Print Form

Notice of Determination

Appendix D

To:

☒ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☐ County Clerk
County of: _____
Address: _____

From:

Public Agency: CA Dept of Water Resources
Address: 715 P Street
Sacramento, CA 95814
Contact: Elizabeth (Liz) Vasquez
Phone: 916-707-1268

Lead Agency (if different from above):
_____
Address: _____
_____
Contact: _____
Phone: _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2013032004

Project Title: Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project - Addendum No. 2

Project Applicant: California Department of Water Resources

Project Location (include county): Yolo County

Project Description:

Addendum No. 2 describes the Proposed Changes to the project as previously approved in the 2019 Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project Environmental Impact Statement/ Environmental Impact Report (YBSHRFPP EIS/EIR). The Proposed Changes to the previously approved project are: 1.) the removal of the cutoff walls and 2.) the removal of the Agricultural Road Crossing 1 (ARC1) bridge.

This is to advise that the CA Department of Water Resources has approved the above
(☒ Lead Agency or ☐ Responsible Agency)

described project on 2/28/2024 (date) and has made the following determinations regarding the above described project.

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

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
3500 Industrial Blvd., 2nd Floor, West Sacramento, CA 95691

Signature (Public Agency): Dean Messer Title: Division Manager

Date: 2/27/2024 Date Received for filing at OPR: _____

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

Revised 2011

Addendum #2 to the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project Final Environmental Impact Report

State Clearinghouse No. #2013032004

California Department of Water Resources
3500 Industrial Blvd
West Sacramento, CA 95691

February 2024

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Acronyms

ARC	Agricultural Road Crossing
BO	Biological Opinion
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CVFPB	Central Valley Flood Protection Board
CVP	Central Valley Project
DPS	distinct population segment
DWR	California Department of Water Resources
FETT	Fish Engineering Technical Team
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
HEC-RAS	Hydrologic Engineering Center River Analysis System
ITP	Incidental Take Permit
LTO	Long-Term Operation
NAVD 88	North American Vertical Datum of 1988
NMFS	National Marine Fisheries Services
NOD	Notice of Determination
Project	Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project
RD	Reclamation District
RPA	Reasonable and Prudent Alternative
SCH	State Clearinghouse
SWP	State Water Project
USACE	U.S. Army Corps of Engineers
WSE	water surface elevation

1.0 INTRODUCTION

1.1 Project Purpose and Background

The purpose of this California Environmental Quality Act (CEQA) addendum is to address new information and minor changes to the design of certain project features of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage (Big Notch) Project (Project) since the filing of the Notice of Determination (NOD) for the Project's Final Environmental Impact Report (EIR) with the State Clearinghouse (SCH) on July 19, 2019 (SCH No. 3013032004[1]).

1.1.1 Project Background

The Department of Water Resources (DWR) is responsible for operating and maintaining the State Water Project (SWP), and the United States Bureau of Reclamation (Reclamation) is responsible for managing the Central Valley Project (CVP). The SWP and CVP deliver water to agricultural, municipal, and industrial contractors throughout California. The National Marine Fisheries Service's (NMFS) 2009 Biological Opinion (BO) and Conference Opinion on the Long-term Operations of the Central Valley Project and the State Water Project (NMFS 2009) specified the need to enhance floodplain rearing habitat and fish passage in the Yolo Bypass and/or other suitable areas of the lower Sacramento River basin by implementing Reasonable and Prudent Alternative (RPA) Action I.6.1 and RPA action I.7 to benefit Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and the Southern distinct population segment (DPS) of North American green sturgeon. RPA Action I.6.1 of the 2009 NMFS BO states the need to increase the availability of floodplain fisheries rearing habitat for juvenile Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead and RPA I.7 states the need to reduce migratory delays and mortalities of federally listed fish species within the Yolo Bypass (NMFS 2009). The Project was designed by DWR and Reclamation to achieve compliance with RPA Action I.6.1 and partial compliance with RPA Action I.7 by increasing the availability of floodplain fisheries habitat for juvenile salmonids and improve adult fish passage in the Yolo Bypass.

The Project Environmental Impact Statement (EIS)/EIR was completed prior to the issuance of the new Biological Opinion on Long Term Operation of the Central Valley Project and the State Water Project issued by NMFS on October 21, 2019 (2019 NMFS BO). However, RPA actions I.6.1 and I.7 were included in the baseline conditions in the 2019 NMFS BO. The Project is also required under Section 9.2.2 of the Incidental Take Permit (ITP) for Long-Term Operation of the State Water Project in the Sacramento-San

[1] https://ceqanet.opr.ca.gov/2013032004/3

Joaquin Delta (2081-2019-066-00) (LTO ITP), issued March 31, 2020, by the California Department of Fish and Wildlife (CDFW).

The Project will implement the requirements of the LTO ITP and RPA actions I.6.1 and I.7 by creating a better hydraulic connection between the Sacramento River and the Yolo Bypass. The Project will allow increased flow from the Sacramento River to enter the Yolo Bypass through a gated opening (i.e., notch) on the east side of the Fremont Weir. The Fremont Weir at the location of the Project, has an approximate elevation of 32 feet North American Vertical Datum of 1988 (NAVD 88). The notch will have three gates to control water moving through the facility into the Yolo Bypass. The invert of the new lowest gate will be at an elevation of 14 feet NAVD 88, which is approximately 18 feet below the crest of the existing Fremont Weir. The invert of the other two gates will be an elevation of 18 feet NAVD 88.

The Project will connect the new, gated notch to Tule Pond with a channel that parallels the existing Yolo Bypass east levee. Gate operations could begin each year on November 1 based on river conditions. Gate operations to increase inundation could continue through March 15 of each year, based on hydrologic conditions. The Project will operate to flows through the Project's headworks structure up to 6,000 cubic feet per second (cfs),[2] through the gated notch to provide open channel flow for adult fish passage, juvenile emigration, and floodplain inundation. In addition to the abovementioned features, this Project includes a supplemental fish passage facility on the west side of the Fremont Weir that will operate following Fremont Weir overtopping events and downstream channel improvements to allow fish to pass through Agricultural Road Crossing (ARC) 1 and Tule Channel immediately north of ARC 1. See **Figure 1** for a map of the construction area.

[2] Consistent with the design described and depicted graphically in the 2019 EIS/EIR, the gated notch has a physical conveyance capacity greater than its designed 6,000 cfs maximal operational flow capacity. The gated notch structure was designed with multiple gates of varying sizes that would in total exceed the maximal operational flow capacity. The gates were designed in this way to support the responsive control of gate closures to changes in river levels to prevent "a sudden reduction in flow" and following overtopping events where "the smaller gates would open and close as needed to keep the flow through the gate as close as possible to 6,000 cfs" (Section 2.4.3 "Operations"). The physical capacity and the designed maximal operational flow capacity of the gated notch are described in greater detail below in Section 1.4.

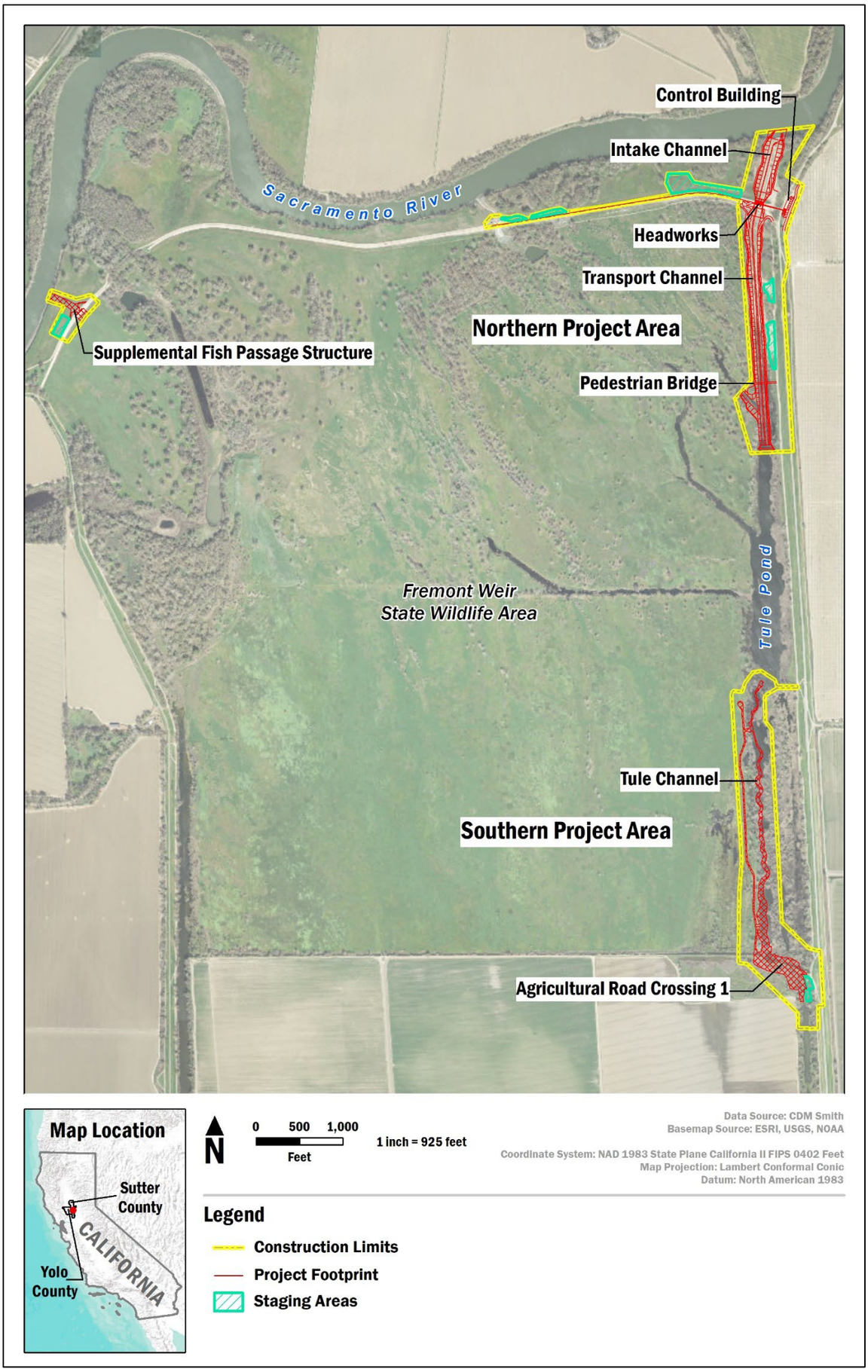

Figure 1. Construction Area Footprint

The California Environmental Quality Act (CEQA) requires public agencies to analyze and disclose impacts on the physical environment caused by a Proposed Project. DWR, as lead agency, certified the EIS/EIR and filed the Notice of Determination (NOD) for the Project on July 19, 2019 (SCH #2013032004), in compliance with CEQA. An addendum to the Project was filed February 24, 2022[3] to note a change in the Project's construction season from one season to multiple seasons.

1.2 Addendum Purpose

The purpose of this addendum is 1) to review new information which was not known and could not have been known with the exercise of reasonable diligence at the time the 2019 EIR was certified as complete and 2) to determine whether that information may have one or more significant effects not discussed in the 2019 EIR. There are two proposed changes to the previously certified EIR, which are bullet pointed below. Collectively they are referred to in the document as 'Proposed Changes'.

- Proposed Change 1:Removal of the cutoff walls.
- Proposed Change 2: Removal of the ARC 1 bridge, an under-channel siphon with emergency overflow, and channel improvements.

The Project as described in the Project Description section of the 2019 EIS/EIR included construction of two cutoff walls at the levee toe of the eastern levee of the Yolo Bypass (2019 EIS/EIR Chapter 2, Description of Alternatives). Geotechnical analyses conducted after certification of the EIR concluded the Project does not require construction of the cutoff walls to address concerns with levee seepage and stability (Proposed Change 1). The Project also anticipated construction of a bridge for vehicular traffic, as part of the ARC 1 improvements. After consideration and consultation with the adjacent landowner, the bridge at ARC 1 was deemed unnecessary because there is an existing bridge crossing over Tule Canal, approximately 0.5 mile south of the proposed ARC 1 bridge (Proposed Change 2).

This addendum sets forth environmental analysis of the proposed removal of the cutoff walls and ARC 1 bridge from the project description analyzed in the 2019 EIS/EIR. Based on the information presented below in Section 2.3, Environmental Checklist for Supplemental Environmental Impact Analysis, no conditions triggering a subsequent EIR are present. As such, an addendum is appropriate.

1.3 Legal Standard for CEQA Addendum

CEQA Guidelines sections 15162 and 15164 set forth criteria to assess which environmental document is appropriate: an Addendum, a Subsequent environmental

[3] https://ceqanet.opr.ca.gov/2013032004/9

impact report (EIR), or a Mitigated Negative Declaration (MND) (see also, Public Resources Code section 21166). Further guidance is provided in case law (*Friends of College of San Mateo Gardens v. San Mateo County Community College Dist*. (2016) 1 Cal. 5th 937 (*Friends I*); and *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist*. (2017) 11 Cal. App. 5th 596 (*Friends II*).)

Pursuant to Section 15164 of the CEQA Guidelines (Cal. Code Regs. Tit. 14, § 15164), an addendum to a previously certified EIR is appropriate when "some changes or additions are necessary but none of the conditions described in Section 15162 [of the CEQA Guidelines] calling for preparation of a subsequent EIR have occurred." An addendum does not need to be circulated for public review but must be considered in agency decision-making.

Section 15162 of the CEQA Guidelines (Cal. Code Regs. Tit. 14, § 15162) provides as follows:

> (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
>
> (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

> (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
>
> (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

This addendum analyzes the exclusion of the construction of cutoff walls adjacent to the east Yolo Bypass levee and exclusion of the construction of the ARC 1 bridge over Tule Canal (hereafter "Proposed Changes"). The Proposed Changes do not include any changes to the design and operation of the headworks structure included in the previously approved Project. This addendum shows that the Proposed Changes being considered are minor changes that do not meet any of the criteria listed under Section 15162 of the CEQA Guidelines that would require preparation of a subsequent EIR.

1.4 Additional New Information Considered

This section describes additional information considered in determining the appropriate scope of this addendum (see CEQA Guidelines, Cal. Code Regs. Tit. 14, § 15164). After DWR approved the Project in July 2019, DWR became aware of some confusion among community members regarding the difference between the operational flow rates through the headworks gates analyzed in the EIR and the maximum physical capacity of the headworks structure design. As discussed further below, the Project approved by DWR and analyzed in the EIR has a maximum operational capacity of 6,000 cfs, meaning that flow through the gates will not be allowed to exceed approximately 6,000 cfs. However, the Project's headworks structure has the physical capacity to pass higher flows, up to approximately 12,000 cfs, due to design considerations related to fish passage criteria (e.g., velocity of water). DWR understands that this distinction between the Project's operational capacity and the physical capacity of the headworks structure design was not clear to all interested parties. Some interested parties have conflated DWR's continued development of its adaptive management plan, and acquisition of adaptive management easements, as reflecting a project change requiring additional CEQA analysis. This section addresses these issues as relevant new information, not as a change to the approved Project.

1.4.1 Project Headworks and Gate Capacity

On July 18, 2023, Yolo County filed a petition for a Writ of Mandate in Yolo County Superior Court (County of Yolo v. California Department of Water Resources 2023) alleging, among other things, that DWR violated CEQA when it "committed itself to . . .

an ever-expanding Project" where the "12,000 cfs design capacity of the Project headworks" was concealed from the public in the 2019 EIS/EIR (County of Yolo v. California Department of Water Resources 2023, pp. 7–27). On August 11, 2023, Reclamation District (RD) No. 1600 filed a similar petition for Writ of Mandate in the same court (Reclamation District 1600 v. California Department of Water Resources 2023) alleging that DWR "committed itself to Project changes" and failed to comply with CEQA in constructing a Project that can "accommodate 12,000 cfs flow, rather than the 6,000 cfs originally disclosed and analyzed" (Reclamation District 1600 v. California Department of Water Resources 2023, pp. 9 & 11). As of the date of this addendum, the two cases have been transferred to Marin County Superior Court.

To meet its obligations under CEQA, DWR has reviewed the previously certified Administrative Record for the timely challenges to the 2019 EIS/EIR (filed in 2019 by the Swanston Ranch Owners Association, and by AJK Farms, et al.) and subsequent records prepared in relation to the Project through the date of this addendum (see CEQA Guidelines, Cal. Code Regs. Tit. 14, § 15162 and Cal. Code Regs. Tit. 14, § 15164). As DWR has communicated to Yolo County and RD 1600 representatives, there has not been a change to the headworks design and gate capacity of the previously approved Project to increase either the intended operational capacity (6,000 cfs) or the physical headworks capacity (12,000 cfs) after certification of the original 2019 EIS/EIR. Nor is DWR currently proposing such a change now. Although the 12,000 cfs physical capacity of the gated notch (i.e., headworks) was not as extensively discussed in the 2019 EIS/EIR as the designed maximal operational flow rate of 6,000 cfs, the gate dimensions were described in Section 2.4.1.2 "Headworks Structure" and depicted graphically in Figure 2-10 (Section 2.4.3 "Operations"). Those sections show that the physical capacity of the gates would exceed the operational capacity (6,000 cfs), consistent with the operational description of gate closures being controlled to prevent "a sudden reduction in flow" and that after an overtopping event "the smaller gates would open and close as needed to keep the flow through the gate as close as possible to 6,000 cfs" (Section 2.4.3 "Operations"). The December 2021 Final Design Report for the gate (HDR 2021) utilized the same gate dimensions specified in the July 2019 EIS/EIR, further demonstrating that the physical capacity of the Project has not changed since the 2019 EIS/EIR certification and Project approvals. In addition, DWR's review of the gate sizing and design selection process completed prior to certification of the 2019 EIS/EIR, as described below, further supports this determination.

Project Gate Sizing and Design Selection Process

The ultimate sizing of the gate configuration selected for the EIS/EIR Alternative 1, which resulted in a maximum unthrottled gate capacity of approximately 12,000 cfs, was a result of optimizing the gate configuration and dimensions combined with the downstream channel geometry for optimum fish passage at 6,000 cfs and not maximizing flow. The technical gate selection process comprised of three types of

analysis: (1) Fish Passage Criteria; (2) Engineering and Modeling of Gate Sizing and Flows; and (3) Review to Optimize Flows and Fish Passage Alternatives by the Fish Engineering Technical Team (FETT). Each of these processes that informed the gate design are further explained below.

Fish Passage Criteria

To construct an effective fish facility, the best available fish science was used as the criteria to engineer a physical structure. The depth, timing, and velocity of water passing through a facility directly affects the success of fish passage through that facility. Different fish swim differently, so certain facility designs for adult salmonid passage may be more difficult for adult sturgeon to swim through in certain conditions. This information is collectively referred to as fish passage criteria and is informed by studies and scientific research comprising the best available science. DWR compiled the most applicable criteria for the Project and the FETT, composed of consultants and experts from local, state, and federal agencies, peer reviewed the Project fish passage criteria (EIS/EIR Appendix G5). FETT participants included staff from DWR, U.S. Fish and Wildlife Service, CDFW, and Yolo County, among others. The FETT determined that the most sensitive criteria that this fish facility must pass would be criteria for adult sturgeon. Among the special status fish species passing through this fish facility, scientific data indicated that large adult sturgeon have more difficulty swimming upstream under high velocity conditions and shallower depths than other special status fishes like salmonids. Consequently, further engineering design and modeling efforts targeted fish passage criteria for distances less than 60-feet, a minimum depth of 3-feet and a maximum flow velocity of 6 feet-per-second. Distances greater than or equal to 60-feet uses a minimum depth of 5-feet and a maximum flow velocity of 4 feet-per-second (DWR 2017; EIS/EIR Section 8.3.3, EIS/EIR Appendix A Part 2, and EIS/EIR Appendix G5).

Engineering Design and Modeling of Gate Sizing and Flows

To inform gate design, DWR used historical flow records to analyze fish passage criteria under dynamic water conditions. In flood season of a typical year, the stage of the Sacramento River at the Fremont Weir can either change quickly (i.e. rise over 10-feet over the course of a single day) or maintain a stage for weeks at a time (i.e. stay between a river stage of 24 feet to 26 feet). Given the multiple factors that result in water stage variability in the Sacramento River, DWR modeled Project design under low flow river stages with under 100 cfs entering the gates to flood stage conditions of 350,000 cfs flowing over Fremont Weir (EIS/EIR Section 4.3.1 and EIS/EIR Appendix D).

The hydraulic modeling studies that formed the basis of the Project gate design occurred from April 2015 to September 2015 (Addendum Appendix A1). These studies investigated whether ungated passive conveyance of 6,000 cfs water would be feasible.

Since the Fremont Weir was constructed, it has historically operated as a passive flood relief structure; meaning when the Sacramento River stage exceeds approximately 32 feet, flows overtop the weir and enter the Yolo Bypass without opening a gate or any mechanical changes to the structure. The 2015 Project modeling efforts found that a passive water control structure built into the weir could not ultimately maintain a maximum flow of 6,000 cfs and be optimized to pass adult fish by maintaining water velocities of 6 feet-per-second through the structure (Addendum Appendix A2). The modeling investigated unthrottled options with the bottom of the gate or invert at 14 feet to 19 feet and a variety of channel widths and configurations. Across all modeling, unthrottled options allowed much more than 6,000 cfs water, at velocities far greater than 6 feet per second, into the Yolo Bypass at higher Sacramento River stages (approximately 28 feet to 32 feet). Specifically, the model found that if the best performing configuration were unthrottled (i.e., no gates), a Sacramento River near overtopping (approximately 32 feet of stage) would force an additional approximately 6,000 cfs of water (e.g., approximately 12,000 cfs total) through the top 4 feet of stage (approximately 28 feet to 32 feet). Furthermore, at higher stages all unthrottled alternatives would create water velocities unlikely to allow adult sturgeon or salmon to pass from the Yolo Bypass into the Sacramento River. Thus, a feasible structure that allowed only 6,000 cfs into the Yolo Bypass would require actively operated gates to be optimized for adult fish passage (Addendum Appendix A3).

With the fundamental question of whether to use a gated design addressed, from December 2015 to March 2016, DWR continued investigating the basic project requirements that formed the foundation for all the alternatives included in the EIS/EIR. During this period, DWR studied how to achieve the greatest operational range, or longest duration of operation where flow met depth and velocity fish criteria for adult fish passage. Given the multiple factors that result in water stage in the Sacramento River, each gate configuration had to be modeled under low flow river stages with under 100 cfs entering the gates to flood stage conditions of 350,000 cfs flowing over Fremont Weir. Each modeling scenario was then assessed for the duration of time water and fish would be able to pass through the structure. This modeling ultimately identified the maximum operational range for a gated project to be one that passed flows from 19 feet to 28 feet of Sacramento River stage with flows ranging from 205 cfs to 6,003 cfs (Addendum Appendix A4). When modeled under the observed hydrological conditions in the Sacramento River, this range of river stage most frequently met fish passage velocity and depth criteria for adult fish passage. To achieve these results, the structure included throttling gates to keep the flow at approximately 6,000 cfs when river stage was above 28 feet. This fundamental modeling is the basis of the gate design and proposed operation of the Selected Alternative, Alternative 1. Though smaller gates with different elevations were investigated, the gating system that throttled flows above 28 feet performed best at passing adult sturgeon and salmonids while maintaining 6,000

cfs flows. If left unthrottled or partially throttled above 28 feet, modeling indicates that the immense flow of the Sacramento River forces too much water (e.g., above 6,000 cfs) at too high a velocity (e.g., above 6 feet per second) through the Project gates so that adult fish passage is limited.

Review to Optimize Flows and Fish Passage Alternatives by the FETT

The FETT reviewed key criteria and modeling during the alternative development process for EIS/EIR which culminated in the full range of operational alternatives and Alternative 1, the Selected Alternative (Addendum Appendix A5). The FETT reviews provided recommendations on application of fish criteria and fish behavior modeling which helped optimize the fish facilities location, geometry and gate closure timing. Once the basic gate sizing and operation had been modelled, DWR and the FETT developed and reviewed information that would improve those aspects of the Project. One such effort was ELAM and SRH-2D modeling conducted in the Spring 2015 to March 2016 with a draft report (examining critical streak line) shared with FETT in July 2017 (Addendum Appendix A6) and a final report provided in August 2020 (Addendum Appendix A7). This state-of-the-art fish behavior model investigated how juvenile fish would interact with the new structure. During this analysis, flows ranging from 1,000 cfs to 12,000 cfs were analyzed as they correlate to juvenile entrainment. Alternative 6 was established as the largest potential for juvenile entrainment (Addendum Appendix A6) and Alternative 5 was established as the lowest end of modeled flow driven by the Yolo Bypass Working Group (Addendum Appendix A8). This modeling helped determine the best facility location along the Fremont Weir for fish. The “#ID 7” (Addendum Appendix A9) model run configuration was selected for the highest benefits to fish at location “Eastside” and intake “perpendicular.” Also, the FETT had a preference on the order of how gates would close to throttle flow. DWR adopted the FETT recommendation on location, geometry, and throttling in Alternative 1 (Addendum Appendix A5). As part of the design review process, the FETT provided input on modeling and was kept apprised of alternative development and major modeling efforts.

Gate Sizing and Design Process Summary

As described above, DWR’s process to determine appropriate fish passage criteria, engineering design and modeling, and fish passage optimization review, resulted in the Project optimized for fish passage operations at 6,000 cfs. The gate sizing and modeling process resulted in a gate configuration and sizing for EIS/EIR Alternative 1 that, if unthrottled, would allow for flows up to 12,000 cfs. However, the project structure’s maximum unthrottled capacity was a result of optimizing fish passage for targeted listed adult sturgeon and salmon species at the 6,000 cfs operational flow.

Adaptive Management Easements

The Yolo County and RD 1600 petitions also allege CEQA violations related to (1) DWR's continuing development of its adaptive management plan after the July 2019 Project approval, and (2) DWR's ongoing effort to acquire adaptive management easements that would allow for an inundation footprint resulting from flows up to 12,000 cfs.

DWR's continued development of its adaptive management plan is required under the Delta Reform Act (Cal. Code of Regs. Tit. 23 § 5002(b)(3)) in addition to being a condition of the BO issued by NMFS providing Endangered Species Act coverage for the Project (NMFS BO WCR-2019-11447, Reasonable and Prudent Measure 2). DWR's adaptive management plan is a living planning document, subject to revisions based on changes to best available science and Project operational data (see Water Code § 85052) but does not constitute a decision to implement a Project change.

With regard to the adaptive management easement acquisitions, DWR complied with CEQA when it filed the March 7, 2022, Notice of Exemption, citing Public Resources Code section 21080.28. The section 21080.28 exemption allows for the acquisition of property for, among other purposes, habitat restoration even if "physical changes to the environment or changes in the use of the land are a reasonably foreseeable consequence of the acquisition […] [p]rovided that environmental review otherwise required by [CEQA] occurs before any project approval that would authorize physical changes being made to that land." The interim possession DWR is seeking in related eminent domain actions is consistent with DWR's prior approval of the Project. While DWR is seeking to acquire title sufficient to accommodate 12,000 cfs adaptive-management flowage easements, when DWR files its Motions for Order for Possession (estimated mid-2024), DWR will only seek interim possession of property sufficient to accommodate 6,000 cfs inflows, which is the amount that is covered by the July 2019 EIS/EIR.

New Information – Summary

As explained above, DWR adequately disclosed the headwork's physical dimensions in the 2019 EIS/EIR, and DWR has not subsequently changed either the operational capacity or the maximum physical capacity of the Project. Likewise, DWR's continued development of its adaptive management plan and acquisition of adaptive management easements do constitute a Project change requiring additional CEQA coverage. Any future decision to operate above 6,000 cfs, as may be required by state or federal fisheries agencies, will require a new approval and will be subject to CEQA.

For the above reasons, the new information and alleged Project changes described above do not meet the criteria under CEQA Guidelines Section 15162 requiring preparation of a subsequent EIR. Nonetheless, DWR is providing this brief discussion of

the issues to fully inform decision makers and to help clarify any confusion among the public reviewing the 2019 EIS/EIR.

2.0 PROPOSED PROJECT DESCRIPTION

2.1 Project Area

The Project area is situated within the lower Sacramento River basin and includes the Yolo Bypass, in Sacramento, Solano, Sutter, and Yolo counties, California. **Figure 2** shows the neighboring local jurisdictions, including the cities of Davis, Sacramento, West Sacramento, and Woodland. Water bodies and infrastructure located within the Project area include the Sacramento River; Fremont, Sacramento, and Lisbon weirs; Knights Landing Ridge Cut and Wallace Weir; Cache and Putah creeks; Willow Slough Bypass; Tule Canal; and the Toe Drain. Project actions are primarily located along Fremont Weir and within the Fremont Weir Wildlife Area south to ARC 1.

The Yolo Bypass is part of the Sacramento River Flood Control Project, which includes levees, weirs, and bypass facilities that help manage the historic flooding in the Sacramento Valley (DWR 2010). The Yolo Bypass is an approximately 59,000-acre area that can convey a design flow of 343,000 cubic feet per second (cfs), which is about 80 percent of the floodwaters in this area (DWR 2010).

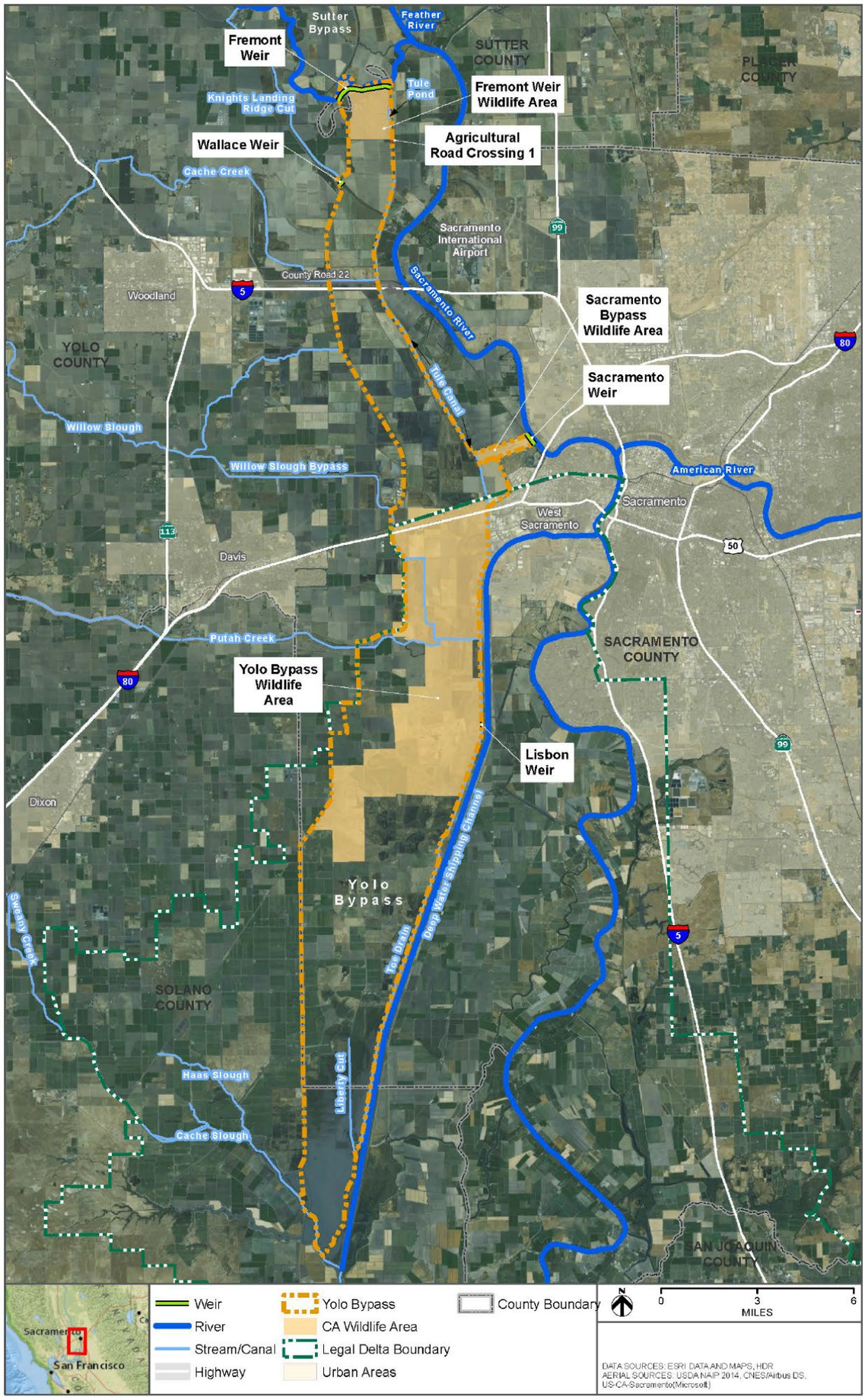

Figure 2. Project Area

2.2 Proposed Change 1 – Removal of the Cutoff Walls

2.2.1 Downstream Channel Improvements – Cutoff Wall

As described in the 2019 EIS/EIR Chapter 2, Section 2.3.2, Downstream Channel Improvements, the Project included an excavated channel to connect isolated pools within the wooded area that extends from the Tule Pond outlet downstream to ARC 1 where Tule Canal begins. To address potential impacts to levee seepage and stability near the channel, a subsurface cutoff wall paralleling the excavation was included in the initial Project design. The Downstream Channel Improvements cutoff wall was originally planned to be approximately 3,150-feet-long and 30-feet-deep at the toe of the east Yolo Bypass levee. **Figure 3** (Figure 2-3 of the 2019 EIS/EIR, section 2.3.2) presents the preliminary concept for the channel improvements and cutoff wall.

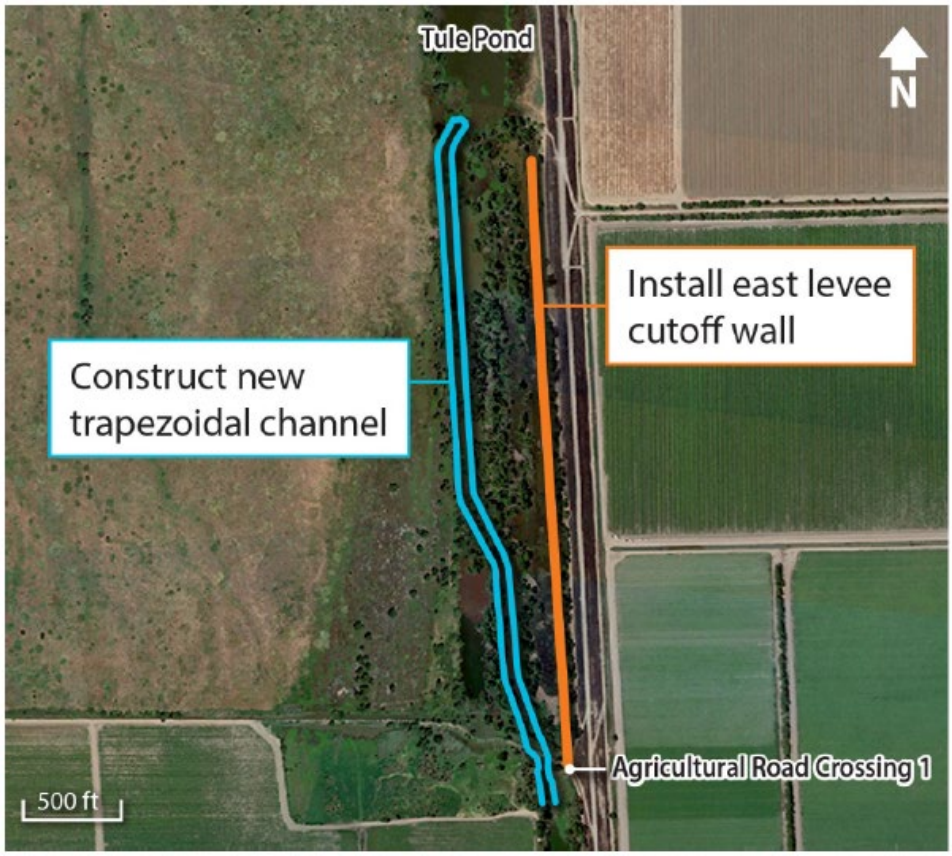

Figure 3. Downstream Channel Improvements (Figure 2-3 of the 2019 EIS/EIR)

2.2.2 Alternative 1 Transport Channel – Cutoff Wall

As described in the 2019 EIS/EIR Chapter 2, Section 2.4.1.6 and 2.4.1.7, Transport Channel and Seepage Measures, the Project included an excavated channel (referred to as the Transport Channel) to connect the headworks structure to the northern portion of Tule Pond. To address potential impacts to levee seepage and stability near the

channel, a subsurface cutoff wall paralleling the excavation was included in the Project. The cutoff wall was originally planned to be approximately 2,850-feet-long and 30-feet-deep at the toe of the levee. **Figure 4** (Figure 2-4 of the 2019 EIS/EIR, section 2.4) presents the preliminary concept for the Transport Channel improvements and cutoff wall.

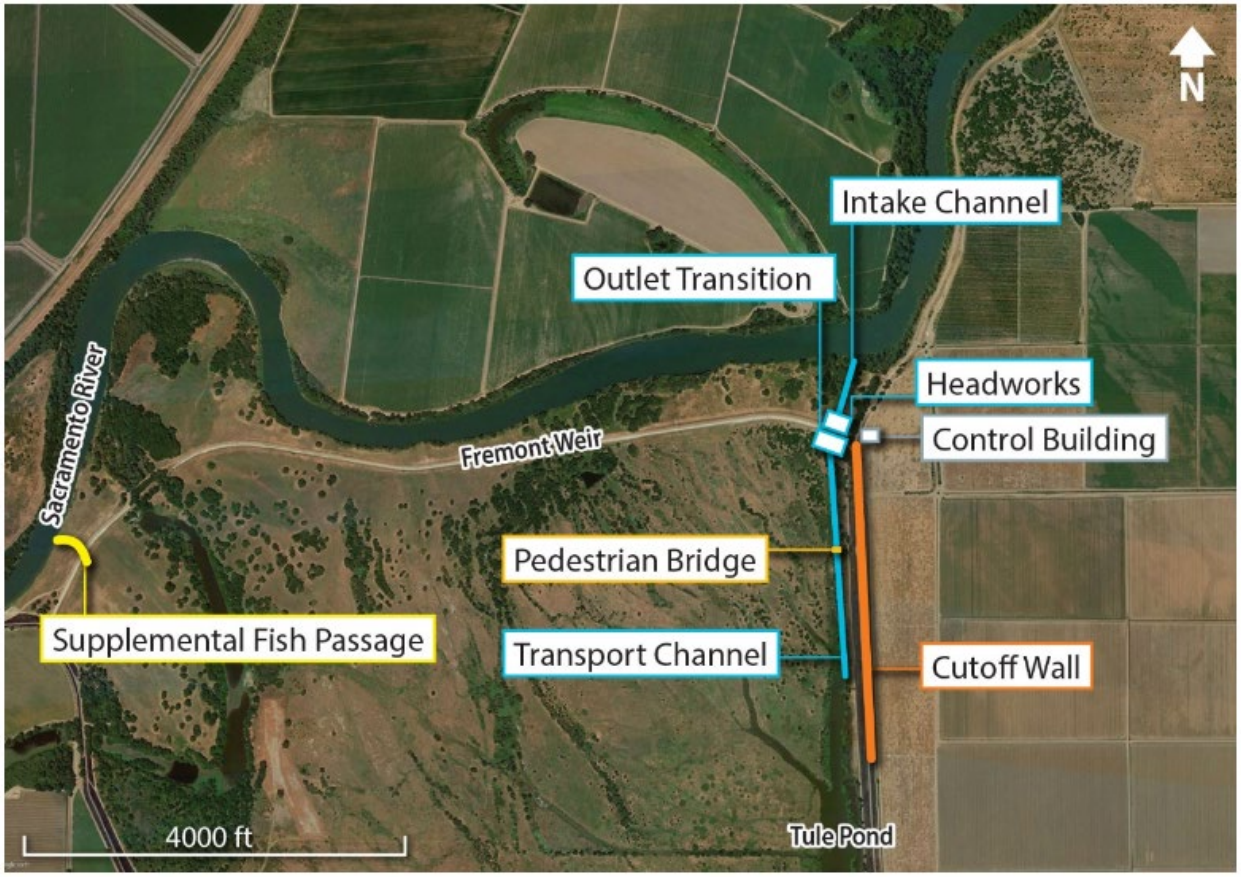

Figure 4. Alternative 1 Transport Channel (Figure 2-4 of the 2019 EIS/EIR)

2.2.3 Geotechnical Investigation

Starting in October 2020, DWR conducted a geotechnical investigation in two phases to obtain data to characterize the subsurface conditions of the proposed improvements to Fremont Weir and the Yolo Bypass. The geotechnical investigation gathered data to produce geologic cross-sections across the Yolo Bypass east levee at various locations. Exploration and sampling methods were selected by technical experts to provide the best method of obtaining useful geotechnical and geologic data in the soft sediments of the bypass soils and shallow groundwater conditions. The Phase 1, geotechnical explorations were completed between October and November 2020, which included seven cone penetration test soundings and 16 soil borings within the vicinity of the east levee. The Phase 2 explorations were conducted between May 2021 and June 2021, which included 6 soil borings. The boring locations are presented in **Figure 5**.

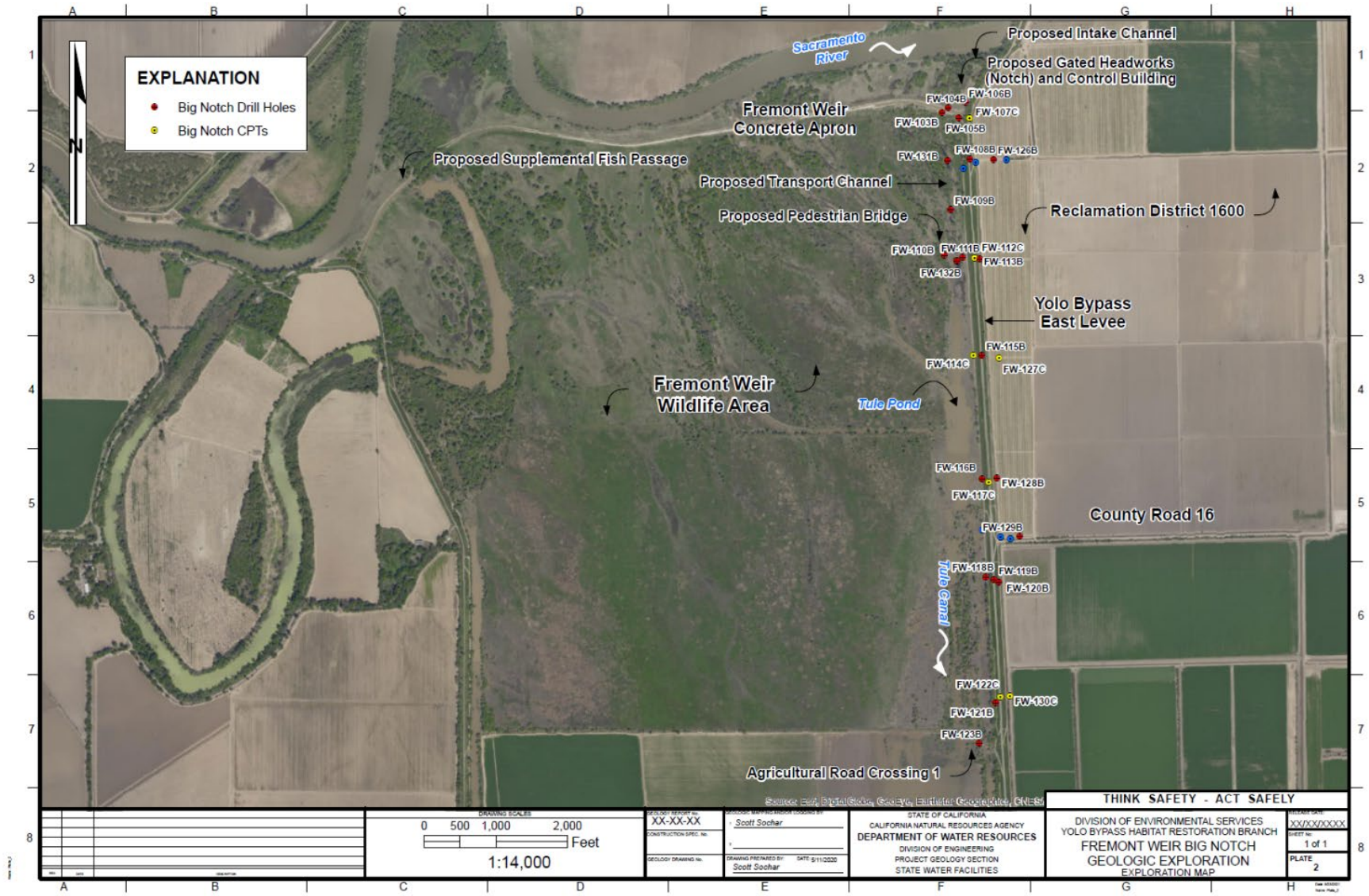

Figure 5. Geotechnical Exploration Locations

In March 2021, the geotechnical analysis was completed and included an evaluation of seepage conditions and steady state seepage landside slope stability on six selected cross sections along the east levee (DWR 2022 and Addendum Appendix B).

DWR conducted analyses on each cross section that compared the east levee performance “without the proposed channels” and “with the proposed channels.” The geotechnical analysis was performed in accordance with “U.S. Army Corps of Engineers (USACE) Engineering Manual 1110-2-1913” (USACE 2000). The analysis results show that the adjacent levee meets USACE criteria for underseepage, through seepage and landslide slope stability before and after excavating the channels for the Project. The analysis concluded that construction of the excavated channels would not change the performance of the adjacent levee. DWR, in consultation with the Central Valley Flood Protection Board (CVFPB) and USACE Sacramento District, determined that no modifications to the existing Yolo Bypass East Levee were necessary to mitigate the observed pre-existing condition (DWR 2022). **Table 1** and **Table 2** present the results of the analyses. “Existing Conditions,” as used in these tables, refer to the conditions that existed on-the-ground prior to any project construction. In other words, “Existing Conditions” does not include any project construction, including the cutoff walls.

Construction of the channel without the cutoff walls would introduce negligible changes on the through seepage criteria, underseepage exit gradient and slope stability factor of safety, as shown in Table 1 and Table 2. The sensitivity analysis result for Cross Section A-A’ (Table 1) shows a slight increase in underseepage exit gradient (increase from 0.08 to 0.14) across the blanket layer at the landside levee toe, a slight decrease in landside slope stability factor of safety (reduced from 2.04 to 2.01) and no change in through seepage. This sensitivity run is based on a conservative depiction of a continuous sand deposit into the aquifer layer, which was a condition only encountered in one historical boring and not in any of the recent explorations (DWR 2022). The increase in calculated exit gradient for the sensitivity analysis is very small and remains well below the USACE underseepage criteria (less than 0.5)(DWR 2022). The resulting underseepage exit gradients and factors of safety appeared similar in all other cross sections, with and without the proposed channel excavations, because of the presence of the intact waterside blanket layer beneath the channel bottom. The intact blanket layer at the channel bottom resists seepage flow into the aquifer layer; therefore, Proposed Change 1 would not significantly increase the seepage pressure beneath the blanket layer (DWR 2022). See Addendum Appendix B for a detailed assessment of the seepage and landslide slope stability analyses.

533 ***Table 1. Seepage and Slope Stability Analyses Results***

Analyses Cross Sections	Existing Conditions				Proposed Change 1			
	Seepage Results			Landslide Slope Stability Results	Seepage Results			Landslide Slope Stability Results
	Underseepage Exit Gradient	Through-Seepage (Feet above Levee Toe)	Permeable Foundation Soil Condition	Factor of Safety	Underseepage Exit Gradient	Through-Seepage (Feet above Levee Toe)	Permeable Foundation Soil Condition	Factor of Safety
Cross Section A'- A'	0.07	2	N/A	2.05	0.07	2	N/A	2.04
Cross Section A'- A' Sensitivity	0.08	2	N/A	2.05	0.14	2	N/A	2.01
Cross Section B'- B'	No Positive Gradient	2*	N/A	2.04	No Positive Gradient	2*	N/A	2.02
Cross Section C'- C'	0.21	At Toe	See Table 2	1.92	0.21	At Toe	See Table 2	1.92
Cross Section D'- D'	0.39	4	See Table 2	1.45	0.39	4	See Table 2	1.45
Cross Section E'- E'	0.19	1*	N/A	1.99	0.19	1*	N/A	1.98
Cross Section F'- F'	0.41	4*	N/A	1.61	0.41	4*	N/A	1.61

534 Source: DWR 2022
535 Table Notes:
536 * Embankments consisting of plastic fines are not considered susceptible to erosion or piping. For details refer Urban Levee Evaluation Guidance
537 Document (URS 2015).

538 ***Table 2. Permeable Foundation Soil Condition Evaluation***

Analyses Cross Sections	Existing Conditions								
	Exit Gradient Within Top 1 Foot of Permeable (Leaker) Layer Beneath Levee Toe	**Volumetric Flow per Foot of Levee, Qs (cfs/ft)**	**Change in Total Head, H (ft)**	**Qs/H (cfs per Foot of Head per Foot of Levee)**	**Qs/H (gpm per Foot of Head per 100 Feet of Levee)**	**Severity of Seepage**	**Seepage Remediation Needed**	**Bligh Creep Ratio**	**Lane Wighted Creep Ratio**
Cross Section C'-C'	0.21	2.13E-04	6.8	3.14E-05	1.41	Light	Marginal	15.6*	5.2*
Cross Section D'-D'	0.08	1.06E-06	13.56	7.82E-08	3.51E-03	Negligible	Not Needed	11.7**	2.6**
	Proposed Change 1								
	Exit Gradient Within Top 1 Foot of Permeable (Leaker) Layer Beneath Levee Toe	Volumetric Flow per Foot of Levee, Qs (cfs/ft)	Change in Total Head, H (ft)	Qs/H (cfs per Foot of Head per Foot of Levee)	Qs/H (gpm per Foot of Head per 100 Feet of Levee)	Severity of Seepage	Seepage Remediation Needed	Bligh Creep Ratio	Lane Wighted Creep Ratio
Cross Section C'-C'	0.21	2.13E-04	6.8	3.14E-05	1.41	Light	Marginal	15.6*	5.2*
Cross Section D'-D'	0.08	1.08E-06	13.56	7.99E-08	3.59E-03	Negligible	Not Needed	11.7**	2.6**

539 Source: DWR 2022
540 Table Notes:
541 * Minimum safe Bligh's Creep Ratio and Lane's Weighted Creep ratio for coarse sand are 12.0 and 5.0, respectively
542 ** Minimum safe Bligh's Creep Ratio and Lane's Weighted Creep ratio for silt are 18.0 and 8.5, respectively

The analysis indicated that the cutoff walls would not be necessary because the proposed work would not affect the performance of the existing levee. On March 3, 2021, DWR presented the results of the geotechnical evaluation to the CVFPB and USACE, Sacramento District and received concurrence that the Project would not require any cutoff walls or any additional mitigation measures for the east levee (DWR 2021). During a CVFPB Meeting on May 28, 2021, DWR presented the geotechnical analysis and recommendation for removal of the cutoff walls from the Project, requesting a no objection letter to send to USACE, which was approved by the CVFPB (CVFPB 2021a). During a CVFPB Meeting on September 24, 2021, the CVFPB approved the Project with Proposed Change 1 and issued the CVFPB Encroachment Permit (Permit No.19523 BD) in October 2021 (CVFPB 2021b). DWR submitted a Section 408 permit application to USACE with Proposed Change 1 and USACE approved the permit, issuing the Letter of Permission in October 2021 (USACE 2021).

2.3 Proposed Change 2 – Removal of the Agricultural Road Crossing 1 Vehicle Bridge

As described in the 2019 EIS/EIR Chapter 2, Section 2.3.1, ARC 1 and Cross-Canal Berms, ARC 1 improvements included construction of a bridge for vehicular traffic over Tule Canal. **Figure 6** (Figure 2-2 of the 2019 EIS/EIR, section 2.3.1) shows the improvements that were proposed at ARC 1; the proposed items included a vehicular bridge, an under-channel siphon with emergency overflow, and channel improvements.

After consulting with the landowner, the under-channel siphon and the bridge were removed from the Project scope. The bridge was deemed unnecessary for access as there is an existing crossing, 0.5 mile south of the proposed vehicle bridge, that would maintain access to and from the Yolo Bypass and the east levee. Removing the ARC 1 vehicle bridge from the Project improves fish passage within Tule Canal by reducing in-water structures that fish must navigate around.

The proposed under-channel siphon element and appurtenances were removed, although the drain which allows for excess water from the landside of the levee into the Yolo Bypass would remain in place and any additional effects to the conveyance of water at this location would be addressed directly with the landowner. This change would not otherwise affect water rights along with existing contracts and agreements along Sacramento rivers and within the Yolo Bypass.

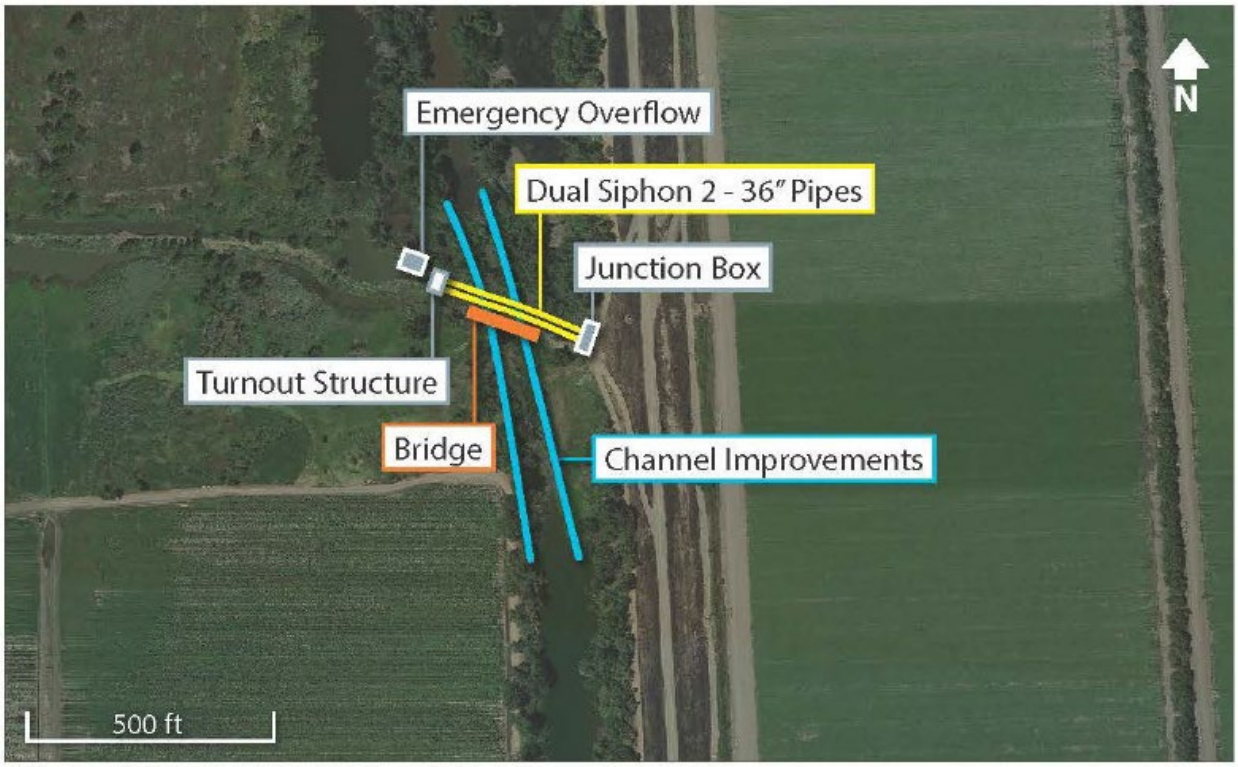

Figure 6. Agricultural Road Crossing 1 Improvements (Figure 2-2 of the 2019 EIS/EIR)

3.0 RESOURCE ANALYSIS

The environmental analyses and findings presented in the 2019 EIS/EIR reflect the judgment of DWR as the Lead Agency under CEQA. This section analyzed whether any new significant environmental effects or a substantial increase in the severity of previously identified effects may result from the Proposed Changes in relation to the analysis conducted in the 2019 EIS/EIR. The conclusions in this addendum are based on information contained in the 2019 EIS/EIR, including the environmental setting, methods, significance criteria, and impact analysis.

3.1 Unaffected Resources

The removal of the cutoff walls and the removal of the bridge at ARC 1 presented in this addendum would not substantively modify the activities evaluated in the 2019 EIS/EIR. The 2019 EIS/EIR analyzed and disclosed the Project's likely effects on environmental resources. Because there would be no changes to Project operations under the Proposed Changes, there would be no new significant environmental effects or a substantial increase in the severity of previously identified effects beyond those already described in the 2019 EIS/EIR for the resources included in this section. In addition, because there is a reduction in the amount of construction and no new construction proposed under this addendum, the Proposed Changes would not result in any new significant environmental effects or a substantial increase in the severity of previously identified construction-related effects. Therefore, these activities are not discussed further in this document.

3.1.1 Surface Water Supply

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact WS-1: Changes in CVP Water Supply Deliveries North of Delta	Section 5.3.3.2.1, pp. 5-27 and 5-28.	LTS	No	No	LTS
Impact WS-2: Changes in CVP Water Supply Deliveries South of Delta	Section 5.3.3.2.2, pp. 5-29 and 5-30.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact WS-3: Changes in SWP Water Supply Deliveries North of Delta	Section 5.3.3.2.3, pp. 5-30 to 5-32.	LTS	No	No	LTS
Impact WS-4: Changes in SWP Water Supply Deliveries South of Delta	Section 5.3.3.2.4, pp. 5-32 to 5-34.	LTS	No	No	LTS
Impact WS-5: Increase in Incidents of Term 91 Being Initiated	Section 5.3.3.2.5, pp. 5-34 and 5-35.	LTS	No	No	LTS

Key: CVP = Central Valley Project; SWP = State Water Project; LTS = less than significant

The Proposed Changes would have no impact on project operations. There would be no change in supply deliveries to CVP or SWP contractors during operations nor the incidence of Term 91. The impacts on surface water supply would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.2 Water Quality

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact WQ-1: Construction- or maintenance-related degradation of surface water quality such that it would exceed regulatory standards or would substantially impair beneficial uses of surface water	Section 6.3.3.2.1, pp. 6-26 to 6-29.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact WQ-2: Operation-related degradation of surface water quality such that it would exceed regulatory standards or would substantially impair beneficial uses of surface water	Section 6.3.3.2.2, pp. 6-29 to 6-33.	SU	No	No	SU

Key: LTS = less than significant; SU = significant and unavoidable

The Proposed Changes would reduce the amount of construction and ground disturbance under the Project. Therefore, construction-related impacts on water quality would be reduced and would remain unchanged from the 2019 EIS/EIR. The Proposed Changes would have no impact on project operations and there would be no change in operation-related degradation of surface water. The impacts on water quality would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.3 Vegetation, Wetlands, and Wildlife Resources

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact TERR-1: Potential Mortality or Loss of Habitat for Special-Status Plant Species	Section 9.3.3.2.1, pp. 9-54 and 9-55.	LTS	No	No	LTS
Impact TERR-2: Potential Disturbance or Mortality of Valley Elderberry Longhorn Beetle and Loss of Its Habitat (Elderberry Shrubs)	Section 9.3.3.2.2, pp. 9-55 to 9-63.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact TERR-3: Potential Disturbance or Mortality of and Loss of Suitable Habitat for Giant Garter Snake	Section 9.3.3.2.3, pp. 9-63 to 9-68.	LTS	No	No	LTS
Impact TERR-4: Potential Disturbance or Mortality of and Loss of Suitable Habitat for Western Pond Turtle	Section 9.3.3.2.4, pp. 9-68 to 9-70.	LTS	No	No	LTS
Impact TERR-5: Potential Disturbance or Mortality of Nesting Bird Species and Loss of Suitable Nesting and Foraging Habitat	Section 9.3.3.2.5, pp. 9-70 to 9-72.	LTS	No	No	LTS
Impact TERR-6: Potential Disturbance, Injury, or Mortality of Special-Status Tree-Roosting Bats and Removal of Roosting Habitat	Section 9.3.3.2.6, pp. 9-72 to 9-75.	LTS	No	No	LTS
Impact TERR-7: Potential Disturbance or Mortality of American Badger and Loss of Its Habitat	Section 9.3.3.2.7, pp. 9-75 and 9-76.	LTS	No	No	LTS
Impact TERR-8: Potential Loss of Sensitive Natural Communities	Section 9.3.3.2.8, pp. 9-76.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact TERR-9: Potential Effects on USACE, RWQCB, and CDFW Jurisdictional Wetlands, Waters, and Riparian Areas	Section 9.3.3.2.9, pp. 9-77 to 9-85.	LTS	No	No	LTS
Impact TERR-10: Potential Interference with Movement of Native Resident or Migratory Wildlife Species	Section 9.3.3.2.10, pp. 9-85 and 9-86.	LTS	No	No	LTS
Impact TERR-11: Potential Conflict with Provisions of an Adopted HCP/NCCP or Other Approved Local, Regional, or State Habitat Conservation Plan	Section 9.3.3.2.11, pp. 9-86.	LTS	No	No	LTS

Key: USACE = United States Army Corps of Engineers, RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; HCP = Habitat Conservation Plan; NCCP = Natural Communities Conservation Plan; LTS = less than significant

The Proposed Changes would reduce the amount of construction and ground disturbance under the Project. Therefore, potential construction-related disturbance or mortality of and loss of vegetation and wildlife resources would be reduced. The Proposed Changes would have no impact on project operations and there would be no change in operation-related impacts to vegetation and wildlife resources. The impacts on vegetation and wildlife resources would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.4 Cultural and Paleontological Resources

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact CULT-1: Impacts on Identified Archaeological Sites and Historic-Era Built Environment Resources Resulting from Construction	Section 10.3.3.2.1, pp. 10-19 to 10-21.	LTS	No	No	LTS
Impact CULT-2: Impacts on Archaeological Sites and Historic-Era Built Environment Resources to Be Identified Through Future Inventory Efforts	Section 10.3.3.2.2, pp. 10-21 to 10-23.	LTS	No	No	LTS
Impact CULT-3: Impacts on Archaeological Sites that May Not Be Identified through Inventory Efforts	Section 10.3.3.2.3, pp. 10-23 to 10-25.	SU	No	No	SU
Impact CULT-4: Damage to Buried Human Remains	Section 10.3.3.2.4, pp. 10-25 and 10-26.	LTS	No	No	LTS
Impact CULT-5: Impacts on Paleontological Resources Resulting from Construction	Section 10.3.3.2.5, pp. 10-26.	LTS	No	No	LTS

Key: LTS = less than significant; SU = significant and unavoidable

The Proposed Changes would result in less construction and ground disturbance. The potential to disturb or uncover cultural and paleontological resources, and human remains would be reduced. Impacts to cultural and paleontological resources would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.5 Recreation

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact REC-1: 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	Section 13.3.3.2.1, pp. 13-18.	LTS	No	No	LTS
Impact REC-2: Loss of Recreational and Educational Opportunities due to a Reduction in Access and/or Available Lands	Section 13.3.3.2.2, pp. 13-19 to 13-44.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes would have no impact on recreational resources and there would be no change to recreational access. The impacts on recreational resources would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.6 Visual Resources

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact VIS-1: Short-Term Construction-Related Changes in Scenic Vistas, Scenic Resources, and Existing Visual Character	Section 14.3.3.2.1, pp. 14-12.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact VIS-2: Long-Term Changes in Scenic Vistas, Scenic Resources, and Existing Visual Character	Section 14.3.3.2.2, pp. 14-12 to 14-14.	LTS	No	No	LTS
Impact VIS-3: Substantial Changes in Light or Glare	Section 14.3.3.2.3, pp. 14-14.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes would result in less construction. Therefore, the short-term visual construction impacts would be reduced. The Proposed Changes would have no impact on project operations and there would be no change in long-term changes in scenic vistas, scenic resources, and existing visual character. The impacts on visual resources would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.7 Public Services, Utilities, and Power

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact UTIL-1: Affect the provision of governmental services or facilities, including fire and police protection, parks, and schools	Section 15.3.3.2.1, pp. 15-7 and 15-8.	LTS	No	No	LTS
Impact UTIL-2: Create the need for new stormwater facilities	Section 15.3.3.2.2, pp. 15-8.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact UTIL-3: Generate solid waste in need of disposal, which could exceed the capacity of landfills	Section 15.3.3.2.3, pp. 15-8 and 15-9.	LTS	No	No	LTS
Impact UTIL-4: Use and/or depletion of local or regional energy supplies	Section 15.3.3.2.4, pp. 15-9 and 15-10.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes would result in less construction and less energy would be used during construction. The Proposed Changes would have no impact on project operations and there would be no long-term impacts to public services, utilities, or power. The impacts on public services, utilities, and power would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.8 Socioeconomics

CEQA does not consider economic or social changes resulting from a project as adverse effects on the environment. If economic or social effects cause a physical change in the environment, the physical change may be regarded as an adverse effect. Specifically, under CEQA Guidelines (Section 15358[b]), an Environmental Impact Report (EIR) must analyze impacts “related to a physical change” in the environment. State CEQA Guidelines Section 15131(a) states that “economic or social effects of a project shall not be treated as significant effects on the environment” unless the economic effects result in physical effects.

The Guidelines (Section 15131[a]) also state, “An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.”

To summarize Guidelines 15131[a] and 15358[b], the economic or social effect of a project may be used to determine the significance of physical changes caused by the project. However, analyses of other environmental resources in the 2019 EIS/EIR relied

on resource-specific tools or qualitative discussions to determine environmental effects. Therefore, the 2019 EIS/EIR determined that economic effects were not needed to judge the significance of changes to other environmental resources.

Because it was determined that physical effects of the Project alternatives were evaluated separately and did not require economic analysis, the 2019 EIS/EIR did not provide a CEQA analysis or make a significance determination under CEQA for the socioeconomic effects. Consistent with the CEQA Guidelines and the 2019 EIS/EIR, physical effects of the Proposed Changes are evaluated separately, and economic effects are not needed to judge the significance of changes to other environmental resources. Therefore, this topic is not discussed further.

3.1.9 Transportation

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact TRAN-1: Construction Personnel Traffic	Section 17.3.3.2.1, pp. 17-9 and 17-10	LTS	No	No	LTS
Impact TRAN-2: Construction Events and Related Traffic	Section 17.3.3.2.2, pp. 17-10 and 17-11.	LTS	No	No	LTS
Impact TRAN-3: Construction Roadway Conditions	Section 17.3.3.2.3, pp. 17-11 and 17-12.	LTS	No	No	LTS
Impact TRAN-4: Maintenance Related Traffic	Section 17.3.3.2.4, pp. 17-12 and 17-13.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes would reduce the amount of construction under the Project. There would be fewer truck trips and fewer materials transported during construction. The Proposed Changes would have no impact on project operations or maintenance and there would be no long-term impacts related to maintenance traffic. The impacts on transportation would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.10 Air Quality

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact AQ-1: Violate air quality standards or contribute substantially to an existing or projected air quality violation	Section 18.3.3.2.1, pp. 18-40 to 18-44.	SU	No	No	SU
Impact AQ-2: Conflict with or obstruct implementation of the applicable air quality plan	Section 18.3.3.2.2, pp. 18-45.	SU	No	No	SU
Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations	Section 18.3.3.2.3, pp. 18-45 and 18-46.	LTS	No	No	LTS
Impact AQ-4: Create objectionable odors affecting a substantial number of people	Section 18.3.3.2.4, pp. 18-46.	LTS	No	No	LTS
Impact AQ-5: Generate criteria pollutants greater than general conformity *de minimis* thresholds	Section 18.3.3.2.5, pp. 18-46 and 18-47.	LTS	No	No	LTS
Impact AQ-6: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	Section 18.3.3.2.6, pp. 18-47 and 18-48.	LTS	No	No	LTS
Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs	Section 18.3.3.2.7, pp. 18-48	LTS	No	No	LTS

Key: GHG = greenhouse gas; LTS = less than significant; SU = significant and unavoidable

Under the Proposed Changes there would be less construction under the Project. Therefore, construction-related air quality impacts would be less than those analyzed in the 2019 EIS/EIR. The Proposed Changes would have no impact on project operations and there would be no long-term impacts related to air quality emissions. The impacts on air quality would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.11 Hazards and Hazardous Materials

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact HAZ-1: Increase the risk of exposure from hazardous materials to the public and construction workers	Section 19.3.3.2.1, pp. 19-12 and 19-13.	LTS	No	No	LTS
Impact HAZ-2: Accidental release of hazardous materials	Section 19.3.3.2.2, pp. 19-13.	LTS	No	No	LTS
Impact HAZ-3: Accidental release of hazardous materials from contaminated soil and/or groundwater	Section 19.3.3.2.3, pp. 19-13 and 19-14.	LTS	No	No	LTS
Impact HAZ-4: Increase the risk of wildfire within the vicinity of the Project area	Section 19.3.3.2.4, pp. 19-14 and 19-15.	LTS	No	No	LTS
Impact HAZ-5: Expose workers to hazardous materials or other safety risks associated with low-flying aircraft	Section 19.3.3.2.5, pp. 19-15.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact HAZ-6: Temporarily interfere with an emergency response plan or emergency evacuation plan for the area	Section 19.3.3.2.6, pp. 19-15 and 19-16.	LTS	No	No	LTS
Impact HAZ-7: Public use of the FWWA for hunting or other uses could cause unsafe situations for the public and/or construction workers	Section 19.3.3.2.7, pp. 19-16.	LTS	No	No	LTS
Impact HAZ-8: Risk of exposure to mosquito-borne viruses could increase as a result of inundation-period expansion in the Yolo Bypass for fish passage and rearing	Section 19.3.3.2.8, pp. 19-16 and 19-17.	LTS	No	No	LTS

Key: FWWA = Fremont Weir Wildlife Area; LTS = less than significant

The Proposed Changes would reduce the amount of construction under the Project and thereby reduce the number vehicle trips to and from the project area. This would reduce the potential for accidental spills from construction equipment. The duration of personnel working onsite would be reduced and therefore result in less potential exposure to hazards and hazardous materials during construction. The impacts on hazards and hazardous materials would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.12 Noise

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact NOI-1: Exposure of persons to, or generation of noise and vibration levels in excess of, standards established in the local general plan or noise ordinance or applicable standards of other agencies	Section 20.3.3.2.1, pp. 20-15.	LTS	No	No	LTS
Impact NOI-2: Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels	Section 20.3.3.2.2, pp. 20-15 to 20-17.	SU	No	No	SU
Impact NOI-3: A substantial permanent increase in ambient noise levels in the Project vicinity	Section 20.3.3.2.3, pp. 20-17.	LTS	No	No	LTS
Impact NOI-4: A substantial temporary or periodic increase in ambient noise levels in the Project vicinity	Section 20.3.3.2.4, pp. 20-17 and 20-18.	SU	No	No	SU
Impact NOI-5: Exposure of people residing or working in the Project area to excessive noise levels from public or private airports	Section 20.3.3.2.5, pp. 20-18.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes would reduce the amount of construction under the Project and, therefore, less noise produced in the short term by equipment and vehicles. The Proposed Changes would have no impact on project operations and there would be no long-term impacts related to noise. Noise impacts would remain unchanged from in the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.13 Population and Housing

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact POP-1: Construction-Related Increase in Population and Corresponding Housing Needs	Section 21.3.3.2.1, pp. 21-6.	LTS	No	No	LTS

Key: LTS = less than significant

The Proposed Changes reduce the amount of construction under the Project. The number of workers and the duration of housing needed for construction may be reduced. The impacts on population and housing would remain unchanged from the 2019 EIS/EIR. Therefore, this topic is not discussed further.

3.1.14 Environmental Justice

Social, economic, and environmental justice effects are not required to be analyzed under CEQA, and therefore a CEQA analysis was not provided in the 2019 EIS/EIR. Consistent with the CEQA Guidelines and the 2019 EIS/EIR, environmental justice effects are not considered in this addendum. Therefore, this topic is not discussed further.

3.2 Potentially Affected Resources

Analyses for potential new or significant impacts related to the removal of the cutoff walls and ARC 1 bridge were conducted for the potentially affected resources. The following sections describe potential changes to previously disclosed impacts from the 2019 EIS/EIR on these resources.

3.2.1 Hydrology, Hydraulics, and Flood Control

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact HYD-1: Change in occurrence of flows exceeding the maximum existing conditions monthly flow from the Sacramento River into the Yolo Bypass	Section 4.3.3.2.1, pp. 4-31.	LTS	No	No	LTS
Impact HYD-2: Change in occurrence of flows exceeding the maximum existing conditions monthly flow in the Sacramento River at Freeport	Section 4.3.3.2.2, pp. 4-31and 4-32.	LTS	No	No	LTS
Impact HYD-3: Change in 100-year flood hazard area	Section 4.3.3.2.3, pp. 4-32to 4-34.	LTS	No	No	LTS

Key: LTS = less than significant

Environmental Setting

No substantial change in the environmental and regulatory settings related to hydrology, hydraulics, and flood control, described in the 2019 EIS/EIR Chapter 4, “Hydrology, Hydraulics, and Flood Control,” has occurred since certification of the 2019 EIS/EIR.

Discussion

Results from the Central Valley Floodplain Evaluation and Delineation Hydrologic Engineering Center River Analysis System (HEC-RAS) and CalSim II models were used to assess changes in the 100-year flood hazard area. CalSim II results were used to assess changes in the peak flow exceedance. HEC-RAS results were compared to determine whether the altered peak flows would exceed the bypass capacity and whether increases in maximum water surface elevation within the bypass would occur for the existing peak flow.

Impact HYD-1: Change in occurrence of flows exceeding the maximum existing conditions monthly flow from the Sacramento River into the Yolo Bypass

The 2019 EIS/EIR determined that the effect of the Project on flows from the Sacramento River into the Yolo Bypass would be less than significant relative to existing conditions because the Project would not increase or decrease the number of occurrences of flows exceeding the maximum existing conditions monthly average flow from the Sacramento River into the Yolo Bypass.

Under Proposed Change 1, flood flows would remain limited to the leveed portion of the bypass. The effect of Proposed Change 1 on flows from the Sacramento River into the Yolo Bypass would remain unchanged from the 2019 EIS/EIR. Therefore, impacts associated with flows from the Sacramento River into the Yolo Bypass presented in the 2019 EIS/EIR would remain less than significant.

Under Proposed Change 2, there would be no impact on flows from the Sacramento River into the Yolo Bypass. Therefore, impacts associated with flows from the Sacramento River into the Yolo Bypass presented in the 2019 EIS/EIR would remain less than significant.

Impact HYD-2: Change in occurrence of flows exceeding the maximum existing conditions monthly flow in the Sacramento River at Freeport

As stated in the 2019 EIS/EIR, the Project would not increase the occurrence of monthly flows above 72,231 cfs (the maximum existing conditions monthly flow). Based on the CalSim II model results at Freeport with 2030 hydrology and infrastructure, monthly flows at Freeport greater than 72,231 cfs would not occur under the Project. Therefore, the 2019 EIS/EIR determined that the effect of the Project on flows in the Sacramento River at Freeport would be less than significant relative to existing conditions.

The Proposed Changes would have no impact on the number of occurrences of monthly flows above 72,231 cfs in the Sacramento River at Freeport. The effect of the Proposed Changes on flows in the Sacramento River at Freeport would remain unchanged from the 2019 EIS/EIR. Therefore, impacts associated with flows in the Sacramento River at Freeport presented in the 2019 EIS/EIR would remain less than significant.

Impact HYD-3: Change in 100-year flood hazard area

The 2019 EIS/EIR determined that impacts to the 100-year flood hazard area would be less than significant because the changes to bypass channel geometry under the Project would not impede or redirect peak flood flows. Increased peak flows from changes to Fremont Weir geometry would remain within the Yolo Bypass. The changes to channel geometry within the Yolo Bypass would increase peak water surface elevation (WSE) less than one foot. Peak WSE would remain the same or decrease on the Sacramento River. Additionally, increases to the 2-year flood hazard WSE would

increase peak WSE less than one foot. Therefore, WSE related impacts, such-as wind-wave erosion, would also be less than significant.

Under Proposed Change 1, there would be no changes to the bypass geometry. In addition, flood flows would remain within the Yolo Bypass under Proposed Change 1. The effect of Proposed Change 1 on the 100-year flood hazard area would remain less than significant, which is the same as presented in the 2019 EIS/EIR. Therefore, impacts associated with changes to the 100-year flood hazard area presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 1.

Under Proposed Change 2, the number of structures placed within the 100-year flood hazard area would be slightly reduced, which would reduce the impact on the 100-year flood hazard area. Therefore, impacts associated with changes to the 100-year flood hazard area presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

3.2.2 Groundwater

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact GRW-1: Temporary and Short-Term Construction-Related Effects on Groundwater Levels	Section 7.3.3.2.1, pp. 7-23 and 7-24.	LTS	No	No	LTS
Impact GRW-2: Temporary and Short-Term Construction-Related Effects on Groundwater Quality	Section 7.3.3.2.2, pp. 7-24 and 7-25.	LTS	No	No	LTS
Impact GRW-3: Operational Impacts to Groundwater Recharge Could Cause a Lowering of the Local Groundwater Level that Would Impact Pre-existing or Planned Land Uses in the Area Surrounding the Yolo Bypass	Section 7.3.3.2.3, pp.7-25 to 7-27.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact GRW-4: Operational Impacts to Groundwater Quality in the Area Surrounding the Yolo Bypass	Section 7.3.3.2.4, pp. 7-27.	LTS	No	No	LTS
Impact GRW-5: Long-Term Changes to Groundwater Levels due to Decreased Allocation to North of Delta and South of Delta Contractors	Section 7.3.3.2.5, pp. 7-27 and 7-28.	LTS	No	No	LTS
Impact GRW-6: Long-Term Changes to Groundwater Quality due to Decreased Allocation to North of Delta and South of Delta Contractors	Section 7.3.3.2.6, pp. 7-28	LTS	No	No	LTS
Impact GRW-7: Increased Potential for Land Subsidence due to Decreased Allocation to North of Delta and South of Delta Contractors	Section 7.3.3.2.7, pp. 7-28.	LTS	No	No	LTS

Key: LTS = less than significant

Environmental Setting

No substantial change in the environmental and regulatory settings related to groundwater, described in the 2019 EIS/EIR Chapter 7, “Groundwater,” has occurred since certification of the 2019 EIS/EIR.

Discussion

Impact GRW-1: Temporary and Short-Term Construction-Related Effects on Groundwater Levels

The Proposed Changes would reduce the amount of construction and ground disturbance under the Project. Therefore, short-term construction-related effects on

groundwater levels would be reduced and impacts would remain less than significant, unchanged from the 2019 EIS/EIR.

Impact GRW-2: Temporary and Short-Term Construction-Related Effects on Groundwater Quality

The Proposed Changes would reduce the amount of construction and ground disturbance under the Project. Therefore, short-term construction-related effects on groundwater quality would be reduced and impacts would remain less than significant, unchanged from the 2019 EIS/EIR.

Impact GRW-3: Operational Impacts to Groundwater Recharge Could Cause a Lowering of the Local Groundwater Level that Would Impact Pre-existing or Planned Land Uses in the Area Surrounding the Yolo Bypass

Under the Project described in the 2019 EIS/EIR, two levee cutoff walls were included in the proposed project design because the construction of the channels would cut through an existing clay blanket layer that currently prevents levee underseepage. The cutoff walls to be constructed along the eastern levee were to address levee underseepage. The 2019 EIS/EIR determined that construction of the cutoff walls could prevent or otherwise affect recharge to the groundwater aquifer under the Elkhorn area (the area to the east of the Yolo Bypass and to the west of the Sacramento River) from the Yolo Bypass area. However, because the cutoff walls would have been in areas that currently have a relatively thick clay blanket layer that prevents levee underseepage (i.e., areas that currently have no groundwater recharge from the Yolo Bypass), installation of the cutoff walls would not have changed recharge to the aquifer under the Elkhorn area. Following the 2019 EIS/EIR, DWR modeled the with-project scenario with Proposed Change 1 under flood-stage conditions (DWR 2022) and determined the potential increase in seepage is anticipated to be negligible. Therefore, under Proposed Change 1, there would be no anticipated change to groundwater recharge to the Elkhorn area.

To further verify these assumptions, DWR established the Yolo Bypass Hydrogeologic Characterization and Groundwater Study in 2019 aimed at better characterizing the hydrogeologic conditions in the Project and Elkhorn areas, and further evaluating the potential for seepage to occur across the Yolo Bypass East Levee as a result of Project operations. To date, this effort has included additional subsurface investigations and the establishment of a monitoring network including 37 groundwater level monitoring wells at 19 sites and two new surface water monitoring stations. It also leverages data from three established surface water monitoring stations and one local precipitation monitoring station. The effort will include a hydrogeologic model and a groundwater flow and seepage model to further understand groundwater flow patterns in the Project and Elkhorn areas during baseline and with-project scenarios.

The effect of Proposed Change 1 on groundwater levels from changes to groundwater recharge would remain unchanged from the 2019 EIS/EIR. Therefore, impacts associated with changes to groundwater recharge presented in the 2019 EIS/EIR would remain less than significant.

Under Proposed Change 2, there would be no impact on groundwater levels. Therefore, impacts associated with changes to groundwater levels presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

Impact GRW-4: Operational Impacts to Groundwater Quality in the Area Surrounding the Yolo Bypass

The Proposed Changes would have no impact on project operations. There would be no change in groundwater quality in the area surrounding the Yolo Bypass. The operational impacts on groundwater quality would remain less than significant, unchanged from the 2019 EIS/EIR.

Impact GRW-5: Long-Term Changes to Groundwater Levels due to Decreased Allocation to North of Delta and South of Delta Contractors

The Proposed Changes would have no impact on project operations. There would be no change in groundwater levels due to decreased allocations. The operational impacts on groundwater levels would remain less than significant, unchanged from the 2019 EIS/EIR.

Impact GRW-6: Long-Term Changes to Groundwater Quality due to Decreased Allocation to North of Delta and South of Delta Contractors

The Proposed Changes would have no impact on project operations. There would be no change in groundwater quality due to decreased allocations. The operational impacts on groundwater quality would remain less than significant, unchanged from the 2019 EIS/EIR.

Impact GRW-7: Increased Potential for Land Subsidence due to Decreased Allocation to North of Delta and South of Delta Contractors

The Proposed Changes would have no impact on project operations. There would be no change in the potential for land subsidence due to decreased allocations. The operational impacts on land subsidence would remain less than significant, unchanged from the 2019 EIS/EIR.

3.2.3 Aquatic Resources and Fisheries

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact FISH-1: Potential Disturbance to Fish Species or their Habitat due to Erosion, Sedimentation, and Turbidity	Section 8.3.3.2.1, pp. 8-92 to 8-94.	LTS	No	No	LTS
Impact FISH-2: Potential Disturbance to Fish Species or their Habitat due to Hazardous Materials and Chemical Spills	Section 8.3.3.2.1, pp. 8-94 and 8-95.	LTS	No	No	LTS
Impact FISH-3: Potential Disturbance to Fish Species or their Habitat due to Aquatic Habitat Modification	Section 8.3.3.2.1, pp.8-95 to 8-103.	LTS	No	No	LTS
Impact FISH-4: Potential Disturbance to Fish Species or their Habitat due to Hydrostatic Pressure Waves, Noise, and Vibration	Section 8.3.3.2.1, pp. 8-103 and 8-104.	LTS	No	No	LTS
Impact FISH-5: Potential Disturbance to Fish Species or their Habitat due to Stranding and Entrainment	Section 8.3.3.2.1, pp. 8-105.	LTS	No	No	LTS
Impact FISH-6: Potential Disturbance to Fish Species or their Habitat due to Predation Risk	Section 8.3.3.2.1, pp. 8-105 and 8-106.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact FISH-7: Potential Disturbance to Fish Species due to changes in Fish Passage Conditions	Section 8.3.3.2.1, pp. 8-106 and 8-107.	LTS	No	No	LTS
Impact FISH-8: Potential Disturbance to Fish Species or their Habitat due to Direct Harm	Section 8.3.3.2.1, pp. 8-107 and 8-108.	LTS	No	No	LTS
Impact FISH-9: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to changes in Flows in the Sacramento River	Section 8.3.3.2.2, pp. 8-109.	LTS	No	No	LTS
Impact FISH-10: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to changes in Water Temperatures in the Sacramento River	Section 8.3.3.2.2, pp. 8-109	LTS	No	No	LTS
Impact FISH-11: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to changes in Delta Hydrologic and Water Quality Conditions	Section 8.3.3.2.2, pp. 8-109 and 8-110	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact FISH-12: Impacts to Fisheries Habitat Conditions due to Changes in Flow-Dependent Habitat Availability in the Study Area (Yolo Bypass/Sutter Bypass)	Section 8.3.3.2.2, pp. 8-110 to 8-117.	B/LTS	No	No	B/LTS
Impact FISH-13: Impacts to Fisheries Habitat Conditions due to Changes in Water Quality in the Study Area	Section 8.3.3.2.2, pp. 8-117.	LTS	No	No	LTS
Impact FISH-14: Impacts to Aquatic Primary and Secondary Production in the Study Area	Section 8.3.3.2.2, pp. 8-117 and 8-118.	B/LTS	No	No	B/LTS
Impact FISH-15: Impacts to Fish Species of Focused Evaluation due to changes in Adult Fish Passage Conditions through the Yolo Bypass	Section 8.3.3.2.2, pp. 8-118 and 8-119.	B	No	No	B
Impact FISH-16: Impacts to Fish Species due to changes in Potential for Stranding and Entrainment	Section 8.3.3.2.2, pp. 8-119 and 8-120.	LTS	No	No	LTS
Impact FISH-17: Impacts to Fish Species due to changes in Potential for Predation and Competition	Section 8.3.3.2.2, pp. 8-120 and 8-121.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact FISH-18: Impacts to Chinook Salmon Species/Runs due to Changes in Viable Salmonid Population Parameters	Section 8.3.3.2.2, pp. 8-121 to 8-133.	LTS	No	No	LTS
Impact FISH-19: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to Changes in Hydrologic Conditions in the SWP/CVP System	Section 8.3.3.2.2, pp. 8-133.	LTS	No	No	LTS
Impact FISH-20: Conflict with Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan	Section 8.3.3.2.2, pp. 8-133.	LTS	No	No	LTS

Key: LTS = CVP = Central Valley Project; SWP = State Water Project; less than significant; B = beneficial

Environmental Setting

No substantial change in the environmental and regulatory settings related to aquatic resources and fisheries, described in the 2019 EIS/EIR Chapter 8, “Aquatic Resources and Fisheries,” has occurred since certification of the 2019 EIS/EIR.

Discussion

Impact FISH-1: Potential Disturbance to Fish Species or their Habitat due to Erosion, Sedimentation, and Turbidity

As noted in the 2019 EIS/EIR, increased erosion in the Sacramento River and the Yolo Bypass could potentially occur during construction of the Project. There would be less construction associated with the Proposed Changes and the effect of Proposed

Changes on erosion, sedimentation, and turbidity would remain unchanged from the 2019 EIS/EIR. Therefore, erosion, sedimentation, and turbidity impacts presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-2: Potential Disturbance to Fish Species or their Habitat due to Hazardous Materials and Chemical Spills

Construction- and maintenance-related activities associated with Project construction have the potential to result in the release of hazardous materials or chemicals into adjacent aquatic habitats or waterbodies. There would be less construction or maintenance associated with the Proposed Changes and the effect of Proposed Changes on hazardous materials and chemical spills would remain unchanged from the 2019 EIS/EIR. Therefore, hazardous materials and chemical spills impacts presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-3: Potential Disturbance to Fish Species or their Habitat due to Aquatic Habitat Modification

Ground-disturbing activities associated with Project construction have the potential to disturb floodplain vegetation, substrate, and the hyporheic zone (i.e., area where there is mixing of surface water and groundwater). There would be less construction associated with the Proposed Changes and the effect of Proposed Changes on aquatic habitat modification would remain unchanged from the 2019 EIS/EIR. Therefore, aquatic habitat modification impacts presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-4: Potential Disturbance to Fish Species or their Habitat due to Hydrostatic Pressure Waves, Noise, and Vibration

The Project would include pile driving to construct the headworks structure foundation and a temporary cofferdam around the headworks structure. There would be less construction associated with the Proposed Changes and the effect of Proposed Changes on construction noise would remain unchanged from the 2019 EIS/EIR. Therefore, construction noise impacts presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-5: Potential Disturbance to Fish Species or their Habitat due to Stranding and Entrainment

Construction of Project structures adjacent to the Sacramento River, Tule Pond, or after the Yolo Bypass has flooded could require dewatering of a temporary cofferdam, which may cause harm, injury, and mortality to fish species. There would be less construction associated with the Proposed Changes and the effect of Proposed Changes on stranding and entrainment associated with construction would remain unchanged from the 2019 EIS/EIR. Therefore, stranding and entrainment impacts associated with

construction presented in the 2019 EIS/EIR would remain less than significant with incorporation of MM-FISH-5, which is unchanged from the 2019 EIS/EIR.

Impact FISH-6: Potential Disturbance to Fish Species or their Habitat due to Predation Risk

Construction activities associated with the Project have the potential to increase the risk of predation of fishes nearby and downstream of the construction footprints due to the potential for increased turbidity, hazardous spills, and vibration and pressure waves. There would be less construction associated with the Proposed Changes and the effect of Proposed Changes on predation risk impacts associated with construction would remain unchanged from the 2019 EIS/EIR. Therefore, predation risk impacts associated with construction presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-7: Potential Disturbance to Fish Species due to Changes in Fish Passage Conditions

Construction activities have the potential to impair migration or passage of fishes nearby and downstream of the construction footprints due to the potential for increased turbidity, hazardous spills, and underwater noise. There would be less construction associated with the Proposed Changes and the effect of Proposed Changes on fish passage conditions associated with construction would remain unchanged from the 2019 EIS/EIR. Therefore, fish passage condition impacts associated with construction presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-8: Potential Disturbance to Fish Species or Their Habitat due to Direct Harm

Construction activities have the potential to cause direct harm to fish species of focused evaluation if construction occurs in the wet. There would be less construction associated with the Proposed Changes and direct harm associated with construction would remain unchanged from the 2019 EIS/EIR. Therefore, direct harm to fish species or their habitat associated with construction presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-9: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to Changes in Flows in the Sacramento River

As described in the 2019 EIS/EIR, the Project would result in the same or similar flows in the Sacramento River downstream of Fremont Weir. The Proposed Changes would have no impact on project operations and changes to flows in the Sacramento River would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to fish species due to changes in flow in the Sacramento River presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-10: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to Changes in Water Temperatures in the Sacramento River

As described in the 2019 EIS/EIR, modeling results indicate that mean monthly water temperatures in the Sacramento River at Freeport generally would not exceed species and life stage-specific water temperature index values more often under the Project. The Proposed Changes would have no impact on project operations and changes to water temperatures in the Sacramento River would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to fish species due to changes in water temperatures in the Sacramento River presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-11: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to Changes in Delta Hydrologic and Water Quality Conditions

As described in the 2019 EIS/EIR, evaluation of simulated mean monthly Delta hydrologic and water quality parameters with respect to species and life stage-specific time periods indicate that hydrologic and water quality metrics would not change under the Project. The Proposed Changes would have no impact on project operations and changes to Delta hydrologic and water quality conditions would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to fish species due to changes in Delta hydrologic and water quality conditions presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-12: Impacts to Fisheries Habitat Conditions due to Changes in Flow-dependent Habitat Availability in the Study Area (Yolo Bypass/Sutter Bypass)

As described in the 2019 EIS/EIR, average monthly hydraulic habitat availability over the entire simulation period for Chinook salmon pre-smolts in the Yolo Bypass would be substantially higher under the Project. Average annual wetted days in the Sutter Bypass would decrease under the Project in most of the area of the Sutter Bypass. The Proposed Changes would have no impact on project operations and changes to habitat availability would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to fisheries habitat conditions due to changes in habitat availability presented in the 2019 EIS/EIR would remain beneficial for the Yolo Bypass and less than significant for the Sutter Bypass.

Impact FISH-13: Impacts to Fisheries Habitat Conditions due to Changes in Water Quality in the Study Area

As described in the 2019 EIS/EIR, increased flows and the potential for increased wetting and drying of the Yolo Bypass could increase the amount of methylmercury and other contaminants in the Yolo Bypass and in fish prey as a result of the Project. The Proposed Changes would have no impact on project operations and changes to habitat water quality would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to fisheries habitat conditions due to changes in water quality presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-14: Impacts to Aquatic Primary and Secondary Production in the Study Area

As described in the 2019 EIS/EIR, an increase in frequency and duration of inundation of shallow-water habitat in the Yolo Bypass would be expected to increase primary production and minor reductions in wetted area in the Sutter Bypass could reduce primary and secondary production as a result of the Project. The Proposed Changes would have no impact on project operations and changes to primary and secondary production would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to primary and secondary production presented in the 2019 EIS/EIR would remain beneficial for the Yolo Bypass and less than significant for the Sutter Bypass.

Impact FISH-15: Impacts to Fish Species of Focused Evaluation due to Changes in Adult Fish Passage Conditions through the Yolo Bypass

As described in the 2019 EIS/EIR, hydraulic connectivity and migration conditions for anadromous fishes in the west-side tributaries could potentially improve under the Project as a result of increased flows entering the Yolo Bypass. The Proposed Changes would have no impact on project operations and changes to adult fish passage conditions would remain unchanged from the 2019 EIS/EIR. Removing the ARC 1 vehicle bridge from the Project improves fish passage within Tule Canal by reducing in-water structures that fish must navigate around. Therefore, impacts to adult fish passage presented in the 2019 EIS/EIR would remain beneficial.

Impact FISH-16: Impacts to Fish Species due to Changes in Potential for Stranding and Entrainment

Under the Project, facilities such as the transport and intake channels, would be graded to provide suitable passage conditions for fish, assuming sufficient water is present. Although the Project would allow for entrainment of juvenile fish at lower flows relative to existing conditions, the design of the transport channel to Tule Canal is expected to minimize the potential for stranding of juveniles. However, anthropogenic structures that interrupt natural drainage patterns, such as water control structures, create the greatest risk for stranding (Sommer et al. 2005). Therefore, there is some potential for increased juvenile stranding in the Yolo Bypass.

Because the Project would allow for adult migration into the Sacramento River during periods when adult migration is impeded or blocked at Fremont Weir under existing conditions, the potential for adult fish stranding in the Yolo Bypass would be expected to be reduced. Juvenile stranding may potentially increase under the Project, but design of the project facilities is expected to minimize any increases in juvenile stranding. Therefore, the 2019 EIS/EIR determined the Project would have a less than significant impact on stranding and entrainment.

Under Proposed Change 1, there would be no change to the design of the above-ground Project components and changes to stranding and entrainment would remain

unchanged from the 2019 EIS/EIR. The cutoff walls would have been at the toe of the levee and would have been entirely underground, which would not have caused or contributed to stranding or entrainment. Therefore, impacts associated with stranding and entrainment presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 1.

Under Proposed Change 2, the new bridge at ARC 1 would not be constructed, reducing the in-water structures that fish must navigate around for passage. The Proposed Change 2 would reduce stranding and entrainment and conditions would improve from the 2019 EIS/EIR. However, this change would not eliminate the potential for increased juvenile stranding in the Yolo Bypass. Therefore, impacts associated with stranding and entrainment presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

Impact FISH-17: Impacts to Fish Species due to Changes in Potential for Predation and Competition

As described in the 2019 EIS/EIR, the overall potential for predation of and competition with fish species under the Project is not expected to substantially differ relative to predation and competition conditions under existing conditions. The Proposed Changes would have no impact on project operations, and changes to predation and competition conditions would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to predation and competition presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-18: Impacts to Chinook Salmon Species/Runs due to Changes in Viable Salmonid Population Parameters

Simulated population metric indicators from the Salmon Benefits Model were used in the 2019 EIS/EIR to evaluate changes in the viable salmonid population parameters under the Project. Except for the abundance and productivity parameters for late fall-run and winter-run Chinook salmon and the diversity parameter for late fall-run Chinook salmon, which indicate generally similar conditions under the Project, the abundance, productivity, diversity, and spatial structure indicators would improve for fall-run, late fall-run, spring-run, and winter-run Chinook salmon under the Project. The Proposed Changes would have no impact on project operations and changes to viable salmonid population parameters would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to the viable salmonid population parameters presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-19: Impacts to Fish Species of Focused Evaluation and Fisheries Habitat Conditions due to Changes in Hydrologic Conditions in the SWP/CVP System

Modeling results presented in the 2019 EIS/EIR indicated that mean monthly storage in Trinity, Shasta, Oroville, Folsom, and San Luis reservoirs would be the same or

generally similar during all months of the year under the Project. The Proposed Changes would have no impact on project operations and changes to hydrologic conditions in the SWP/CVP system would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to the hydrologic conditions in the SWP/CVP system presented in the 2019 EIS/EIR would remain less than significant.

Impact FISH-20: Conflict with Adopted Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, or State Habitat Conservation Plan

Because the Project would include mitigation for physical habitat impacts, the Project would not conflict with Habitat Conservation Plans or Natural Community Conservation Plans, including the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan. The Proposed Changes would have no impact on project mitigation efforts and conflicts with habitat conservation plans would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to habitat conservation plans presented in the 2019 EIS/EIR would remain less than significant.

3.2.4 Land Use and Agricultural Resources

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	EIS/EIR Level of Significance with Proposed Changes
Impact AGR-1: Physically divide a community or conflict with a relevant land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	Section 11.3.3.2.1, pp.11-19.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	EIS/EIR Level of Significance with Proposed Changes
Impact AGR-2: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, which may also be protected under the Williamson Act or other conservation programs, to nonagricultural or incompatible uses	Section 11.3.3.2.2, pp.11-19 to 11-24.	LTS	No	No	LTS

Key: LTS = less than significant

Environmental Setting

No substantial change in the environmental and regulatory settings related to land use and agricultural resources, described in the 2019 EIS/EIR Chapter 11, “Land Use and Agricultural Resources,” has occurred since certification of the 2019 EIS/EIR.

Discussion

Impact AGR-1: Physically divide a community or conflict with a relevant land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Implementation of the Project would not physically divide a community because there is not a community present to be divided. Land use designations would not be changed, and the Project would not conflict with relevant existing land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. The Proposed Changes would have no impact on land use and conflicts with land use plans, policies, or regulations would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to land use presented in the 2019 EIS/EIR would remain less than significant.

Impact AGR-2: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, which may also be protected under the Williamson Act or other conservation programs, to nonagricultural or incompatible uses

The 2019 EIS/EIR determined that implementation of the Project could affect farmland within most of the Yolo Bypass through increased periods of inundation, also referred to

as “effects related to operations.” The Project was developed and operations were designed to only allow flows to increase inundation from November 1 until March 15 to avoid impacts to agricultural uses in the bypass. While increased inundation could temporarily affect up to seven percent of Yolo County’s Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, the lands would not be taken out of production although it is possible that farms might shift to alternative crops or experience changes in agricultural yield (see Section 11.3.3.2.2, “Impact AGR-2” of the 2019 EIS/EIR). These impacts were also analyzed in Chapter 16 of the 2019 EIS/EIR, “Socioeconomics,” which are not considered physical impacts and thus are excluded from CEQA analysis (see Section 3.1.8 Socioeconomics).

Under the Proposed Changes, there would be no change to the length or frequency of inundation in the Yolo Bypass from the Project. Removing the construction of the cutoff walls from the Project does not change the conclusions or analysis in the previously certified 2019 EIS/EIR. The effect on agricultural land use of the Project with the Proposed Changes would remain less than significant, which is the same as presented in the 2019 EIS/EIR. Therefore, impacts associated with changes to agricultural land use presented in the 2019 EIS/EIR would remain less than significant under the Proposed Changes.

Under Proposed Change 2, there would be no change to the length of inundation in the Yolo Bypass compared to what was evaluated in the 2019 EIS/EIR. Therefore, impacts associated with changes to agricultural land use presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

3.2.5 Geology and Soils

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact GEO-1: Substantial increase in sediment deposition in Yolo Bypass	Section 12.3.3.2.1, pp.12-13.	LTS	No	No	LTS
Impact GEO-2: Induce levee instability at the Yolo Bypass east levee	Section 12.3.3.2.2, pp. 12-13 and 12-14.	LTS	No	No	LTS

Environmental Issue	Where Impact Was Analyzed in the 2019 EIS/EIR	2019 EIS/EIR Level of Significance after Mitigation	Any Impact Not Analyzed as Significant Effect in 2019 EIS/EIR?	Any Adverse Impact More Severe Based on New Information?	2019 EIS/EIR Level of Significance with Proposed Changes
Impact GEO-3: Substantially increase soil erosion at the Yolo Bypass east levee	Section 12.3.3.2.3, pp.12-14.	NI	No	No	NI
Impact GEO-4: Loss of availability of a known mineral resource that would be of value to the region and the residents of the state	Section 12.3.3.2.4, pp. 12-14.	LTS	No	No	LTS
Impact GEO-5: Loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	Section 12.3.3.2.5, pp. 12-14 and 12-15.	LTS	No	No	LTS

Key: LTS = less than significant

Environmental Setting

No substantial change in the environmental and regulatory settings related to geology and soils, described in the 2019 EIS/EIR Chapter 12, “Geology and Soil,” has occurred since certification of the 2019 EIS/EIR.

Discussion

Impact GEO-1: Substantial increase in sediment deposition in Yolo Bypass

The Project is estimated to increase the total amount of sediment entering the Yolo Bypass to approximately 743,000 cubic yards on an average annual basis, an increase of 84,000 cubic yards. The Proposed Changes would have no impact on project operations and impacts to sediment deposition in the Yolo Bypass from the operation of the Project would remain unchanged from the 2019 EIS/EIR. Therefore, impacts to sediment deposition presented in the 2019 EIS/EIR would remain less than significant.

Impact GEO-2: Induce levee instability at the Yolo Bypass east levee

The Project includes the excavation of a new transport channel that would connect the headworks structure to the existing Tule Pond and a new channel that would connect the Tule Pond to ARC 1, which would run parallel to the existing Yolo Bypass east levee. Excavation near the waterside toe of the Yolo Bypass east levee has the potential to induce levee instability. The Project includes a minimum setback from the waterside toe of the existing levee to the new channel to avoid potential impacts to the stability of the existing levee embankment. To avoid concerns about levee seepage and stability near the channel improvements, the Project described in the 2019 EIS/EIR proposed two subsurface cutoff walls in the levee parallel to the channels. The Project included one cutoff wall at the waterside toe spanning from the Tule Pond outlet downstream to ARC 1 where Tule Canal begins, and the other cutoff wall spanning from the headworks structure to the northern portion of Tule Pond. The cutoff walls were included in the Project described in the 2019 EIS/EIR because the channel construction would cut through an existing clay blanket layer that currently prevents levee underseepage. The 2019 EIS/EIR determined that impacts to the stability of the existing Yolo Bypass east levee as a result of the Project would be less than significant because construction would take place far enough away from the outside of the waterside toe of the existing levee and would include construction of the cutoff walls.

As discussed in Section 2.2 of this addendum, results of geotechnical analyses conducted after the 2019 EIS/EIR determined that there would be no change to the performance of the east levee for through-seepage, slope stability, and underseepage from the construction of the Project without the cutoff walls. The effect of the Proposed Change on levee stability would remain less than significant, which is the same as presented in the 2019 EIS/EIR. Therefore, impacts associated with levee stability presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 1.

Under Proposed Change 2, there would be no impact on levee stability. Therefore, impacts associated with changes to levee stability presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

Impact GEO-3: Substantially increase soil erosion at the Yolo Bypass east levee

The new excavated transport channel and downstream channel improvements under the Project would be adjacent to and run parallel to the existing Yolo Bypass east levee. The water flow through the channels would be parallel to the existing levee, which would have a minimum setback distance of 112 feet from the waterside toe of the existing levee to the new channels and would not cause scouring at the existing levee. The 2019 EIS/EIR determined that construction and operation of the Project would not introduce potential soil erosion at the Yolo Bypass east levee.

Under Proposed Change 1, the cutoff walls would not be constructed and there would be no change to the water flow through the channel. The effect of the Proposed Change on soil erosion would remain less than significant, which is the same as presented in the 2019 EIS/EIR. Therefore, impacts associated with increases to soil erosion presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 1.

Under Proposed Change 2, there would be no impact on soil erosion. Therefore, impacts associated with changes to soil erosion presented in the 2019 EIS/EIR would remain less than significant under Proposed Change 2.

Impact GEO-4: Loss of availability of a known mineral resource that would be of value to the region and the residents of the state

As described in the 2019 EIS/EIR, increased flows under the Project would be lower than the design flood flows for the Yolo Bypass. This would not result in the loss of availability of mineral resources and would not affect the natural gas fields in the Yolo Bypass. The Proposed Changes would have no impact on project operations and increased flows through the bypass would remain lower than the flood flows mining infrastructure is built to withstand, unchanged from the 2019 EIS/EIR. Therefore, impacts to known mineral resources presented in the 2019 EIS/EIR would remain less than significant.

Impact GEO-5: Loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan

As described in the 2019 EIS/EIR, changes in flows through the bypass associated with the Project would not affect the natural gas fields and would not result in the loss of availability of this resource. The Proposed Changes would have no impact on project operations and increased flows through the bypass would remain lower than the flood flows gas fields are built to withstand, unchanged from the 2019 EIS/EIR. Therefore, impacts to locally important mineral resources presented in the 2019 EIS/EIR would remain less than significant.

3.3 Analysis Conclusion

Two cutoff walls (Proposed Change 1) were included in the 2019 EIS/EIR to address concerns of levee seepage and stability where excavation was to take place near the East Yolo Bypass Levee. Geotechnical analysis conducted after the 2019 EIS/EIR concluded that cutoff walls are not necessary, and removal of the cutoff walls does not change the impact conclusions in the 2019 EIS/EIR. ARC 1 improvements in the 2019 EIS/EIR would have included construction of a bridge for vehicular traffic over Tule Canal (Proposed Change 2). A crossing currently exists 0.5 mile south of ARC 1 that would maintain access over Tule Canal under non-flooded conditions. The Proposed

Changes do not result in any new significant environmental effects, nor does it substantially increase the intensity or severity of previously identified significant effects.

3.4 Cumulative Impacts

The elimination of the construction of the two cutoff walls and ARC 1 bridge do not change the operations of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project. In addition, the Proposed Changes would not result in any new significant environmental effects. Therefore, there are no changes in cumulative impacts due to the Proposed Changes from those described in the 2019 EIS/EIR.

3.5 Conclusions

As described in this addendum, the Proposed Changes do not require revisions to the conclusions, mitigation measures, or findings presented in the 2019 EIS/EIR because no new significant environmental effects or a substantial increase in the severity of previously identified effects would occur as a result of this action. In addition, no new information of substantial importance or substantial changes to the circumstances under which the Project is undertaken would cause new significant environmental effects or a substantial increase in the severity of the environmental impacts previously disclosed.

Based on Section 2.2 of this addendum, Environmental Checklist for Supplemental Environmental Impact Analysis, the removal of the cutoff walls and ARC 1 bridge would not result in any of the conditions described in Sections 15162 and 15163 of the State CEQA Guidelines that call for preparation of a subsequent EIR or supplemental EIR.

In summary, the removal of the two cutoff walls and ARC 1 bridge from the Project description would not result in any of the following:

- A substantial change in the Proposed Project requiring major revisions to the 2019 EIS/EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of a previously identified significant effect,
- A substantial change in the circumstances under which the Proposed Project is undertaken requiring major revisions to the 2019 EIS/EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of a previously identified significant effect, or
- Substantial new information, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous 2019 EIR was certified that shows any of the following:
    - new significant environmental effects,
    - substantially increase the intensity or severity of previously identified significant effects,

- mitigation measures or alternatives previously found to be infeasible, and that are necessary to substantially reduce one or more significant effects on the environment identified in the 2019 EIR, are feasible, but will not be adopted, or
- mitigation measures or alternatives that are considerably different from those analyzed in the 2019 EIS/EIR would substantially reduce one or more significant effects on the physical environment but will not be adopted.

These conclusions confirm that a subsequent or supplemental EIR is not warranted, and this second addendum to the 2019 Project EIR is the appropriate CEQA document pursuant to the State CEQA Guidelines Sections 15162, 15163, and 15164.

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