routine maintenance which may include clearance of access roads, rodent control, vegetation maintenance, management of graffiti, annual testing, pump station maintenance and performance of periodic inspections. Maintenance activity would not increase as a result of the implementation of the proposed project; therefore, the proposed project is not expected to generate increased operational emissions. Operational emissions from the proposed project would be considered **less than significant**. Although impacts would be less than significant, mitigation measures would be included to further reduce impacts.

c) The nearest sensitive receptors to the project site are residents at the Valhalla Mobile Home Club, which is located approximately 1,350 feet southeast of the project site.

As discussed above, the nearest sensitive receptor is located at the Valhalla Mobile Home Club which is not in the vicinity of the project site. Therefore, impacts from construction activity would be minimal. Furthermore, the YSAQMD has established health risk thresholds of significance from stationary sources; however, operation of the proposed project would not include stationary sources of TACs. The YSAQMD has not established thresholds of significance for mobile source TACs and no threshold is proposed at this time (YSAQMD, 2007). Therefore, the proposed project would be considered to have a less **than significant impact** with respect to health risk.

d) As described in Section 3.3 of the EA, the YSAQMD CEQA Handbook identifies common types of facilities that are known producers of odors including wastewater treatment facilities, chemical manufacturing, sanitary landfills, fiberglass manufacturing, transfer stations, painting/coating operations, composting facilities, food processing facilities, petroleum refineries, feed lots/dairies, asphalt batch plants, and rendering plants

(YSAQMD, 2007). The proposed project does not include any of the land use types identified by the YSAQMD to be associated with odor impacts. In addition, the proposed project would not generate an increase in operational activity compared to those associated with the existing Yolo Bypass East Levee. Therefore, the proposed project would have **no impact** with respect to odors.

Mitigation

Mitigation Measure AQ-1:

- Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure;
- Haul trucks shall maintain at least 2 feet of freeboard;
- Cover all trucks hauling dirt, sand, or loose materials;
- Apply non-toxic binders to exposed areas after cut and fill operations and hydroseed area;
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days);
- Plant tree windbreaks on the windward perimeter of the construction projects if adjacent to open land;
- Plant vegetative ground cover in disturbed areas as soon as possible;
- Cover inactive storage piles;
- Sweep streets if visible soil material is carried out from the construction site;
- Treat accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips or mulch;
- Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.

Mitigation AQ-2: Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The project proponent would provide clear signage that posts this requirement for workers at the entrances to the site.

References

California Air Resources Board (CARB), 2018. Area Designation Maps. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed December 2020.

El Dorado County Air Quality Management District (EDCAQMD), et al., 2017. Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan. July 24, 2017. Available: http://www.ysaqmd.org/wp-content/uploads/Planning/Sac-Regional-2008-NAAQS-Attainment-and-RFP-Plan.pdf. Accessed December 2020.

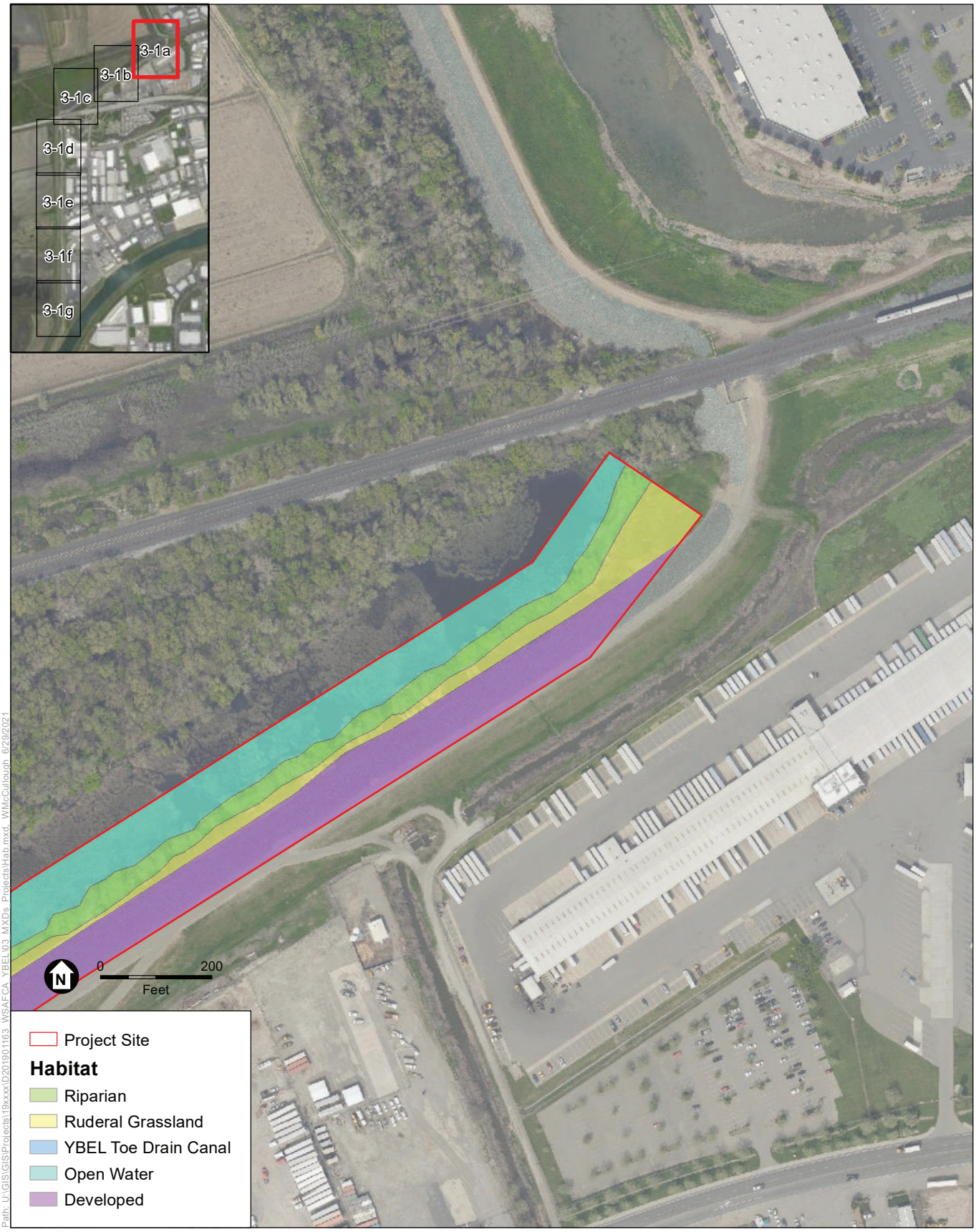
3.2.4 Biological Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
IV.	**BIOLOGICAL RESOURCES —** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on state or 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?	☐	☐	☐	☒

Discussion

Section 3.4 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for biological resources. Biological communities within the project area include developed, ruderal grassland, riparian, and the YBEL Toe Drain Canal as shown in **Figures 3-1a-g**.

a) As described in Section 3.4 of the EA, the proposed project would have the potential to impact several special status species including, giant garter snake (GGS), western pond turtle, and special status fish, including California Central Valley DPS steelhead, Central Valley ESU spring-run chinook salmon, longfin smelt, Sacramento perch, Sacramento River ESU winter-run Chinook salmon, and Sacramento splittail. The proposed project could also result in impacts to nesting raptors and other migratory birds, including burrowing owl, purple martin, song sparrow ("Modesto" population), Swainson's hawk, and white-tailed kite. However, with implementation of Mitigation Measure BIO-2a-f, described in the EA, impacts to special-status species would be less than significant.

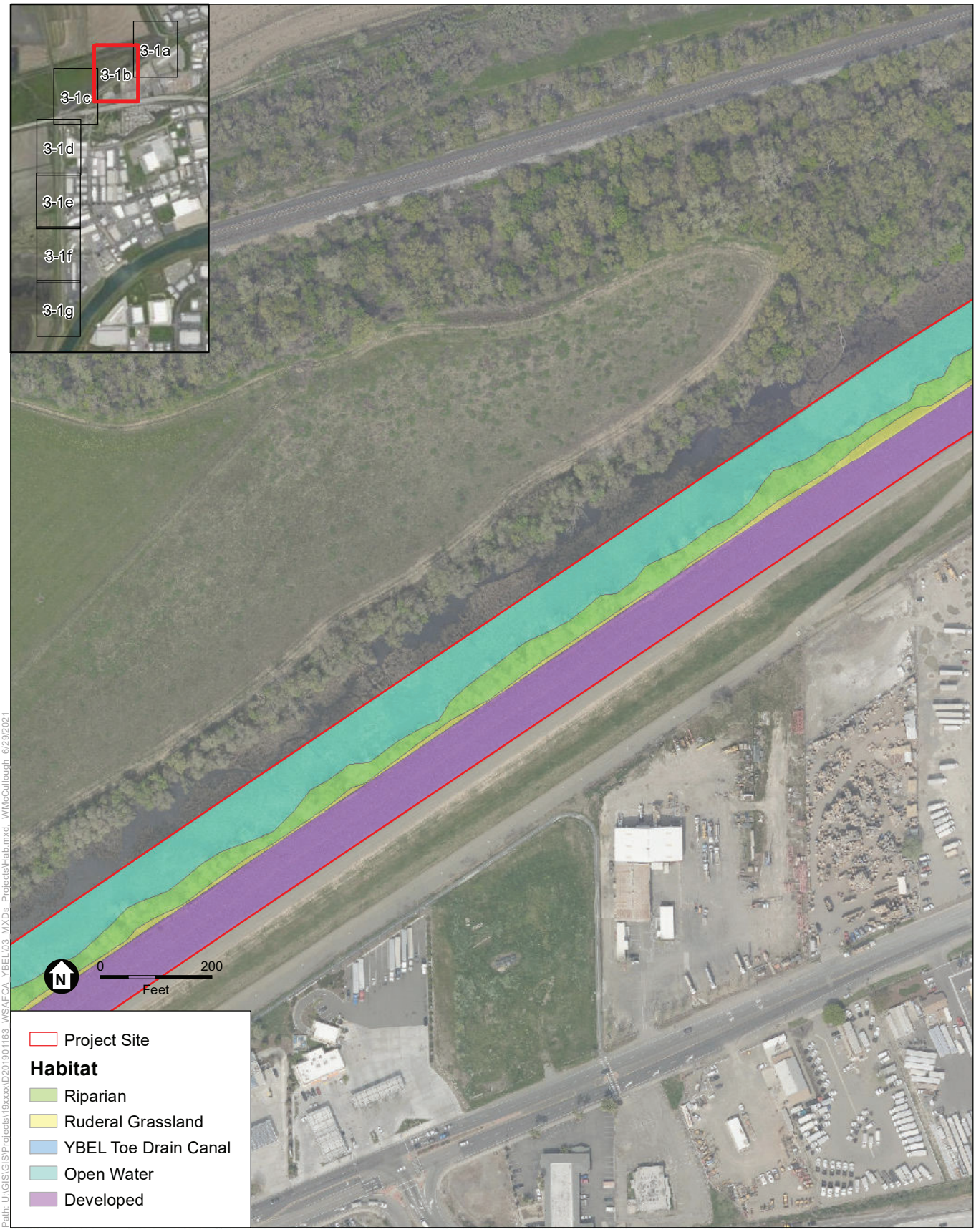


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1a
Habitat Types

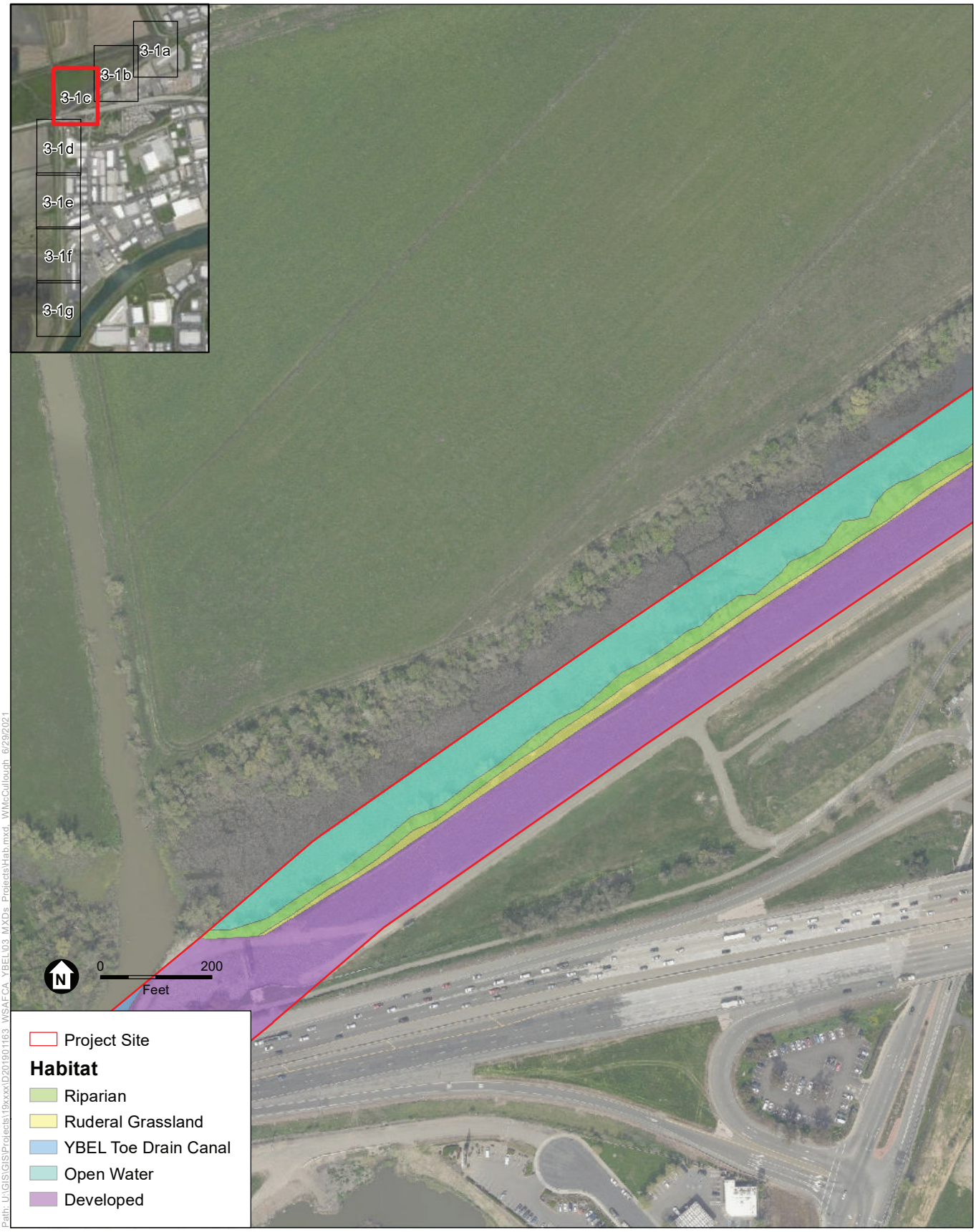
ESA



SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1b
Habitat Types



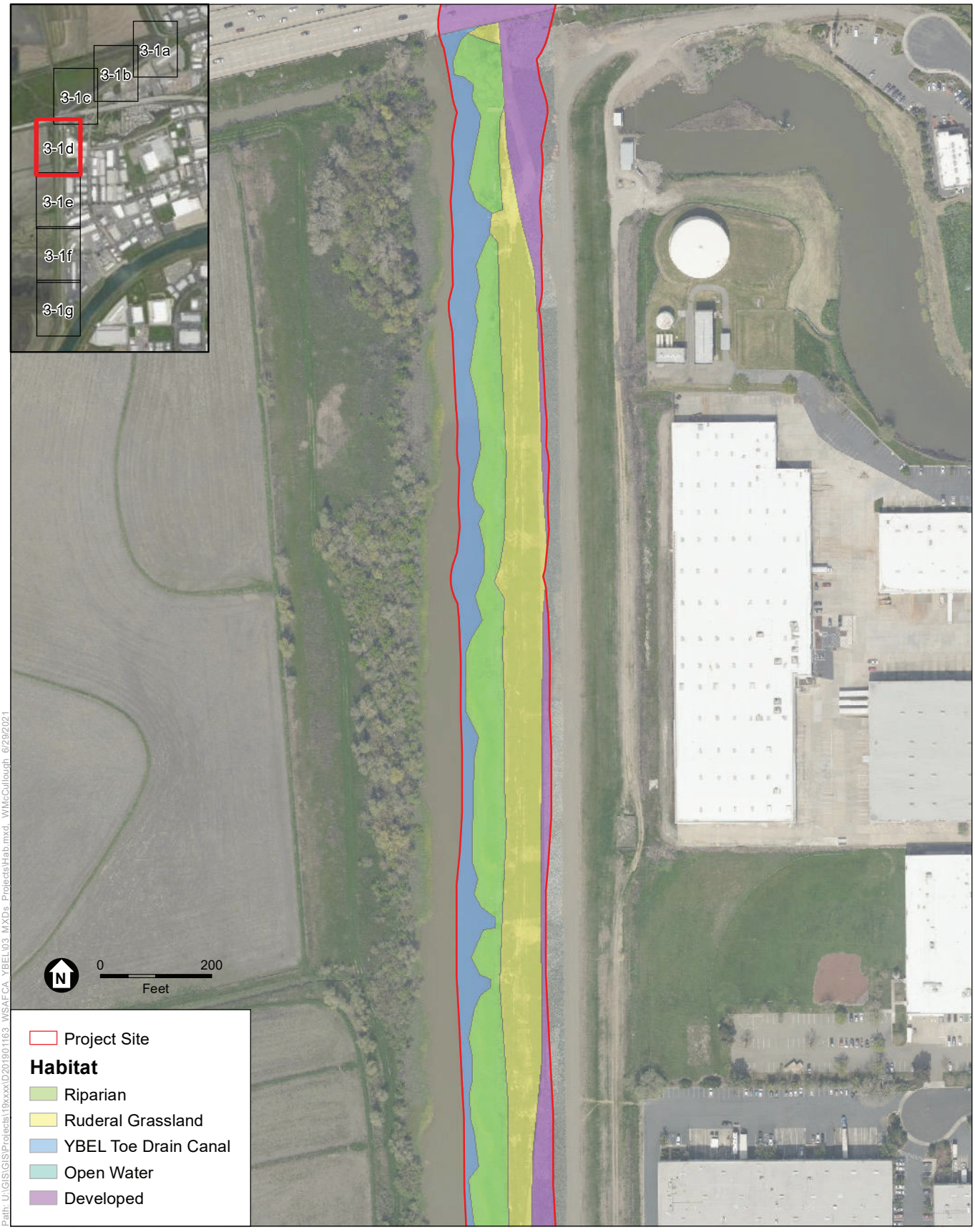
Path: U:\GIS\GIS\Projects\19xxxx\D2019011163_WSAFCA_YBEL\03_MXDs_Projects\Hab.mxd WMcCullough 6/29/2021

SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1c
Habitat Types

ESA

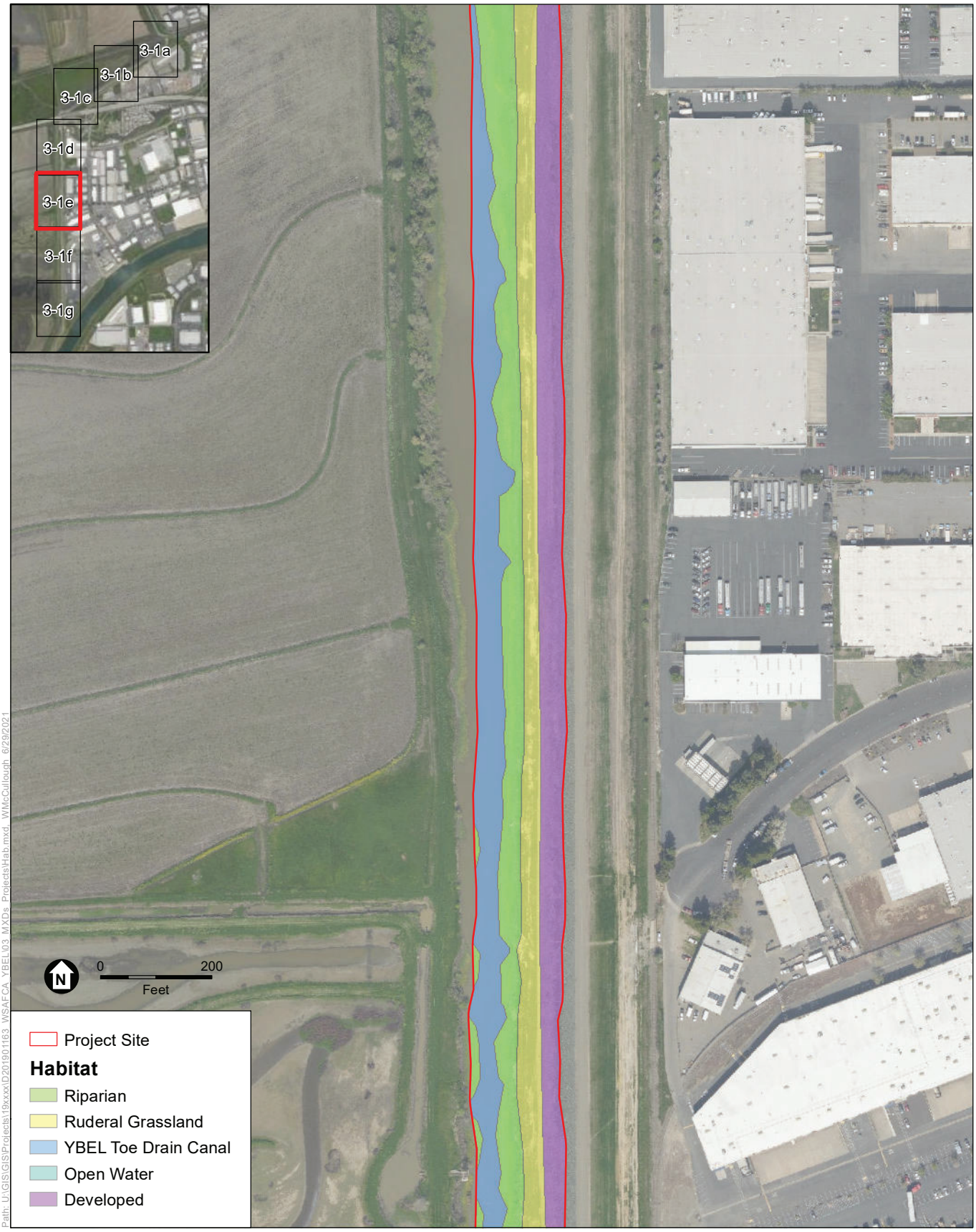


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1d
Habitat Types

ESA

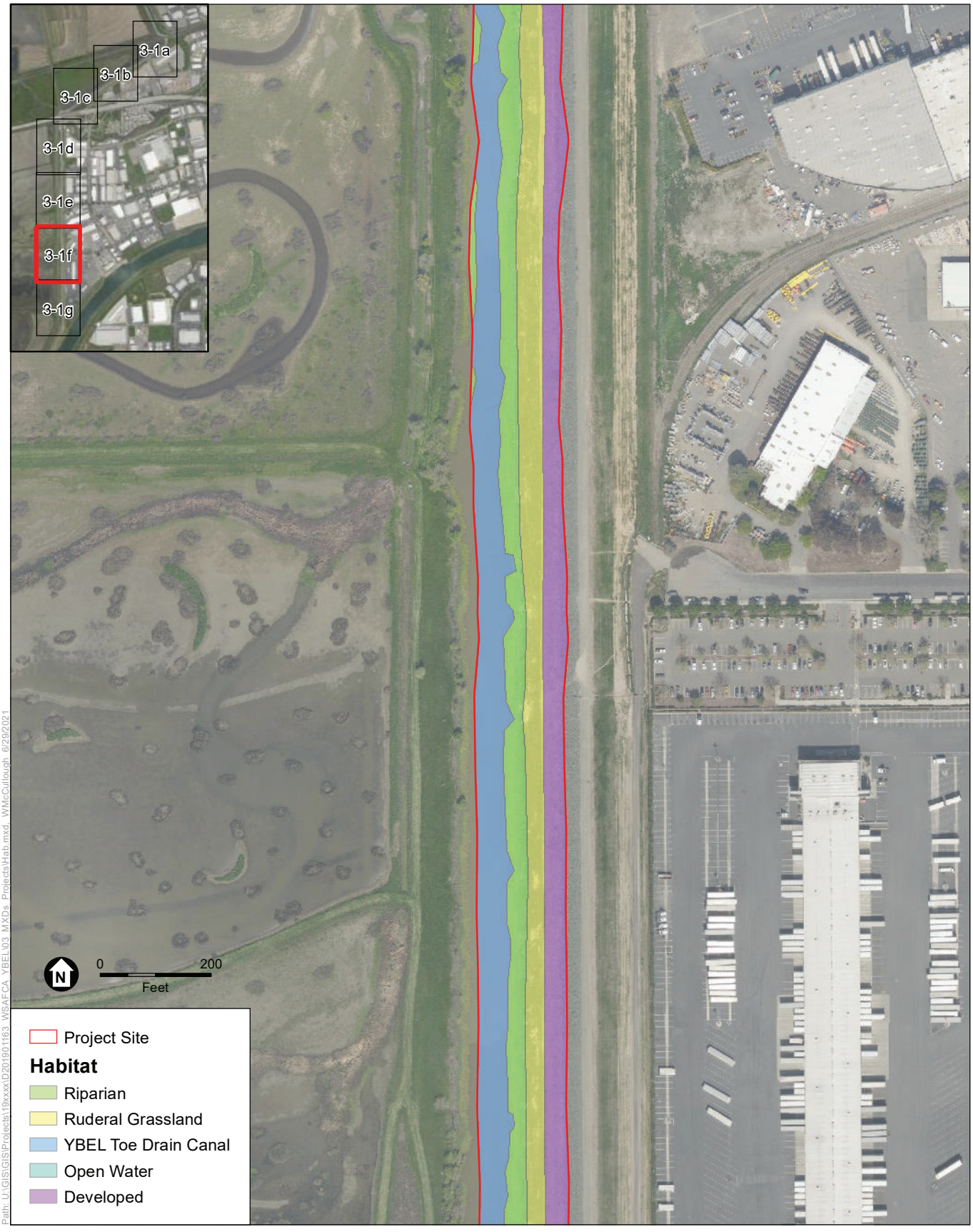


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1e
Habitat Types

ESA

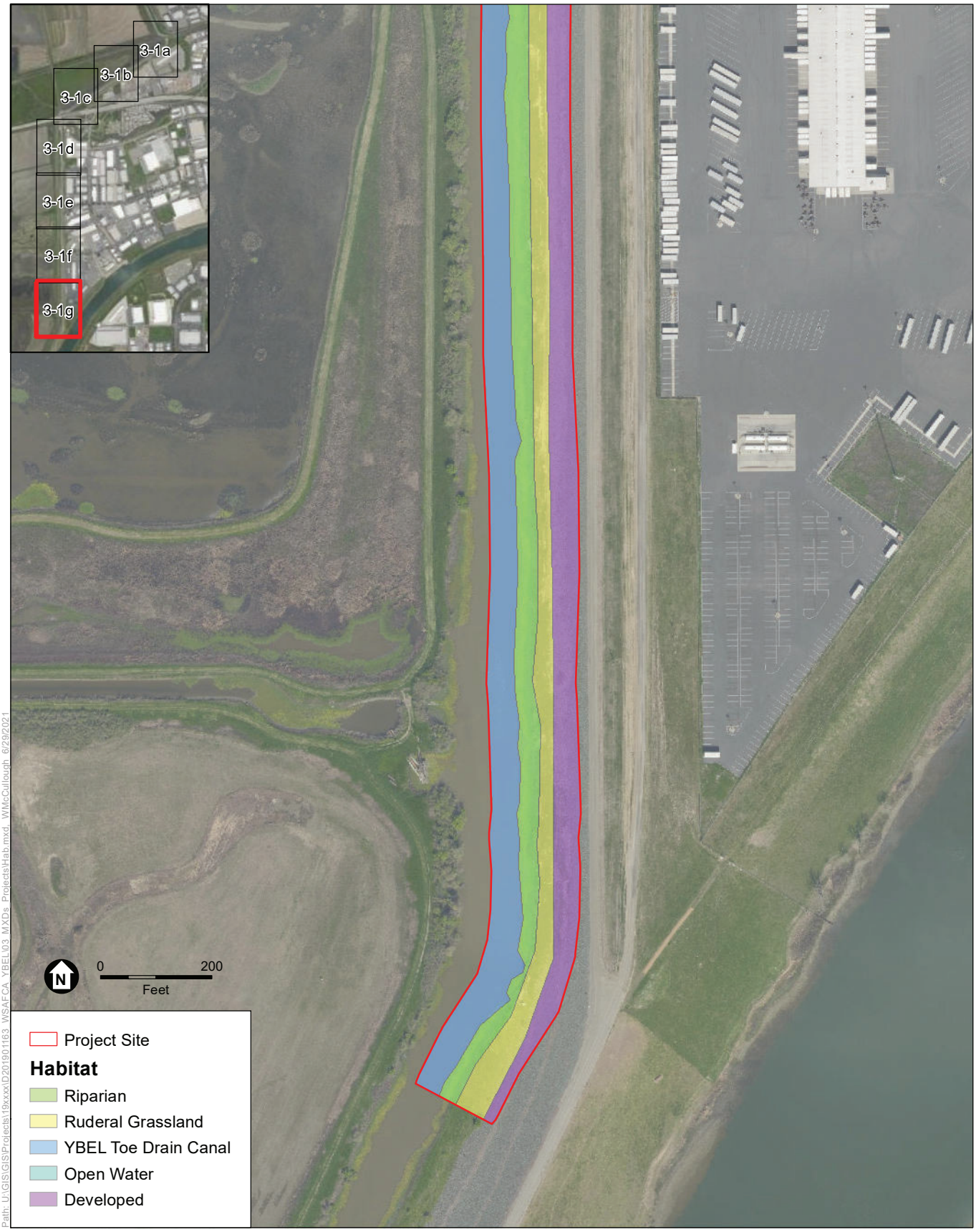


SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1f
Habitat Types

ESA



SOURCE: ESA, 2020

Yolo Bypass East Levee Environmental Assessment

Figure 3-1g
Habitat Types

ESA

b) As described in the EA, construction of the proposed project would not result in the removal of any riparian habitat within the project area. 15 acres of developed and ruderal grassland would be impacted. After construction the disturbed areas would be reseeded with native grasses and forbs. However, with implementation of Mitigation Measure BIO-1, impacts to native habitat would be less than significant.

c) There are no wetlands within the project site. Therefore, construction of the proposed project would not result in the loss of seasonal wetlands and there would be no impact.

d) The YBEL Toe Drain Canal provides for the movement of resident and migratory fish. In addition, the riparian corridor surrounding the canal provides a wildlife migration corridor for a variety of common and special-status species. As designed, the proposed project would avoid these habitats. **Figures 3-1a-g** show the habitats and the Toe Drain Canal. While some local disturbance would occur in the vicinity of these habitat types as a result of project construction, these activities would be limited to a small area on a temporary basis. Construction activities are not expected to permanently interfere with any movement corridors or the movement of any wildlife or native resident or migratory fish species through the area. Therefore, impacts would be temporary and **less than significant**.

e) The proposed project would comply with all local policies or ordinances protecting biological resources. As described under Environmental Checklist Item 4b, no riparian habitat would be removed. Because the project would comply with applicable local policies or ordinances protecting biological resources, this would be **a less than significant** impact.

f) The proposed project is not located within any habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the proposed project would have **no impact**.

Mitigation

Mitigation Measure BIO-1: Native Habitat

Any ruderal grassland temporarily impacted by construction would be restored by reseeding the affected area with native grasses and forbs following construction.

Mitigation Measure BIO-2a: Special-Status Species - Special-Status Fish

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to special-status fish.

Mitigation Measure BIO-2b: Special-Status Species - Giant Gartersnake

In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to minimize potential effects on giant gartersnake. These measures are based on USFWS guidelines for restoration and standard avoidance measures included as appendices in the USFWS Programmatic Consultation with the USACE (1997).

- Unless approved otherwise by USFWS, construction will be initiated only during the giant gartersnakes' active period (May 1–October 1, when they are able to move away from disturbance).
- Construction personnel will participate in a USFWS-approved worker environmental awareness program.
- A giant gartersnake survey will be conducted 24 hours prior to construction in potential habitat. Should there be any interruption in work for greater than two weeks, a biologist would survey the project area again no later than 24 hours prior to the restart of work.
- Giant gartersnakes encountered during construction activities will be allowed to move away from construction activities on their own.
- Movement of heavy equipment to and from the construction site will be restricted to established roadways. Stockpiling of construction materials will be restricted to designated staging areas, which will be located more than 200 feet away from giant gartersnake aquatic habitat.
- Since construction will occur within 200 feet of suitable aquatic habitat, wildlife exclusion fencing will be installed along the perimeter of the construction footprint as follows; north to south along the western boundary, parallel to the YBEL Toe Drain Canal; and from the western boundary fencing eastward to the base of the riprap. Similarly, wildlife fencing will be installed around any staging areas within 200-feet of the YBEL Toe Drain Canal. A biological monitor will be present during the installation of the fencing.

Mitigation Measure BIO-2c: Special-Status Species - Western Pond Turtle

In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to reduce potential effects on western pond turtle:

- Construction personnel will participate in a worker environmental awareness program (concurrently with the training identified for giant gartersnake).
- A preconstruction survey will be conducted for western pond turtle 24 hours prior to the start of construction (concurrently with the survey identified for giant gartersnake).
- If any western pond turtles are observed during construction in the immediate project area, the biologist will relocate the individual(s) at least 200 feet up- or downstream of the project area to similar habitat within or adjacent to the YBEL Toe Drain Canal, if feasible. If the western pond turtles cannot be captured, no work will occur in the immediate vicinity of the western pond turtle until the biologist confirms that the western pond turtle has left the immediate vicinity and would not be harmed by construction activities. If the western pond turtle does not move out of the immediate project area in a reasonable time and cannot be easily moved at the biologist's discretion CDFW may be consulted to determine the best course of action to continue construction activities associated with the proposed action.
- The wildlife exclusion fencing identified for giant gartersnake will ensure that no western pond turtles enter the construction footprint.

Mitigation Measure BIO-2d: Special-Status Species - Burrowing Owl

The following measures would be implemented to reduce the potential effects on burrowing owl:

- Pre-construction surveys for burrowing owls will be conducted by a qualified biologist within 30 days prior to the start of work activities at the project area. If construction activities are delayed for more than 30 days after the initial preconstruction survey, then a new preconstruction survey will be conducted. Surveys will be conducted in accordance with the following methods, as described within the Staff Report on Burrowing Owl Mitigation (CDFW, 2012).

- If burrowing owls are discovered in the project area vicinity during the preconstruction surveys or during construction, the biologist will be notified immediately. Occupied burrows will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

- Occupied burrows during the nesting season will be avoided by establishment of a no-work buffer of 250-foot around the occupied/active burrow. Where maintenance of a 250-foot no-work buffer zone is not practical, coordination with CDFW will be conducted to determine appropriate avoidance measures. Burrows occupied during the breeding season (February 1 to August 31) will be closely monitored by the biologist until the young fledge/leave the nest. The biologist will have the authority to stop work if it is determined that construction related activities are disturbing the owls.

- If approved by CDFW, the biologist may undertake passive relocation techniques by installing one-way doors in active and suitable burrows (that currently do not support eggs or juveniles). This would allow burrowing owls to escape but not re-enter. Owls should be excluded from the immediate impact zone and within a 160-foot buffer zone by having one-way doors placed over the entrance to prevent owls from inhabiting those burrows.

Mitigation Measure BIO-2e: Special-Status Species - Swainson's Hawk

The following measures would be implemented to reduce the potential effects to Swainson's hawk:

- If construction activities are anticipated to commence during the Swainson's hawk nesting season (March 1 to September 15), a qualified biologist will conduct a minimum of two preconstruction surveys during the recommended survey periods, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk TAC 2000). All potential nest trees within 0.25 miles of the proposed project footprint will be visually examined for potential Swainson's hawk nests, as accessible.

- If active Swainson's hawk nests are found within 0.25 miles of construction activities, a survey report will be submitted to the CDFW and the CNDDB, and an avoidance and minimization plan will be developed for approval by the CDFW prior to the start of construction. The avoidance plan will identify measures to minimize

impacts to the active Swainson's hawk nest depending on the exact location of the nest. These measures may include, but are not limited to:

- Establishing a buffer zone and work schedule to avoid impacting the nest during critical periods. If possible, no work will occur within 600 feet of the nest while it is in active use. If work will occur within 600 feet of the nest, then construction will be monitored by a qualified biologist to ensure the nest is not disturbed and that the that no work occurs within 150 feet of the nest during incubation or within ten days after hatching;
- Having a biological monitor conduct regular monitoring of the nest during construction activities; and
- Allowing the biologist to halt construction activities until the CDFW is consulted if the biologist determines that construction activities are disturbing the nest.

Mitigation Measure BIO-2f: Special-Status Species - Nesting Birds and Raptors (Excluding Swainson's Hawk)

The following measures would be implemented to reduce the potential effects to nesting birds and raptors:

- For any construction activities that will occur between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting birds and raptors within 7 days prior to commencement of construction activities. The survey area will include a 500-foot buffer around the construction area, where feasible. If no active nests are observed, no additional measures are required unless construction halts for 7 days. A subsequent preconstruction survey would be required within 7 days prior to re-commencement of construction activities.
- If active nests are found during the preconstruction survey, the applicant will implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone, as approved by CDFW, around the active nest. Measures will include, at minimum:
  - Establishing a 500-foot no-work buffer around active raptor nests (excluding Swainson's hawk nests) and a 100-foot no-work buffer around active migratory bird nests, if feasible. If infeasible, the biologist may determine that a reduced buffer is acceptable based on several factors including the sensitivity of the species nesting, the construction activities proposed within the buffer area, and the proximity of the construction activities to the nest.
  - If the biologist determines that a reduced buffer acceptable, the active nest(s) will be monitored by a qualified biologist during all construction activities occurring between the reduced buffer area and the originally established buffer area. If, in the professional opinion of the monitor, the project would impact the nest, the biologist will immediately inform the construction manager. The construction manager will stop construction activities occurring between the reduced buffer area and the originally established buffer area until the biologist determines that normal nesting activities have recommenced or when the biologist confirms that the nest is no longer active.

Mitigation Measure BIO-3: Sensitive Natural Communities

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to sensitive natural communities.

Mitigation Measure BIO-4: Federally Protected Waterways

Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to federally listed waterways.

3.2.5 Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource 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 dedicated cemeteries?	☐	☒	☐	☐

Discussion

Section 3.5 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for cultural resources.

a) CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as any building, structure, site, or object listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion focuses on architectural and structural resources. Archaeological resources, including those that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed below under issue b).

Two historic-era built environment resources were identified in the project area and evaluated for historical significance: segments the West Sacramento Unit 2 North Levee and the DWSC Navigation Levee (GEI, 2021a and 2021b). Both resources have been evaluated and recommended to be eligible for the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) as contributors to a larger district within the context of flood management and association with the Sacramento River Flood Control Project and the Yolo Bypass. The resources are therefore considered to be historical resources for the purposes of this analysis.

When originally constructed, the levees were designed to be maintained and strengthened, which was the purpose of the Sacramento River Flood Control Project. The proposed modifications would not alter the character-defining features or the integrity of the levees, which include their overall design and form. In addition, the materials, workmanship, and general physical characteristics that convey the significance of the levees would remain in place. The levees would continue to serve their intended purpose within the context of flood management. Therefore, the project would have no impact on the West Sacramento Unit 2 North Levee and the DWSC Navigation Levee. No mitigation is required.

b) CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on archaeological resources. A significant impact would occur if a project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

GEI archaeologists conducted an archaeological pedestrian survey of all portions of the project area on September 29 to October 1, 2020. Tribal monitors from the Yocha Dehe Wintun Nation were also present. The surveys were conducted to intensive standards (pedestrian transects spaced no more than 15 meters apart). No pre-contact Native American or historic-era archaeological resources were identified during the survey effort. The cultural resources analysis and survey did not identify archaeological resources in the project area. Despite the negative survey results, there remains the possibility that previously unknown cultural materials could be discovered during project construction and inadvertently damaged. This could be a potentially significant impact. Implementing Mitigation Measures CR-1 and CR-2 would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of previously undocumented cultural materials to a less-than-significant level, because these measures would require that if cultural materials are discovered prior to or during project-related construction activities, appropriate treatment and protection measures would be implemented.

c) There are no known human remains discoveries in the project area and the vicinity. However, Native American human remains could be encountered during earthmoving activities associated with the project. This would be a potentially significant impact. Implementing Mitigation Measure CR-3 would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of previously undocumented human remains to a less-than-significant level because it requires that if human remains are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, in consultation with the Native American Heritage Commission, the Most Likely Descendant (MLD), and WSAFCA, in compliance with California Health and Safety Code Section 7050 and PRC Section 5097.9.

Mitigation Measure CR-1: Cultural Resources Awareness Training.

WSAFCA shall provide a cultural resources and tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, as well as culturally affiliated Native American tribes. WSAFCA may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The training shall be conducted before any project-related construction activities begin in the project area and shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating federal and state laws and regulations.

The training shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located in the project area and shall outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The training shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

Mitigation Measure CR-2: Inadvertent Discovery of Cultural Materials.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains); tribal cultural resources; sacred sites; or landscapes is made at any time during project-related construction activities, USACE in consultation with WSAFCA and other interested parties, in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and culturally affiliated Native American tribes, shall develop appropriate protection and avoidance measures where feasible. These procedures shall be developed in accordance with the GRR PA and Historic Properties Management Plan (HPMP), which specifies procedures for post-review discoveries. Additional measures, such as development of a Historic Properties Treatment Plan prepared in accordance with the GRR PA and Historic Properties Management Plan (HPMP) may be necessary, if avoidance or protection is not possible.

Mitigation Measure CR-3: Inadvertent Discovery of Human Remains.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, WSAFCA shall immediately halt potentially damaging excavation in the area of the burial and notify the County coroner and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, they must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated MLD, in consultation with WSAFCA, shall determine the ultimate treatment and disposition of the remains.

Upon the discovery of Native American human remains, USACE in coordination with WSAFCA, shall require that all construction work must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD shall have 48 hours to complete a site inspection and make recommendations to the WSAFCA after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that WSAFCA shall employ:

- Record the site with the NAHC and the appropriate California Historical Resources Information System center.

- In consultation with the coroner and MLD proper recordation of the discovery will be properly documented and filed with the County.

If agreed to by the MLD, WSAFCA or WSAFCA's authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, WSAFCA or WSAFCA's authorized representative may also reinter the remains in a location not subject to further disturbance. If WSAFCA rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to WSAFCA, WSAFCA shall implement mitigation for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

References

GEI Consultants, Inc., *Cultural Resources Inventory Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021a.

GEI Consultants, Inc., *Cultural Resources Evaluation Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021b.

3.2.6 Energy

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

Discussion

a-b) Construction of the proposed project would require temporary energy use to power construction equipment. During construction, the proposed project would comply with state and local requirements designed to minimize idling and associated emissions, which also minimizes fuel use. Specifically, construction activities would comply with Title 13, Section 2485 of the California Code of Regulations and Title 13, Section 2449 of the California Code of Regulations, which limit idling of commercial vehicles over 10,000 pounds and off-road equipment over 25 horsepower to two minutes. Therefore, energy use during construction would not be wasteful, inefficient, or use unnecessary resources.

Operational activity associated with maintenance of the existing YBEL consumes energy from employee vehicle trips associated with routine maintenance; however, maintenance activity would not increase from current conditions as a result of the proposed project and operation of the proposed project would not result in an increase in energy-use. Therefore, operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The proposed project would have **no impact** with regard to energy resources.

3.2.7 Geology and Soils

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? 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?	☐	☒	☐	☐

Discussion

Section 3.7 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for geology and soils.

a.i) The proposed project is not within an Earthquake Fault Zone (EFZ), as delineated on the most recent Earthquake Zone of Required Investigation Map (EZRIM) for the project area. As such, the proposed project would have **no impact**.

a.ii-iv,c) While the project site is not within an EFZ, proximity to Holocene-active and Pre-Holocene faults in the project area could result in strong seismic ground shaking at the project site. Strong seismic ground shaking can induce secondary seismic-related ground failures, such as landslides, liquefaction, and lateral spreading. Unstable soils at the project site can also contribute to the risks posed by seismic ground shaking and subsequent ground failures. However, as stated in Section 2.2, *Proposed Action – West*

Sacramento Project Yolo Bypass East Levee Reach, the proposed project would include structural modifications to the levee to address seepage, levee stability, erosion, and overtopping concerns.

Blackburn Consulting performed the geotechnical analysis to address the geotechnical engineering aspects of the proposed project and to provide requirements and recommendations to inform the structural modifications and provide seismic design criteria. Adherence to the seismic design requirements and other recommendations included in the Geotechnical Data Report, as well as any future recommendations included in the geotechnical report to be completed at the 95 percent design phase, would prevent any impacts caused by seismic ground shaking and any secondary seismic-ground failures (i.e., liquefaction, landslide, lateral spreading, etc.). Therefore, this impact would be **less than significant**.

b) The proposed project would include ground-disturbing construction activities that could increase the risk of erosion or sediment transport. Total ground disturbance would be more than 1.0 acre, and construction would have the potential to result in soil erosion during excavation and grading. As such, the contractor would be required to comply with the Construction General Permit, described in Chapter 5, *Compliance with Environmental Laws and Regulations*. The Construction General Permit requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which requires applying specific best management practices (BMPs) to control run-on and runoff from construction work sites to avoid or minimize soil erosion. The BMPs would include but not be limited to physical barriers to prevent erosion and sedimentation; construction of sedimentation basins; limitations on work periods during storm events; and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Compliance with these independently enforceable existing requirements would reduce the potential impacts of the proposed project associated with soil erosion and loss of topsoil during construction. As such, the impact from the proposed project would be **less than significant**.

d) According to NRCS Web Soil Survey data, the soils underlying the project site have a moderate expansion potential. The geotechnical investigation performed by Blackburn Consulting does not specifically identify any expansive soils within the project site. Soil that is required to construct the seepage/stability berm and to modify the landside drainage ditch to a buried pipe within Segment AA, and soil required for levee fill for slope mitigation in Segment AD, would be required to undergo analysis before use. Because the proposed project would not involve exposing any infrastructure to the moderately expansive soils, there would be no adverse effect associated with expansive soils and there would be **no impact**. Additionally, any potential risk associated with expansive soils would be identified and remedied in the forthcoming 95 percent design geotechnical documents

e) The proposed project would not include the use of septic tanks or alternative wastewater disposal systems. As such, the proposed project would have **no impact**.

f) The proposed project would include structural improvements to Segments AA and AD, such as installation of a stability berm, reconstruction of an existing maintenance road, installation of piping, construction of a pumping station, and other grading activities. Ground disturbance in the younger Holocene-age deposits has a low potential to uncover paleontological resources; however, disturbance of older Holocene and Pleistocene-age deposits, including the Riverbank Formation, has a moderate potential to uncover paleontological resources. This is due to the presence of vertebrate fossils within the Pleistocene-age deposits in Yolo County, as well as within the Riverbank Formation.

As the project site has been previously disturbed by past construction and earthmoving activities, it is unlikely that any construction activities associated with the proposed project would disturb or destroy any paleontological resources. Without more precise data regarding the maximum depth of ground disturbance it would not be prudent to assume that there would be no impact to paleontological resources, however unlikely. In the event that significant paleontological resources are encountered during ground disturbing activities, **Mitigation Measure GEO-1** would be implemented to avoid adverse effects to paleontological resources and to reduce the impact to less than significant.

Mitigation

Mitigation Measure GEO-1:

In the event of an unanticipated fossil discovery during construction, the severity of the impact would be reduced to a less-than-significant level with implementation of the following mitigation. Details of this mitigation include:

- Halting all earthwork or other types of ground disturbance within 100 feet of the find until a qualified paleontologist (meeting the standards of the Society of Vertebrate Paleontology [SVP]) can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site.
- If treatment and salvage is required, recommendations will be consistent with SVP guidelines (SVP, 2010) and currently accepted scientific practice. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds.

3.2.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VIII. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

Section 3.8 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for greenhouse gases.

a-b) As discussed in Section 3.8 of the EA, CO2 would be the predominant greenhouse gas (GHG) produced from the construction of the proposed project and no major sources of other greenhouse gases would exist. Construction of the proposed project is estimated to produce CO2 levels well below the EPA Reporting Rule. In addition, emissions generated by the proposed project would be temporary in nature and would not result in a permanent increase in long-term GHG emissions. Therefore, effects on climate change associated with construction and operation of the proposed project would be **less than significant**. Although not required, implementation of Mitigation Measures AQ-2 would further reduce GHG emissions associated with the proposed project efficiency of equipment to reduce emissions.

Mitigation

Mitigation Measure AQ-2:

The proposed project would minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The USACE would provide clear signage that posts this requirement for workers at the entrances to the site.

3.2.9 Hazards and Hazardous Materials

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

Discussion

Section 3.9 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for hazards and hazardous materials.

a-d) Construction of the proposed project would involve the routine use of small quantities of hazardous materials commonly used during construction activities such as fuels, lubricants and oil for construction equipment. Storage and use of hazardous materials at the site during routine use could result in the accidental release of small quantities of hazardous materials, which could degrade soil and/or surface water within the project area. In compliance with state and federal regulations, a hazardous materials business plan and a spill prevention and countermeasures plan would be prepared as part of the proposed project.

The contractor would be required under the General Construction Permit to prepare a SWPPP identifying specific BMPs to avoid or minimize soil erosion. BMPs would be implemented to minimize the risk of a hazardous materials release during construction activities. These are further discussed under Section 3.9 of the EA. The use, storage,

transport, and disposal of hazardous materials during construction of the proposed project would be carried out in accordance with federal, state, and county regulations. These requirements would ensure that hazardous materials used for construction would be stored in appropriate containers, with secondary containment to prevent a potential release. Additionally, project-related spills of hazardous materials would be required to be reported to appropriate regulatory entities, including but not limited to the city of West Sacramento; U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Wildlife (CDFW); and the Central Valley Regional Water Quality Control Board (CVRWQCB). Hazardous materials spills would be cleaned up immediately, and contaminated soils would be excavated and transported to approved disposal areas, consistent with state and local requirements.

Additionally, the contractor would be required to transport all contaminated soil to a licensed, permitted facility that meets all Federal and State standards and requirements. This will ensure that no contaminated material would be introduced into the site. Excavated material from the project would be temporarily stored and would be disposed of at an appropriate waste site authorized to accept such waste.

Mitigation Through Compliance

The proposed project would temporarily increase the transport of materials generally regarded as hazardous that are used in construction activities. It is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, and other similarly related materials would be brought onto the project site, used, and stored during the construction period. However, transportation of hazardous materials on roadways would be regulated by the CHP and Caltrans. Storage and use of hazardous materials would be performed in accordance with applicable Federal, State and local regulations. Compliance with required law and regulations regarding the use, storage, disposal, and transportation of hazardous materials would reduce this impact to less than significant. As a result, adverse effects related to hazards and hazardous materials would be considered temporary and less than significant, and no additional mitigation would be required. There is one school in proximity to the project area: Western Truck School, approximately 0.15-mile south of Segment AD. As stated above, required compliance with the numerous existing laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for hazardous emissions and/or hazardous materials to impact nearby schools. Compliance with required law and regulations regarding the use, storage, disposal, and transportation of hazardous materials during construction would reduce this impact to **less than significant**.

e) As stated above, there are no public or private airports within two miles of the proposed project, however the California Highway Patrol (CHP) Academy is approximately 1 mile to the northeast of Segment AD. The nearest airports to the project site are the Sacramento Executive Airport (approximately 5.8 miles to the southeast of the project site), and the Yolo County Airport (approximately 14.5 miles to the west of the project

site. The noise contour and safety zone maps for both airports indicate that the project site is not within any of these delineated zones (ALUC, 1999a; ALUC, 1999b). Therefore, it is not anticipated that any nearby airports would cause a safety hazard or excessive noise for people working in the project area, and the proposed project would result in a **less than significant** impact.

f) The project does not propose road closures or road work associated with the proposed project. Therefore, there would be no interference with an emergency evacuation or response plan, and this would result in **no impact**.

g) Based on mapping by the California Department of Forestry and Fire Protection (CAL FIRE) Forest Resource Assessment Program (FRAP) the project site is not within a Very High Fire Hazard Severity Zone (CAL FIRE, 2008). The use of construction equipment and the possible temporary on-site storage of fuels and/or other flammable construction chemicals could pose an increased fire risk resulting in injury to workers or the public during construction. However, contractors would be required to comply with hazardous materials storage and fire protection regulations, which would minimize potential for fire creation, and ensure that the risk of wildland fires during construction and would result in a **less than significant** impact.

3.2.10 Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
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 offsite;	☐	☒	☐	☐
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?	☐	☐	☐	☒

Discussion

Section 3.10 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for hydrology and water quality.

a, c.i-c.iv) Levee bank construction would consist of structural improvements to the YBEL to address seepage, erosion and overtopping concerns. The proposed project would involve the use of heavy equipment during construction resulting in approximately 15 acres of ground disturbance, which could result in potentially adverse effects to water quality in the vicinity of the proposed project, specifically the t adjacent Toe Drain Canal and the Deep Water Ship Channel and the Sacramento River. Identified direct and indirect effects include increased potential for runoff of exposed soils, mobilization of silt and sediments leading to increased conditions of turbidity in waterways during bank protection construction. In the absence of measures to prevent water contamination, cement, slurry, or fuel spills could also occur, having the potential to compromise the water quality of the Sacramento River or Deep Water Ship Channel. In compliance with state and federal regulations, as described in

Section 3.9 of the EA, a hazardous materials business plan and a spill prevention and countermeasures plan would be prepared as part of the proposed project. The proposed project would also be required to comply with the good housekeeping practices, BMPs, and measures described in the County of Yolo Improvement Standards. These measures contain specific requirements for the use of cement and paint near waterways, as well as specifications to control erosion and prevent sedimentation of waterways. Implementation of the requirements stipulated in these plans and provided as mitigation for the protection of water quality would minimize release of contaminants.

As described in Section 3.9 of the EA, ground disturbance would consist of an area greater than one-acre in size and the contractor would be required to prepare a SWPPP as part of the Construction General Permit. The proposed project would not be constructed during the winter rainy season; therefore, risks of release of pollutants during a flood would be minimal. With implementation of measures described in Section 3.8, and in this section and BMPs as part of the SWPPP, water quality impacts would be less than significant. Impact avoidance and mitigation measures are provided below. In the event that measures are redundant or requirements overlapping, the measure(s) more protective of water quality shall apply.

The YBEL performs a critical function as the primary effective flood control structure for West Sacramento. Thus, maintaining the structural integrity of the levee is critical to providing flood protection and alleviating flood risk to the community of West Sacramento, located to the east of the levee, and the surrounding agricultural lands to the west. Implementation of the proposed pump station and drainage infrastructure would alleviate existing flood risk. As such, operation, and maintenance of the proposed project would result in **less than significant impacts** with respect to flooding.

b, e) There is currently no adopted groundwater sustainability plan in the project area; however, it is anticipated that the proposed project would not generate conflicts with future groundwater sustainability planning efforts because the proposed project would utilize minimal water resources during construction and would not require ongoing groundwater resources for operation and maintenance. There would be **no impact** with respect to the groundwater sustainability.

d) The City of West Sacramento is in a levee flood protection zone, as determined by the Central Valley Flood Protection Board or DWR. The project site is approximately 80 miles west of the Pacific coast, and therefore not located in a region subject to tsunamis. A seiche is a standing wave in an enclosed or partially enclosed water body, such as a lake or reservoir brought on by changes in atmospheric pressure. Seiches tend to occur in large or isolated water bodies. The project site is not in a location that would be typically subject to a seiche. The proposed project would be constructed during the dry season (summer and fall); therefore, risks of release of pollutants into waterways during construction would be **less than significant**.

Mitigation

Mitigation Measure HYD-1: Prepare SWPPP

- The contractor would be required to obtain a NPDES permit, since the project would disturb one or more acres of land and involve possible storm water pollutant discharges to surface waters. In addition, the contractor would prepare a SWPPP identifying BMPs to be used to avoid or minimize any adverse effects. Implementation of the following BMPs would act as mitigation as they would ensure that the effects on water quality would remain at less-than-significant levels. Identify all stormdrains, drainage swales, and creeks located near the construction site and provide pre-construction training to make sure contractors and subcontractors are aware of their responsibilities regarding stormwater requirements to prevent pollutants from entering stormdrains or waterways.

- Dispose of wastes properly; remove litter from the site daily; materials that cannot be reused or recycled must be taken to an appropriate landfill; dispose of hon hazardous construction wastes in covered dumpsters or recycling receptacles; recycle materials whenever possible.

- Conduct earthwork during low flow periods for the adjacent waterways (generally July 1–November 30).

- To the extent possible, stage construction equipment and materials on the landside of the levee reaches in previously disturbed areas.

- Minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, ingress and egress corridors, spoils disposal and soil stockpile areas, and equipment exclusion zones prior to the commencement of any grading operations. In order to minimize the mobilization of contaminated sediments (e.g., mercury) soil below the mean summer waterline shall not be disturbed, to the extent feasible.

- Stockpile soil on the landside of the levee reaches and install sediment barriers (e.g., silt fences, fiber rolls, and straw bales) around the base of stockpiles to intercept runoff and sediment during storm events. If necessary, cover stockpiles with geotextile fabric to provide further protection against wind and water erosion.

- Install sediment barriers on graded or otherwise disturbed slopes as needed to prevent sediment from migrating from the project site and entering nearby surface waters.

- Install (native or ecologically appropriate) plant materials to stabilize cut and fill slopes and other disturbed areas once construction is complete. Plant materials could include an erosion control seed mixture or shrub and tree container stock. Temporary structural BMPs, such as sediment barriers, erosion control blankets, mulch, and mulch tackifier, could be installed as needed to stabilize disturbed areas until vegetation becomes established.

- Fuel, maintain, and clean vehicles at a minimum of 175 feet distance from any riparian habitat or water body and prepare a spill response plan. All workers shall be informed of the importance of preventing spills and of the appropriate measures to follow should a spill occur. Training materials for spill prevention and response measures shall be prepared in adherence with state and federal regulations.

- Locate portable toilets a minimum of 25 feet away from drain inlets, water courses and traffic circulation; portable toilets shall be secured to prevent overturning; regular service shall be provided.

- Water utilized for dust control shall not be allowed to result in conditions of runoff. Care shall be taken to not overwater causing sediment-laden runoff. Earthwork operations shall cease when wind speeds exceed 20 mph for one hour or more.

Mitigation Measure HYD-2: Acquire Waste Discharge Requirements

- Before discharging any dewatered effluent to surface water, a Low Threat Discharge and Dewatering NPDES permit shall be obtained from the Central Valley RWQCB. Depending on the volume and characteristics of the discharge, coverage under the Central Valley RWQCB's NPDES Waste Discharge Requirements may be applied for and obtained. As part of the permit, the permittee would develop and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Various measures that could be used include the retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and/or other BMPs.

3.2.11 Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XI. LAND USE AND PLANNING — Would the project:				
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?	☐	☐	☐	☒

Discussion

Section 3.1.2 of the EA describes land use effects of the proposed project.

a) The proposed project does not include the construction of any buildings or other large-scale features that would physically divide or create a barrier between any existing communities in the project area. Therefore, the proposed project would not divide an established community **no impact**.

b) The proposed project is zoned agriculture by the City of West Sacramento. The proposed project would reduce flood risk in and around West Sacramento by improving infrastructure and does not propose changes to land use designations. Construction activities would be temporary and would not conflict with land use designations in the City of West Sacramento General Plan. There would be **no impact**.

3.2.12 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

a-b) The project area is situated on vast alluvial deposits that have slowly accumulated over the last 100 million years. The materials have been derived from igneous, metamorphic, and sedimentary parent rock materials from the Sierra Nevada to the east, transported by major streams, and deposited in successive clay, silt, sand, and gravel layers on the valley floor. Late Pleistocene and Holocene alluvia deposits now cover the area. Due to the limited size and scope of the proposed project, there would be **no impact** on the geologic features in the project area.

The proposed project is located in an area classified MRZ-1 and is not considered to contain significant mineral deposits (CDC, 2018). The proposed project is not located on or near a mineral extraction site and would not result in the loss of availability of mineral resources or otherwise prevent the extraction of important mineral resources. Therefore, the proposed project would not result in the loss or availability of mineral resources and there would be **no impact**.

References

California Department of Conservation (CDC), 2018. Mineral Land Classification Map of Concrete Aggregate in the Greater Sacramento Area Production-Consumption Region. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_245-MLC-Plate01-SECURED.pdf. Accessed November 18, 2020.

3.2.13 Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne 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?	☐	☐	☐	☒

Discussion

Section 3.11 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for noise.

a-b) As described in subsection 3.11 of the EA, noise levels in the proposed project area are attributed to traffic on area roadways, train traffic, occasional planes and helicopters, residential and recreational activities, and natural background noise (wind, wildlife, etc). Noise sensitive receptors in the project area include residential uses which are approximately 0.8 miles east of the project site. As described in the EA, construction activities would result in short-term increases in noise levels. Anticipated noise levels at sensitive receptors are estimated to be 36 dBA or less based on the type of equipment used. Construction activities would occur during the times established in the City of West Sacramento Noise Ordinance to minimize effects to nearby residents. As such, impacts would be **less than significant**.

c) The proposed project is not located within 2 miles of a private airstrip, public airport, or is located within an airport land use plan. The nearest airports to the project site are the Sacramento Executive Airport (approximately 5.8 miles to the southeast of the project site), and the Yolo County Airport (approximately 14.5 miles to the west of the project site. Therefore, implementation of the proposed project would not expose people residing or working in the project area to excessive noise levels from airport activity, and **no impact** would occur.

3.2.14 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a-b) The proposed project would provide flood control improvements to the YBEL; as such the proposed project would not result in direct or indirect population growth, displacement of existing housing, construction of new housing, or the displacement of people such that construction of replacement housing would be necessary. As a result, the proposed project would have **no impact** on population and housing.

3.2.15 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XV. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

Discussion

a.i-v) The proposed project could temporarily increase the potential need for police and fire protection services because of the general hazards associated with construction activities. The proposed project would be designed and scheduled so that construction would not close any roadways or block any travel lanes and would not interfere with emergency access. Construction activities would follow the public service guidelines outlined in the City of West Sacramento General Plan and coordinate with local public service jurisdictions to alleviate potential conflicts with emergency access routes. It is not likely that implementation of the proposed project would potentially increase the additional services or require the construction of new or physically altered government facilities. The proposed project would reduce flood risk in and around West Sacramento by improving the flood control capabilities of the YBEL. The proposed project would not result in a substantial increased demand for fire protection, police protection, schools, parks or other public facilities and no new or physically altered facilities would be needed. Impacts would be **less than significant**.

3.2.16 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVI. RECREATION —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a-b) A bike commuter corridor is crosses the levee along I-80 and Roland Hensley Park is located adjacent to the project site. However, the bike corridor and park are not located within segments AA or AD and there would be no impact.

Additionally, the proposed project would not result in an increase in population as such, the City of West Sacramento would not need to upgrade or build new recreation facilities. Therefore, there would be **no impact** on recreation in the project area.

3.2.17 Transportation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVII. TRANSPORTATION — Would the project:				
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 geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

Section 3.12 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for transportation.

a-b) As discussed in section 3.12 of the EA, construction of the proposed project would have temporary effects to traffic around the project area resulting from an increase in haul trucks and construction workers' personal vehicles accessing the project area via the described haul routes. The haul trucks would be spaced out during the day and would not interfere with commuter traffic in the morning and evening, but would increase the number of vehicles accessing the project area. The construction plan for the proposed project would be designed and scheduled so that construction would not require the closure of any roadways or block any travel lanes. There would be an increase in vehicle traffic around the project area during construction; however, these effects would be short-term and temporary (less than 100 days), and the vehicle trips would be limited to predesignated routes to minimize the contribution of project construction traffic to roadway congestion in the project area.

Mitigation Measure Trans-1 would require the development and implementation of a traffic control plan prior to construction, and would coordinate all use of public roads with the City of West Sacramento, or other responsible agencies. The traffic control plan would also identify and manage potential intersections with pedestrian and bicycle facilities, managing construction traffic to maintain access to existing pedestrian and bicycle facilities or provide alternative routes for pedestrian and bicycle traffic.

With the implementation of Mitigation Measures Trans-1 construction traffic would be managed to minimize contributions to local roadway congestion and adverse impacts to pedestrian and bicycle travel associated with temporary construction traffic, resulting in a **less-than-significant** impact.

c) The proposed project is a levee improvement project on key segments of the YBEL and does not include constructing new roadways. As a result, the proposed project would not introduce unsafe design features or incompatible uses into the area. The physical and operational characteristics of area transportation facilities (e.g., traffic signal and stop-control, and sidewalks) would safely accommodate traffic related to construction activities to and from the project site. For this reason, there would be **no impact** related to an increase in hazards resulting from the introduction of the proposed project.

d) The proposed project would be designed and scheduled so that construction would not close any roadways or block any travel lanes and would not interfere with emergency access. There would be an increase in vehicle traffic around the project area during project construction, but since these effects would be temporary and the vehicle numbers are limited, the proposed project is not expected to substantially increase roadway congestion in the project area to the extent that emergency access would be hindered. Therefore, transportation impacts related to emergency access would be considered **less than significant**.

Mitigation

Mitigation Measure Trans-1: Develop Traffic Control Plan

The contractor would be required to develop a Traffic Control Plan prior to construction, and coordinate all use of public roads with the City of West Sacramento, or other responsible agencies. This plan would include the following measures:

- Construction vehicles would not be permitted to block any roadways or driveways.
- Access will be provided for emergency vehicles at all times.
- Signs and flagmen would be used, as needed, to alert motorists, bicyclists, and pedestrians to the presence of haul trucks and construction vehicles at all access points.
- Vehicles would be required to obey all speed limits, traffic laws, and transportation regulations during construction. Vehicles would not exceed 15 miles per hour on unpaved levee roads.
- Construction workers would be encouraged to carpool and park in designated staging areas.
- Closure of levee roads, staging areas, and construction sites would be clearly fenced and delineated with appropriate closure signage.
- The contractor would be required to repair any roads damaged by construction.

3.2.18 Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVIII. TRIBAL CULTURAL RESOURCES —				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

Section 3.6 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for tribal cultural resources.

a.i/ii) Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register of Historical Resources (California Register), or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the landscape (PRC Section 21074[b]). A historical resource, as defined in PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource.

Through background research at the North Central Information Center of the California Historical Resources Information System, no known archaeological resources that could be considered tribal cultural resources, listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the proposed project.

In accordance with PRC Section 21080.3(b), WSAFCA sent certified letters to tribes listed on the Native American Heritage Commission list for the project vicinity: Yocha Dehe Wintun Nation, United Auburn Indian Community, and Wilton Rancheria. The letters were sent in coordination with the USACE, who sent separate letters to the same tribes to comply with National Historic Preservation Act Section 106 consultation requirements. WSAFCA received one response from the Yocha Dehe Wintun Nation. The tribe indicated they have concerns that the project could impact known cultural resources and recommended cultural monitors during development and ground disturbance as well as cultural resources sensitivity training. Tribal monitors from Yocha Dehe Wintun Nation were present during the survey effort completed for the project (GEI, 2021a).

The cultural resources analysis and survey, as well as consultation with Native American tribes, did not identify any specific tribal cultural resources in the project area. However, there remains the possibility that previously unknown cultural materials, that could be considered tribal cultural resources, could be discovered during project-related construction. Impacts to tribal cultural resources would be a potentially significant effect. Implementing Mitigation Measures CR-1, CR-2, and CR-3 (see Section 3.5) would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of previously undocumented tribal cultural resources to a less-than-significant level. These measures would require a cultural resources sensitivity training and that if cultural materials are discovered prior to or during project-related construction activities, appropriate treatment and protection measures would be implemented.

In addition, if a tribal cultural resource were discovered during project-related construction, implementation of Mitigation Measure TCR-1 would ensure that resource is avoided and/or appropriate treatment and protection measures are implemented in consultation with the Native American tribes.

Mitigation Measure TCR-1: Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects.

If tribal cultural resources are identified in the project area prior to or during construction, the following performance standards shall be met before proceeding with construction and associated activities that may result in damage to or destruction of tribal cultural resources:

Each identified tribal cultural resource will be evaluated for California Register eligibility through application of established eligibility criteria (CCR 15064.636), in consultation with interested Native American tribes.

If a tribal cultural resource is determined to be eligible for listing on the California, USACE, in consultation with WSAFCA, will avoid damaging the resource in accordance with PRC Section 21084.3, if feasible. If WSAFCA determines that the project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation steps capable of avoiding or substantially lessening potential significant impacts to a

tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource. These measures may be considered to avoid or minimize significant impacts and constitute the standard by which an impact specifically address inadvertent discovery of human remains may be reached:

i. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

ii. Treat the resource with culturally appropriate dignity, taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:

   a. Protect the cultural character and integrity of the resource.

   b. Protect the traditional use of the resource.

   c. Protect the confidentiality of the resource.

   d. Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.

   e. Protect the resource.

References

GEI Consultants, Inc., *Cultural Resources Inventory Report West Sacramento Project Yolo Bypass East Levee Repair.* Prepared for the U.S. Army Corps of Engineers, Sacramento District Cultural, Recreation, and Social Assessment Section (CESPK-PD-RC). April 2021a.

3.2.19 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIX. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or 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?	☐	☐	☒	☐

Discussion

Section 3.13 of the EA presents a description of the existing conditions, environmental effects and mitigation measures, as appropriate for utilities and service systems.

a-c) As described in Section 3.13 of the EA there would be no long-term interruption of utilities or service systems. Construction activities may require temporarily access to existing potable water supply, drainage systems, and sanitary sewer. The proposed project would not result in an increase in population that would result in an increase demand for utilities and service systems. As a result, the proposed project would avoid permanent impacts on existing service systems in the area. Furthermore, the proposed project would not result the permanent relocation or construction of new water, sanitary sewer, natural gas, or wastewater facilities.

As discussed in Section 3.13 of the EA, PG&E owns and operates a 12 kv power line that is located in Segments AA and Z. The existing 12 kv power line is supported by two power poles, located within the project area at stations 6+90 and 38+00. The proposed project construction activities would require relocation of the power pole located at station 38+0 and the other would be replaced with a longer pole that would raise the power line to meet CVFPB Title 23 requirements. As the owner and operator, PG&E will be responsible for complying with Title 23 requirements, as such, they are preparing the design and engineering documents and will be working on the power line and power pole

relocation prior to construction of the proposed project. As such, relocation of the power lines or the poles would have a **less-than-significant impact** with respect to the utility services in the area.

d-e) To the extent practical, the proposed project would use any overburden soils and excavated material for backfill, rough and final grading purposes. Any excess soils not used on-site is expected to be minimal; in the event excess material exists, it would be disposed of at a designated facility that can accept suitable soils for fill and grading purposes; these minimal quantities are not expected to exceed the facility's capacity. Furthermore, the proposed project would comply with all federal, state, and local statutes and regulations related to solid waste Therefore, the proposed project would have a **less-than-significant impact** on solid waste disposal.

3.2.20 Wildfire

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Discussion

a) Construction of the proposed project could result in a minimal temporary increase in traffic levels arterial roads. Workers could access the project area from I-80 via Harbor Boulevard and Enterprise Boulevard to an access driveway accessible from West Capitol Avenue The proposed project would be designed and scheduled so that construction would not close any roadways or block any travel lanes and would not interfere with emergency access. Therefore, the proposed project is not expected to substantially impair an adopted emergency response plan or emergency evacuation plan, and this would be a **less-than-significant** impact.

b-d) The project site is not located within a State Responsibility Area (SRA)[1] and is not classified as a Very High Fire Hazard Severity Zone (VHFHSZ). As a result, the project site fire responsibility is zoned as a Local Responsibility Area (LRA)[2] by California Department of Forestry and Fire Protection (CAL FIRE) and is classified as a Non-VHFHSZ (CAL FIRE, 2020; CAL FIRE, 2008). Additionally, the project site would be located on relatively flat terrain within seasonal and permanent wetland and riparian woodland habitat along the YBEL. Due to the lack of slope, substantial dry vegetation, and

[1] State Responsibility Area is a legal term defining the area where the State has financial responsibility for wildland fire protection. Incorporated cities and federal ownership are not included. The prevention and suppression of fires in all areas that are not state responsibility areas are primarily the responsibility of local or federal agencies (CAL FIRE, 2007a).

[2] Local Responsibility Areas include incorporated cities, cultivated agriculture lands, and portions of the desert. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government (CAL FIRE, 2007a).

CAL FIRE hazard severity zone designation, the current risk of a fire to occur at the project site is relatively low.

Construction activities caused by the proposed project would consist of structural modifications to the levee to address seepage, levee stability, erosion, and overtopping concerns. Vehicle trips would be the only source of ignition from the project and vehicles would not be parked or operated on or near dry vegetation. Therefore, due to the nature of the proposed project and the existing conditions of the project site, impacts related to wildfire risk caused by the project would be negligible to **no impact**.

3.2.21 Mandatory Findings of Significance

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

Discussion

a) As identified and discussed under Environmental Checklist Items Biological and, Cultural Resources, Geology and Soils, and Hydrology and Water Quality implementation of the proposed project could result in potentially significant impacts that could have the potential to degrade the quality of the environment, and impact biological and cultural resources. Implementation of mitigation measures presented in each section would be incorporated into the proposed project to reduce the identified impacts to a **less-than-significant level**.

b) CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental contribution to a significant cumulative effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed along with the effects of past, current, and reasonably foreseeable future projects. An incremental, project-specific contribution to a cumulative impact is less than cumulatively considerable, and thus is not significant, if, for example, the project is required to implement mitigation measures designed to alleviate the cumulative impact.

Consistent with CEQA Guidelines Section 15130(b), the environmental analysis presented in this document includes an evaluation of past, present, and reasonably anticipated future projects that could produce related or cumulative impacts, including those projects outside the control of the CEQA Lead Agency and also considered regional planning documents to evaluate potential effects of the proposed Project's implementation within a regional context. Existing conditions within the cumulative impacts area of effect reflect a combination of the natural condition and the effects of

past actions in the affected area. The following factors also were used to determine an appropriate list of projects to be considered in this cumulative analysis:

Similar Environmental Impacts—A relevant project is defined as a "reasonably foreseeable" project that would contribute to effects on resources also affected by the proposed Project. For the purpose of this analysis, relevant projects with potential similar environmental impacts include, for example, other public utility-related projects.

Geographic Scope—The appropriate geographic area of cumulative consideration is identified on a resource-by-resource basis as dictated by relevant physical and/or environmental boundaries (such as the extent of the groundwater basin or the roadways traveled by Project vehicles).

Timing and Temporal Scope—Incremental impacts of the proposed Project could combine with the incremental impacts of other projects to cause or contribute to cumulative effects if the proposed Project's construction, operation, and maintenance periods coincide in terms of timing with the effects of the other projects.

As discussed in Section 3.14 of the EA, the proposed project would not cause long term adverse effects on the resources discussed in Chapter 3 of the EA. However, some of the resources have the potential to incur temporary, short-term effects during construction. An initial assessment of potential cumulative effects indicated that air quality, climate change, transportation, and biological resources have the potential to contribute to significant cumulative effects; however, implementation of mitigation measures incorporated into this IS would reduce the projects project's contribution to potentially significant cumulative impacts to less than considerable. Therefore, cumulative impacts would be **less than significant**.

c) As discussed in this IS implementing the proposed project would result in less-than-significant impacts associated with aesthetics, agriculture and forestry resources, energy, hazards and hazardous materials, water quality, land use, population and housing, public services, recreation, utilities and service systems, and wildfire.

As described within the Air Quality, Cultural Resources, Hazards and Hazardous Materials, Noise, Transportation, Tribal Cultural Resources sections, potentially significant impacts have been identified throughout the document that could affect human beings either directly or indirectly. However, as described throughout this Initial Study/Mitigated Negative Declaration, compliance with federal, state, Yolo County, and local agency standards and regulations are necessary and would be implemented along with the mitigation measures identified herein to reduce these potential impacts to **less-than-significant levels.**

This page intentionally left blank

CHAPTER 4
Report Preparers

U.S. Army Corps of Engineers, Sacramento District –

David Colby, Biological Sciences Environmental Manager/Fisheries Biologist

Mariah Brumbaugh, NEPA Regional Technical Specialist

Lorena Guerrero, Environmental Manager

Andrew Ugan, Archaeologist

Caitlin Clinton-Selin, Historian

Dan Artho, Deputy Chief of Planning

WSAFCA

Brian Brown, PE, CFM

Greg Fabun, General Manager

Mark Zollo, Senior Administrative Analyst, Flood Projects

ESA

Dave Beauchamp, Project Manager

Brandon Carroll, Geology/Soils, Hazards and Hazardous Materials

Laura Dodson, Deputy Project Manager, Aesthetics, Agricultural/Forestry Resources, Biological Resources, Land Use/Planning, Population/Housing, Public Services, Recreation, Utilities/Service Systems

Kelly Bayne, Biological Resources

Maria Hensel, Hydrology and Water Quality

Heidi Koenig, Cultural Resources, Tribal Cultural Resources

Bailey Setzler, Air Quality, Greenhouse Gases, Energy

Kristine Olsen, Word Processing

Ally Sung-Jereczek, Noise, Wildfire

Jonathon Teofilo, Transportation

Eric Zigas, QA/QC Review

This page intentionally left blank

CHAPTER 5
Mitigation Monitoring and Reporting Program

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
Aesthetics			
Agriculture and Forestry Resources			
Air Quality			
	Mitigation Measure AQ-1: • Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure; • Haul trucks shall maintain at least 2 feet of freeboard; • Cover all trucks hauling dirt, sand, or loose materials; • Apply non-toxic binders to exposed areas after cut and fill operations and hydroseed area; • Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days); • Plant tree windbreaks on the windward perimeter of the construction projects if adjacent to open land; • Plant vegetative ground cover in disturbed areas as soon as possible; • Cover inactive storage piles; • Sweep streets if visible soil material is carried out from the construction site; • Treat accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips or mulch; • Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.	WSAFCA/USACE	During Construction
	Mitigation AQ-2: Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The project proponent would provide clear signage that posts this requirement for workers at the entrances to the site.		

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
Biological Resources			
	Mitigation Measure BIO-1: Native Habitat Any ruderal grassland temporarily impacted by construction would be restored by reseeding the affected area with native grasses and forbs following construction.	WSAFCA/USACE	After Construction
	Mitigation Measure BIO-2a: Special-Status Species - Special-Status Fish Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to special-status fish.	WSAFCA/USACE	During Construction
	Mitigation Measure BIO-2b: Special-Status Species - Giant Gartersnake In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to minimize potential effects on giant gartersnake. These measures are based on USFWS guidelines for restoration and standard avoidance measures included as appendices in the USFWS Programmatic Consultation with the USACE (1997). • Unless approved otherwise by USFWS, construction will be initiated only during the giant gartersnakes' active period (May 1–October 1, when they are able to move away from disturbance). • Construction personnel will participate in a USFWS-approved worker environmental awareness program. • A giant gartersnake survey will be conducted 24 hours prior to construction in potential habitat. Should there be any interruption in work for greater than two weeks, a biologist would survey the project area again no later than 24 hours prior to the restart of work. • Giant gartersnakes encountered during construction activities will be allowed to move away from construction activities on their own. • Movement of heavy equipment to and from the construction site will be restricted to established roadways. Stockpiling of construction materials will be restricted to designated staging areas, which will be located more than 200 feet away from giant gartersnake aquatic habitat. • Since construction will occur within 200 feet of suitable aquatic habitat, wildlife exclusion fencing will be installed along the perimeter of the construction footprint as follows; north to south along the western boundary, parallel to the YBEL Toe Drain Canal; and from the western boundary fencing eastward to the base of the riprap. Similarly, wildlife fencing will be installed around any staging areas within 200-feet of the YBEL Toe Drain Canal. A biological monitor will be present during the installation of the fencing.	WSAFCA/USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	Mitigation Measure BIO-2c: Special-Status Species - Western Pond Turtle In addition to implementation of the hydrology and water quality mitigation measures under Section 3.9.3, the following measures would be implemented to reduce potential effects on western pond turtle: • Construction personnel will participate in a worker environmental awareness program (concurrently with the training identified for giant gartersnake). • A preconstruction survey will be conducted for western pond turtle 24 hours prior to the start of construction (concurrently with the survey identified for giant gartersnake). • If any western pond turtles are observed during construction, the biologist will relocate the individual(s) at least 200 feet up- or downstream of the project area to similar habitat within or adjacent to the YBEL Toe Drain Canal, if feasible. If the western pond turtles cannot be captured, no work will occur in the vicinity of the turtle until the biologist confirms that the turtle has left the immediate vicinity and would not be harmed by construction activities. • The wildlife exclusion fencing identified for giant gartersnake will ensure that no western pond turtles enter the construction footprint.	WSAFCA/USACE	During Construction
	Mitigation Measure BIO-2d: Special-Status Species - Burrowing Owl The following measures would be implemented to reduce the potential effects on burrowing owl: • Pre-construction surveys for burrowing owls will be conducted by a qualified biologist within 30 days prior to the start of work activities at the project area. If construction activities are delayed for more than 30 days after the initial preconstruction survey, then a new preconstruction survey will be conducted. Surveys will be conducted in accordance with the following methods, as described within the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). • If burrowing owls are discovered in the project area vicinity during the preconstruction surveys or during construction, the biologist will be notified immediately. Occupied burrows will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. • Occupied burrows during the nesting season will be avoided by establishment of a no-work buffer of 250-foot around the occupied/active burrow. Where maintenance of a 250-foot no-work buffer zone is not practical, coordination with CDFW will be conducted to determine appropriate avoidance measures. Burrows occupied during the breeding season (February 1 to August 31) will be closely monitored by the biologist until the young fledge/leave the nest. The biologist will have the authority to stop work if it is determined that construction related activities are disturbing the owls.	WSAFCA/USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	• If approved by CDFW, the biologist may undertake passive relocation techniques by installing one-way doors in active and suitable burrows (that currently do not support eggs or juveniles). This would allow burrowing owls to escape but not re-enter. Owls should be excluded from the immediate impact zone and within a 160-foot buffer zone by having one-way doors placed over the entrance to prevent owls from inhabiting those burrows.		
	Mitigation Measure BIO-2e: Special-Status Species - Swainson's Hawk The following measures would be implemented to reduce the potential effects to Swainson's hawk: • If construction activities are anticipated to commence during the Swainson's hawk nesting season (March 1 to September 15), a qualified biologist will conduct a minimum of two preconstruction surveys during the recommended survey periods, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk TAC 2000). All potential nest trees within 0.25 miles of the proposed project footprint will be visually examined for potential Swainson's hawk nests, as accessible. • If active Swainson's hawk nests are found within 0.25 miles of construction activities, a survey report will be submitted to the CDFW and the CNDDB, and an avoidance and minimization plan will be developed for approval by the CDFW prior to the start of construction. The avoidance plan will identify measures to minimize impacts to the active Swainson's hawk nest depending on the exact location of the nest. These measures may include, but are not limited to: – Establishing a buffer zone and work schedule to avoid impacting the nest during critical periods. If possible, no work will occur within 600 feet of the nest while it is in active use. If work will occur within 600 feet of the nest, then construction will be monitored by a qualified biologist to ensure the nest is not disturbed and that the that no work occurs within 150 feet of the nest during incubation or within ten days after hatching; – Having a biological monitor conduct regular monitoring of the nest during construction activities; and – Allowing the biologist to halt construction activities until the CDFW is consulted if the biologist determines that construction activities are disturbing the nest.	WSAFCA/USACE	During Construction
	Mitigation Measure BIO-2f: Special-Status Species - Nesting Birds and Raptors (Excluding Swainson's Hawk) The following measures would be implemented to reduce the potential effects to nesting birds and raptors: • For any construction activities that will occur between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting birds and raptors within 7 days prior to commencement of construction activities. The survey area will	WSAFCA/USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	include a 500-foot buffer around the construction area, where feasible. If no active nests are observed, no additional measures are required unless construction halts for 7 days. A subsequent preconstruction survey would be required within 7 days prior to re-commencement of construction activities. • If active nests are found during the preconstruction survey, the applicant will implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone, as approved by CDFW, around the active nest. Measures will include, at minimum: – Establishing a 500-foot no-work buffer around active raptor nests (excluding Swainson's hawk nests) and a 100-foot no-work buffer around active migratory bird nests, if feasible. If infeasible, the biologist may determine that a reduced buffer is acceptable based on several factors including the sensitivity of the species nesting, the construction activities proposed within the buffer area, and the proximity of the construction activities to the nest. – If the biologist determines that a reduced buffer acceptable, the active nest(s) will be monitored by a qualified biologist during all construction activities occurring between the reduced buffer area and the originally established buffer area. If, in the professional opinion of the monitor, the project would impact the nest, the biologist will immediately inform the construction manager. The construction manager will stop construction activities occurring between the reduced buffer area and the originally established buffer area until the biologist determines that normal nesting activities have recommenced or when the biologist confirms that the nest is no longer active.		
	Mitigation Measure BIO-3: Sensitive Natural Communities Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to sensitive natural communities.	WSAFCA/USACE	During Construction
	Mitigation Measure BIO-4: Federally Protected Waterways Implementation of the hydrology and water quality mitigation measures under Section 3.9.3 would reduce potential indirect effects to federally listed waterways.	WSAFCA/USACE	During Construction
Cultural Resources			
	Mitigation Measure CR-1: Cultural Resources Awareness Training. WSAFCA shall provide a cultural resources and tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, as well as culturally affiliated Native American tribes. WSAFCA may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The training shall be conducted before any project-related construction activities begin in the APEproject area and shall include relevant information	WSAFCA/USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating federal and state laws and regulations. The training shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located in the APEproject area and shall outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The training shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. **Mitigation Measure CR-2: Inadvertent Discovery of Cultural Materials.** If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains); tribal cultural resources; sacred sites; or landscapes is made at any time during project-related construction activities, USACE in consultation with WSAFCA and other interested parties, in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and culturally affiliated Native American tribes, shall develop appropriate protection and avoidance measures where feasible. These procedures shall be developed in accordance with the GRR PA and Historic Properties Management Plan (HPMP), which specifies procedures for post-review discoveries. Additional measures, such as development of a Historic Properties Treatment Plan prepared in accordance with the GRR PA and Historic Properties Management Plan (HPMP) may be necessary, if avoidance or protection is not possible. **Mitigation Measure CR-3: Inadvertent Discovery of Human Remains.** In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, WSAFCA shall immediately halt potentially damaging excavation in the area of the burial and notify the County coroner and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, they must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated MLD, in consultation with WSAFCA, shall determine the ultimate treatment and disposition of the remains. Upon the discovery of Native American human remains, USACE in coordination with WSAFCA, shall require that all construction work must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD shall have 48 hours to complete a site inspection and make recommendations to the WSAFCA after being granted access to		

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that WSAFCA shall employ: • Record the site with the NAHC and the appropriate California Historical Resources Information System center. • In consultation with the coroner and MLD proper recordation of the discovery will be properly documented and filed with the County. If agreed to by the MLD, WSAFCA or WSAFCA's authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, WSAFCA or WSAFCA's authorized representative may also reinter the remains in a location not subject to further disturbance. If WSAFCA rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to WSAFCA, WSAFCA shall implement mitigation for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.		
Energy			
Geology and Soils			
	Mitigation Measure GEO-1 In the event of an unanticipated fossil discovery during construction, the severity of the impact would be reduced to a less-than-significant level with implementation of the following mitigation. Details of this mitigation include: • Halting all earthwork or other types of ground disturbance within 100 feet of the find until a qualified paleontologist (meeting the standards of the Society of Vertebrate Paleontology [SVP]) can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. • If treatment and salvage is required, recommendations will be consistent with SVP guidelines (SVP, 2010) and currently accepted scientific practice. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they	USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds.		
Greenhouse Gas Emissions			
	Mitigation Measure AQ-2 The proposed project would minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes, as required by the California Code of Regulations, Title 13, sections 2449(d)(3) and 2885. The USACE would provide clear signage that posts this requirement for workers at the entrances to the site.	WSAFCA/USACE	During Construction
Hazards and Hazardous Materials			
Hydrology and Water Quality			
	Mitigation Measure HYD-1: Prepare SWPPP • The contractor would be required to obtain a NPDES permit, since the project would disturb one or more acres of land and involve possible storm water pollutant discharges to surface waters. In addition, the contractor would prepare a SWPPP identifying BMPs to be used to avoid or minimize any adverse effects. Implementation of the following BMPs would act as mitigation as they would ensure that the effects on water quality would remain at less-than-significant levels. Identify all stormdrains, drainage swales, and creeks located near the construction site and provide pre-construction training to make sure contractors and subcontractors are aware of their responsibilities regarding stormwater requirements to prevent pollutants from entering stormdrains or waterways. • Dispose of wastes properly; remove litter from the site daily; materials that cannot be reused or recycled must be taken to an appropriate landfill; dispose of hon hazardous construction wastes in covered dumpsters or recycling receptacles; recycle materials whenever possible. • Conduct earthwork during low flow periods for the adjacent waterways (generally July 1–November 30). • To the extent possible, stage construction equipment and materials on the landside of the levee reaches in previously disturbed areas. • Minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, ingress and egress corridors, spoils disposal and soil stockpile areas, and equipment exclusion zones prior to the commencement of any grading operations. In order to minimize the mobilization of contaminated sediments (e.g., mercury) soil below the mean summer waterline shall not be disturbed, to the extent feasible.	WSAFCA/USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
	• Stockpile soil on the landside of the levee reaches and install sediment barriers (e.g., silt fences, fiber rolls, and straw bales) around the base of stockpiles to intercept runoff and sediment during storm events. If necessary, cover stockpiles with geotextile fabric to provide further protection against wind and water erosion. • Install sediment barriers on graded or otherwise disturbed slopes as needed to prevent sediment from migrating from the project site and entering nearby surface waters. • Install (native or ecologically appropriate) plant materials to stabilize cut and fill slopes and other disturbed areas once construction is complete. Plant materials could include an erosion control seed mixture or shrub and tree container stock. Temporary structural BMPs, such as sediment barriers, erosion control blankets, mulch, and mulch tackifier, could be installed as needed to stabilize disturbed areas until vegetation becomes established. • Fuel, maintain, and clean vehicles at a minimum of 175 feet distance from any riparian habitat or water body and prepare a spill response plan. All workers shall be informed of the importance of preventing spills and of the appropriate measures to follow should a spill occur. Training materials for spill prevention and response measures shall be prepared in adherence with state and federal regulations. • Locate portable toilets a minimum of 25 feet away from drain inlets, water courses and traffic circulation; portable toilets shall be secured to prevent overturning; regular service shall be provided. • Water utilized for dust control shall not be allowed to result in conditions of runoff. Care shall be taken to not overwater causing sediment-laden runoff. Earthwork operations shall cease when wind speeds exceed 20 mph for one hour or more.		
	Mitigation Measure HYD-2: Acquire Waste Discharge Requirements • Before discharging any dewatered effluent to surface water, a Low Threat Discharge and Dewatering NPDES permit shall be obtained from the Central Valley RWQCB. Depending on the volume and characteristics of the discharge, coverage under the Central Valley RWQCB's NPDES Waste Discharge Requirements may be applied for and obtained. As part of the permit, the permittee would develop and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Various measures that could be used include the retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and/or other BMPs.	WSAFCA/USACE	During Construction
Land Use and Planning			

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
Mineral Resources			
Noise			
Population and Housing			
Public Services			
Recreation			
Transportation			
	Mitigation Measure Trans-1: Develop Traffic Control Plan The contractor would be required to develop a Traffic Control Plan prior to construction, and coordinate all use of public roads with the City of West Sacramento, or other responsible agencies. This plan would include the following measures: • Construction vehicles would not be permitted to block any roadways or driveways. • Access will be provided for emergency vehicles at all times. • Signs and flagmen would be used, as needed, to alert motorists, bicyclists, and pedestrians to the presence of haul trucks and construction vehicles at all access points. • Vehicles would be required to obey all speed limits, traffic laws, and transportation regulations during construction. Vehicles would not exceed 15 miles per hour on unpaved levee roads. • Construction workers would be encouraged to carpool and park in designated staging areas. • Closure of levee roads, staging areas, and construction sites would be clearly fenced and delineated with appropriate closure signage. • The contractor would be required to repair any roads damaged by construction.	USACE	During Construction

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
Tribal Cultural Resources			
	Mitigation Measures CR-1, CR-2, and CR-3 **Mitigation Measure TCR-1: Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects.** If tribal cultural resources are identified in the APEproject area prior to or during construction, the following performance standards shall be met before proceeding with construction and associated activities that may result in damage to or destruction of tribal cultural resources: Each identified tribal cultural resource will be evaluated for California Register eligibility through application of established eligibility criteria (CCR 15064.636), in consultation with interested Native American tribes. If a tribal cultural resource is determined to be eligible for listing on the California, USACE, in consultation with WSAFCA, will avoid damaging the resource in accordance with PRC Section 21084.3, if feasible. If WSAFCA determines that the project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation steps capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource. These measures may be considered to avoid or minimize significant impacts and constitute the standard by which an impact specifically address inadvertent discovery of human remains may be reached: I. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. II. Treat the resource with culturally appropriate dignity, taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following: a. Protect the cultural character and integrity of the resource. b. Protect the traditional use of the resource. c. Protect the confidentiality of the resource. d. Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places. e. Protect the resource.		

TABLE 5-1
MITIGATION MONITORING AND REPORTING PROGRAM

Resource Area	Mitigation Measures Proposed in this IS/MND	Implementing Actions/ Responsible Party	Timing
Utilities and Service Systems			
Wildfire			