

**Meeting of the Central Valley Flood Protection Board
May 20, 2016
Staff Report
Three Rivers Levee Improvement Authority
Western Pacific Interceptor Canal, 200-Year Standard Project
Yuba County**

1.0 – ITEM

Consider Central Valley Flood Protection Board (Board) approval of the Three Rivers Levee Improvement Authority's (TRLIA) proposed improvements to the Western Pacific Interceptor Canal (WPIC, Attachment A) through adoption of Resolution 2016-09 (Attachment B) to approve flood system alterations to the west levee of the WPIC pursuant to Title 33 United States Code, Section 408. Adoption of Resolution 2016-09 would approve:

- Draft Permit 19020, Cutoff Walls (Attachment C)
- Draft Permit 19020-1, Berms, Fill and Access Road (Attachment D)

2.0 – APPLICANT

Three Rivers Levee Improvement Authority (TRLIA)

TRLIA, a joint powers agency, was established in May 2004 by the County of Yuba and Reclamation District 784 to finance and construct levee improvements in south Yuba County. TRLIA's mission is to provide 200-year flood protection to lands protected by State Plan of Flood Control facilities along the Yuba, Feather, and Bear Rivers and the Western Pacific Interceptor Canal.

3.0 – PROJECT LOCATION

The project area is located in southern Yuba County, south of Olivehurst and immediately east of State Route 70. The WPIC west levee is approximately 6 miles long and extends north from the confluence of the Bear River North Levee (Station 0+00) to approximately Station 307+00, where it turns west, and forms the southern

levee of the Olivehurst Detention Basin west of SR 70; the levee then turns north to Station 332+00 on the west side of the detention basin.

4.0 – PROJECT DESCRIPTION

The purpose of TRLIA's WPIC 200-Year Standard Project is to bring the entire WPIC west levee into compliance with the Department of Water Resources' (DWR) Urban Levee Design Criteria (ULDC) by providing a 200-year level of flood protection. Additionally, the improvements include construction of a landside toe access road which, in addition to providing improved operations and maintenance vehicle access, will remediate areas subject to ponding along the landside levee toe that were identified by the U.S. Army Corps of Engineers (USACE) in its Periodic Inspection Report.

Geotechnical evaluation performed by HDR, Inc. on the WPIC west levee indicated that portions of the levee do not meet ULDC criteria. To aid in the evaluation, the WPIC west levee was divided into 17 reaches with similar characteristics and conditions. Seven reaches (1B, 2B, 3, 4B, 4E, 5B, and 5D) were determined not to meet ULDC criteria, and an additional reach, Reach 4C, was determined by DWR as requiring remediation due to past performance concerns. Due to different levels of USACE 408 approval requirements, the project was divided into two permit applications:

1. Application 19020 to construct cutoff walls in Reaches 1B, 3, and 4E requires USACE Headquarters approval by Record of Decision, and
2. Application 19020-1 to place landside fill in Reaches 2B, 4B, 4C, 5B, and 5D, and to construct a landside toe access road from Reach 3 to Reach 5D requires USACE Sacramento District approval.

Implementation of the remedial improvements will bring the WPIC west levee into compliance with ULDC and will provide the desired 200-year level of flood protection in the area.

Geotechnical and hydrological analyses for this project is based on work previously completed along the WPIC that used National Geodetic Vertical Datum 29 (NGVD 29). For continuity purposes, the project geotechnical and hydrological analyses maintained NGVD 29. For the purpose of preparing the construction documents, the horizontal datum used is the North American Datum of 1983 (NAD83) and the vertical datum used is the North American Vertical Datum of 1988 (NAVD88).

Improvements proposed under Application 19020 consist of:

- A soil-cement-bentonite (SCB) cutoff wall placed between approximate stations 9+50 and 24+50 (1,500 linear feet) (Reach 1B). The cutoff wall will be 66 feet deep as measured from the working surface to the bottom of the wall. This cutoff wall will be constructed along the Union Pacific Railroad (UPRR) track, and will be constructed using the Deep Mix Method (DMM). The minimum width of DMM cutoff walls is 27 inches;
- A conventional cutoff wall in Reach 3, between approximate stations 144+50 and 167+50 (2,300 linear feet) approximately 46-50 feet deep; and
- A conventional cutoff wall in Reach 4E, between approximate stations 238+50 and 248+50 (1,000 linear feet) approximately 46-50 feet deep. The conventional cutoff walls will be constructed using an open trench excavation method. The minimum width of open trench cutoff walls is 36 inches.

The total length of cutoff walls is approximately 4,800 feet, or 0.9 mile. Details of project features are included in Attachment E, the 100% design drawings set for construction bid purposes.

Improvements proposed under Application 19020-1 consist of:

- Landside ditch fill will be placed between approximate stations 115+00 and 119+00 (Reach 2B). The ditch will be filled to elevation 45 feet (NAVD88) minimum.
- A drain berm will be constructed along the landside levee toe between approximate stations 190+28 and 216+50 (2,622 linear feet in Reaches 4B and 4C). The berm will be approximately 18 feet wide, 2 feet high and will include a 1-foot thick sand layer.
- A stability berm will be constructed along the landside levee toe in Reach 5B between approximate stations 259+00 and 278+00 (1,900 linear feet). The stability berm will be approximately 10 feet high and 10 feet wide with a two-horizontal to one-vertical (2:1) side slope. The stability berm will include a 1-foot thick sand layer that will be placed along the levee slope and bottom of the stability berm and access road.

- Landside fill will be placed between approximate stations 286+00 and 300+00 (Reach 5D). The landside area adjacent to the levee toe will be filled to elevation 51 feet (NAVD88) minimum and will be sloped to drain surface runoff away from the levee.
- An 18-foot-wide toe access road will be placed between approximate stations 136+25 and 308+00 (17,175 linear feet) (Reach 3 to 5D). The toe access road will be located along the landside of the levee or the landside of the stability berm, will be a minimum of 2 feet high, and will be sloped to drain surface runoff away from the levee. The toe access road will include 6 inches of aggregate base.

4.1 – Proposed Project Schedule

An outline of TRLIA’s proposed construction schedule, pending USACE and Board approvals, is as follows:

Out to Bid	April 27, 2016
DWR EIP Funding Commitment	Anticipated by May 13, 2016
USACE 408 Decision on 19020-1 (by District)	Received May 12, 2016
Board Permit and Protest Hearing	May 20, 2016
Contract Bid Opening	May 27, 2016
Contract Award	June 7, 2016
Issue Notice to Proceed on 19020-1 work	June 24, 2016
June Board Meeting	June 24, 2016
USACE 408 ROD on 19020 (by HQ)	Anticipated late June, 2016
USACE 408 LOP on 19020 (by District)	Follows ROD
Mobilize Equipment	Not Later Than July 1, 2016
Construction Begins	Following mobilization
Issue Notice to Proceed on 19020 work	Follows LOP
Construction Ends	By October 31, 2016

EIP – Early Implementation Program
 LOP – Letter of Permission
 ROD – Record of Decision

5.0 – AUTHORITY OF THE BOARD

California Water Code, §§ 8534, 8590, 8610.5, and 8710

California Code of Regulations, Title 23, Division 1 (Title 23):

- § 6 - Need for a Permit
- § 12 - Protests
- § 13 - Evidentiary Hearings
- § 106 - Existing Encroachments
- § 112 - Streams Regulated and Nonpermissible Work Periods
- § 116 - Borrow and Excavation Activities – Land and Channel
- § 120 - Levees
- § 121 - Erosion Control
- § 130 - Patrol Roads and Access Ramps

Rivers and Harbors Act of 1899, Title 33 United States Code, § 408, hereafter referred to as Section 408

Memorandum of Understanding Respecting the Sacramento River Flood Control Project, November 30, 1953 (between USACE South Pacific Division and the State of California, acting by and through The Reclamation Board), and November 29, 1958 Supplement

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project are as follows and shall be incorporated into the respective permits by reference as Exhibits:

- For Application 19020 the USACE Headquarters Record of Decision (ROD) is not anticipated to be transmitted to Board staff through a Letter of Permission (LOP) from the USACE Sacramento District until sometime in June 2016. When received the staff will review and incorporate the USACE decision documents into the permit as Exhibit A.
- For Application 19020-1, the USACE Sacramento District LOP, dated May 10, 2016, was received on May 12, 2016. The LOP has been attached to this permit as Exhibit A and is incorporated by reference.

- Reclamation District (RD) 784 conditionally endorsed Application 19020 on May 5, 2015 and Application 19020-1 on May 6, 2015 (Attachment F). All RD endorsement conditions have been incorporated into the draft permits.
- DWR has partnered with TRLIA to achieve the goal of 200-year level of flood protection for the area protected by the Yuba River, Feather River and Bear River levee system. DWR has committed approximately \$40.4 million in State Proposition 1E Early Implementation Project funds to date to improve the Yuba River levee system. DWR intends to extend its partnership agreement with TRLIA through December 2017 to include the WPIC 200-Year Standard Project. The total construction cost of the WPIC 200-Year Standard Project is \$7.9 million and the State's cost share is 70 percent. DWR 100% plan review is scheduled to be completed by May 6, 2016 with its determination delivered to TRLIA the week of May 9, 2016.

7.0 – PROJECT ANALYSIS

Board staff has reviewed all supporting technical documents submitted by TRLIA including the project plans and drawings, and has determined that the proposed improvements will not be injurious to the public interest and will not impair the usefulness of the Sacramento River Flood Control Project (SRFCP). If, as stated by the Board staff in its June 1, 2015 letter to the USACE (Attachment G) for Application 19020 and 19020-1, upon completion of the proposed project, if the USACE formally incorporates the project into the SRFCP, the Board will adhere to the following:

- The State of California, acting through the Board, will accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works;
- Within 180 days of completion of the proposed alteration, the Board will provide information to the USACE for the purpose of preparing a revised Operation and Maintenance Manual for this portion of the SRFCP, and as-built Plans and Specifications for the alteration.

7.1 – Hydraulic Analysis

A HEC-RAS hydraulic model was prepared by MBK Engineers for the Feather-Yuba River system for determining the design water surface elevation (DWSE) and hydraulic top of the levee (HTOL) elevation. The DWSE is defined in the ULDC as the 200-year stage or water level used to design a levee or floodwall. The HTOL, as defined in the ULDC, is the lower of the 200-year water surface elevation plus 3 feet or the 500-year

water surface elevation. For the WPIC, the 500-year water surface elevation is lower than the 200-year water surface elevation plus 3 feet. All elevations in the hydraulic model reference the National Geodetic Vertical Datum 29 (NGVD 29).

The hydraulic model simulates the Feather River and its tributaries from below Oroville reservoir to its confluence with the Sacramento River. It also includes minor tributaries such as the Bear River, WPIC, and Honcut Creek. The hydraulic model was calibrated to the January 1997 flood event. Subsequent to the January 1997 flood, levee improvements including levee setbacks along the Feather and Bear Rivers were completed which have changed the levee configuration within the system. These changed levee configurations were added to the model.

The hydraulic model uses the hydrologic inputs from the Lower Feather River Floodplain Mapping Study (LFRMS) (USACE, 2005) as this is considered the most current hydrology for the study area. The hydrologic input datasets are based on the Sacramento and San Joaquin River Basins Comprehensive Study (Comp Study) (USACE 2002). The Comp Study contains 200-year and 500-year flood hydrographs and numerous hypothetical storm centerings. The storm centerings relied on historical storm patterns in the upstream basin to define the shape and magnitude of the flow contributions from each of the basins and were designed to stress the locations indicated by the centering name. The Feather River at Shanghai Bend storm centering was found to have the most impact on the flood protection system in the vicinity of RD 784, and is appropriate for this study area.

The top of levee elevation profiles are represented in the model with lateral weirs. As per ULDC, the use of lateral weirs allows water to overtop the levee and leave the channel if the water surface elevation exceeds the top of levee elevation. Also as per ULDC, modeled levees are not allowed to fail. Revised lateral weirs were incorporated into the model for the Sutter Bypass, Wadsworth Canal, Feather River, Bear River and the WPIC. The top of levee elevations were obtained from the Feather River West Levee Project (FRWLP) hydraulic model and based on the USACE National Levee Database (NLD).

Modified Manning's roughness coefficient was entered into the original hydraulic model to account for the revised planting plan for the Bear River setback levee project. Downstream of State Route 70, on the Bear River right bank for approximately 4,000 feet, grasses were planted and represented in the model with a 0.035 roughness value. The original planting plan had called for shrubs with scattered trees in this area which was represented with a 0.06 roughness value (MBK, 2006). For the Feather River setback, the design roughness coefficient of 0.10 was used in the model. The Feather

River setback is approximately 1,600 acres and was designed to have vegetation consisting of dense trees (MBK 2008). Vegetation enhancement of the setback levee has not yet occurred. The final habitat planting plan for the setback is likely to be a mosaic of vegetation types thus having a lower roughness coefficient than the design roughness coefficient. However, for the determination of the DWSE and HTOL, the design roughness coefficient of 0.10 was used in the Feather River setback offset area, which would provide a conservatively high water surface elevation based on simulations with lower roughness coefficients.

The water surface elevations in this study are based on routing hydrologic inputs from LFRMS through the HEC-RAS Model. The DWSE and HTOL elevations were not adjusted for sea level rise or superelevation as there would be no impact due to location and configuration, respectively. Although no adjustments to climate change were made in the model, the geotechnical analyses incorporated an addition of 1 foot as discussed in Section 7.2 below. Summary tables and plots with all of the above-noted data (200-year water surface elevations, HTOL elevations, and 500-year water surface elevations) are provided in Attachment H. The DWSE and HTOL for the WPIC are also presented in Attachment H. The level water surface elevation in Attachment H is due to backwater effects controlling the water surface elevation in the WPIC.

The proposed improvements under Application 19020-1 are located on the landside of the levee, and the improvements under Application 19020 include installation of three cutoff walls along the levee centerline. There are no proposed changes to the waterside geometry or to the height of the levee. Following installation of the cutoff walls, the levee will be restored to its pre-construction geometry and will therefore not affect the waterside geometry or height of the levee. Since there are no changes to the waterside or crown geometry, there are no changes to the hydraulics of the channel, and therefore, no hydraulic impact analysis was performed. The proposed improvements remediating seepage and stability deficiencies were designed using a ULDC DWSE of 59.2 ft NGVD29 as documented in MBK Engineers' Technical Memorandum Subject: 200-year Design Water Surface Elevation in Western Pacific Interceptor Canal dated May 14, 2014. Attachment H was extracted from Appendix C of this Technical Memorandum.

7.2 – Geotechnical Analysis

For levee geotechnical analysis, the foremost requirements are the DWSE and HTOL elevations. In the analyses, the DWSE corresponds to the 200-year flood event and the HTOL corresponds to the lower of the 500-year flood event or the 200-year flood event plus three (3) feet. For the WPIC west levee, the 500-year flood event resulted in a

lower water surface than the 200-year flood event plus three (3) feet. Therefore, the 500-year flood event was used for the HTOL. An additional one (1) foot was added to the DWSE for the purposes of geotechnical evaluations during the remediation alternative analysis to allow remediation alternatives to be geotechnically more resilient in consideration of climate change and any uncertainties in the hydrologic/hydraulic analyses.

To aid in the geotechnical evaluation, the WPIC west levee was divided into a total of 17 reaches that have similar characteristics and conditions. The following geotechnical analyses were performed to investigate the condition of the existing levee reaches as well as with the proposed remediation measures for Reaches that do not meet the ULDC for existing conditions. The analyses include 1) Underseepage, 2) Through-Seepage, 3) Steady-State Slope Stability, 4) Rapid Drawdown Slope Stability, and 5) Seismic Vulnerability. The evaluation was performed for both DWSE and HTOL. Based on the geotechnical evaluation, seven (7) of the 17 reaches were determined not to meet the ULDC. The reaches that did not meet ULDC were 1B, 2B, 3, 4B, 4E, 5B, and 5D. These reaches were then analyzed with the adopted mitigation measures to meet the ULDC.

A liquefaction assessment was completed in accordance with Idriss and Boulanger (2008). Based on the ULDC, the mean summer and winter WSEs were used for the liquefaction assessment. Seismic loading for the study area was estimated using the United States Geologic Survey (USGS) Next Generation Attenuation website (<http://geohazards.usgs.gov/hazardtool/>) and the hazard maps presented by URS in 2011. These hazard maps were used to calculate the peak ground acceleration needed to run the liquefaction assessment.

Based on the liquefaction assessment, the WPIC west levee has been generally classified as non-liquefiable for the 200-year return period ground shaking. Any seismically induced settlement of the levee will be minimal and placement of additional material should not be required to restore the levee crown elevation to maintain a 10-year flood event WSE.

No settlement analysis was performed as an additional settlement is not anticipated as part of the proposed levee remediation.

7.3 – Project Benefits

The WPIC improvements, as proposed by TRLIA, are expected to provide the following benefits:

- Remediation of current geotechnical deficiencies related to seepage and slope stability along the WPIC west levee
- Brings the entire WPIC west levee into compliance with the ULDC, and provides a 200-year level of flood protection to the surrounding area
- Consistency with the 2012 Adopted Central Valley Flood Protection Plan and associated Sacramento River basin-wide planning efforts
- Consistency with the California Water Action Plan

8.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board, as a Responsible Agency under CEQA, has reviewed the Initial Study, Mitigated Negative Declaration (IS/MND) (SCH No. 2015062074, June 2015) and Mitigation Monitoring and Reporting Program (MMRP) for the Western Pacific Interceptor Canal 200-Year Standard Project, prepared by the lead agency, TRLIA. These documents, including project design and the Mitigation Monitoring and Monitoring Plan, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2016/05-20-2016.cfm> under a link for this agenda item. The documents are also available for review in hard copy at the Board and TRLIA offices.

TRLIA determined that the project would not have a significant effect on the environment, adopted Resolution 2016-05 on April 5, 2016, and subsequently filed a Notice of Determination on April 6, 2016 with the State Clearinghouse. Board staff finds the proposed project will not have a potentially significant effect on the environment because TRLIA, as lead agency, has required mandatory mitigation measures that will mitigate all potentially significant impacts to less than significant. These mandatory mitigation measures have been incorporated into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's MMRP and address impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and transportation and circulation. The description of the mitigation measures is further described in the adopted MMRP.

The documents and other materials which constitute the record of the Board's proceedings in this matter are in the custody of the Executive Officer, Central Valley

Flood Protection Board, 3310 El Camino Ave., Suite 170, Sacramento, California 95821.

9.0 – REAL ESTATE CONSIDERATIONS

The landside fill footprint is contained within the 50-foot wide acquisition area located on a public property which is being acquired by TRLIA, or on public property. In cases where an in-fee acquisition of private property will not be completed by the start of construction, TRLIA is securing access to the property for construction while negotiations continue for acquisition. Access to three private properties is required for construction; access to one has been secured. TRLIA expects to secure access to the remaining two in May, 2016. Reach 2B is landward of the Union Pacific Railroad (UPRR) on property owned by Yuba County. TRLIA has secured rights from the County for construction at Reach 2B. Reach 4B and 4C are located on SSJDD property, rights to which will be provided as part of the proposed permit.

Construction of the cutoff wall in Reach 1B requires permission from UPRR since the railroad and levee embankments are shared. TRLIA is currently working with UPRR to execute an access agreement. TRLIA anticipates this agreement will be in place by late May or early June 2016.

Rights to construct the Reach 3 and Reach 4E cutoff walls are also contained within the 50-foot wide acquisition area being secured by TRLIA. Construction rights to Reach 4E (Latigo) have been secured. TRLIA anticipates acquisition of Reach 3 rights will be completed in May or June 2016.

10.0 – CALIFORNIA WATER CODE SECTION 8610.5 CONSIDERATIONS

- Evidence that the Board admits into its record from any party, Federal, State or local public agency, or nongovernmental organization with expertise in flood or floodplain management:

The Board has considered all available evidence, including permit applications 19020 and 19020-1, supporting technical documents provided by TRLIA, comments and endorsements from the relevant agencies, a protest letter and TRLIA's response, analyses presented in the final IS/MND (SCH No. 2015062074, June 2015), the MMRP, and the TRLIA findings, as well as all other evidence submitted up to the date of the decision on the WPIC 200-year Standard Project.

- The best available science related to the scientific issues presented by the Board, the applicant/permittee, legal counsel, DWR, or other parties that raise credible scientific issues:

In making its findings, the Board has used the best available science for the scope of the proposed work, while analyzing the issues related to the proposed project. All analyses provided in this report adhere to current industry standards and methods, and the project is compliant with State and Federal standards.

- Effects of the decision on the facilities of the State Plan of Flood Control (SPFC), and consistency of the proposed project with the Central Valley Flood Protection Plan (CVFPP) as adopted by Board Resolution 2012-25 on June 29, 2012:

The proposed project is expected to result in no adverse impacts on facilities of the State Plan of Flood Control, and is consistent with the adopted 2012 Central Valley Flood Protection Plan and current Title 23 standards because the proposed project is predicted to result in no increase in water surface elevations or channel velocities, and no adverse geotechnical impacts to SPFC facilities.

- Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

Based on the best available information, the proposed system alterations are not anticipated to be impacted by any reasonable projected future events, including, but not limited to changes in hydrology, climate, and development within the watershed. For the purpose of geotechnical evaluations during the remediation alternative analysis, an additional one (1) foot was added to the DWSE to allow remediation alternatives to be geotechnically more resilient in consideration of climate change and any uncertainties associated with the hydrologic/hydraulic analyses.

11.0 – PROTEST CONSIDERATION

Board staff and TRLIA received a protest letter (Attachment I) dated December 23, 2015, from Churchwell White LLP on behalf of Latigo Farms LLC, Marysville, California. The letter protested both Applications 19020 and 19020-1. The Protestors own two parcels (APN 014-360-011 and 014-360-013) within or adjacent to the proposed project footprint (see the last map in Attachment A).

Included in the protest were claims that:

- TRLIA had not provided a full project description including potential impacts;
- The project would negatively impact the surrounding environment, property values, water quality, and water supply; and

- The project could increase the risk of flooding on the subject parcels.

Board staff determined that the protest was submitted pursuant to Title 23, § 12 and included a claim of flood control concerns.

TRLIA prepared a detailed response (Attachment J) to the protest dated February 1, 2016.

Based on the staff's independent review and analysis of the protest and TRLIA's response, Board staff has determined that the protest concerns have been adequately addressed by the CEQA Initial Study/Mitigated Negative Declaration. Board staff has further determined that the primary purpose of the proposed project is to reduce the risk of flooding to the area west of the WPIC through the remediation of seepage and stability deficiencies. The remediation measures do not alter the levee height or waterside geometry of the channel; therefore, the project will result in no changes to water surface elevations in the WPIC. Furthermore, prior construction of the Bear River levee setback project, an earlier phase of TRLIA's levee improvement program, reduced water surface elevations in the Bear River and WPIC through the creation of a levee setback which enlarged the Bear River floodway. Thus, the cumulative effect of the previously constructed improvements and the improvements proposed herein will result in reduced flood risk to the area west of the WPIC by achieving a 200-year level of flood protection pursuant to the ULDC.

12.0 – STAFF RECOMMENDATION

Board staff has determined that the proposed projects are consistent with the adopted CVFPP, and are not injurious to the SRFPP, and provide an overall betterment to reduce the risk of flooding in the protected area. Staff therefore recommends that the Board:

Adopt (in substantially the form provided):

- The CEQA findings and Resolution 2016-09 (Attachment B)

Approve:

- Draft Flood System Alteration Permit 19020 (Attachment C), in substantially the form provided, and conditioned upon receipt, review and incorporation of the anticipated USACE Letter of Permission with Record of Decision;

- Draft Flood System Alteration Permit 19020-1 (Attachment D), in substantially the form provided.

Delegate Authority to the Executive Officer to:

- Make non-substantive changes to the draft permits if needed, or to incorporate the anticipated USACE decision for Permit 19020;
- Issue technical construction variances as needed to incorporate requested design changes due to unanticipated field conditions that may be encountered during construction.

Direct the Executive Officer to:

- Take the necessary actions to issue Permits 19020 and 19020-1;
- Prepare and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

13.0 – LIST OF ATTACHMENTS

A – Project Maps

B – Board Resolution 2016-09

C – Draft Permit 19020

Exhibit A: USACE 408 LOP with R (anticipated in June 2016)

D – Draft Permit 19020-1

Exhibit A: USACE 408 Letter of Permission, May 10, 2016

E – Project Drawings

F – RD 784 Endorsements

G – 408 Request Letters for Application Nos. 19020 and 19020-1

H – Hydraulic Analyses Results

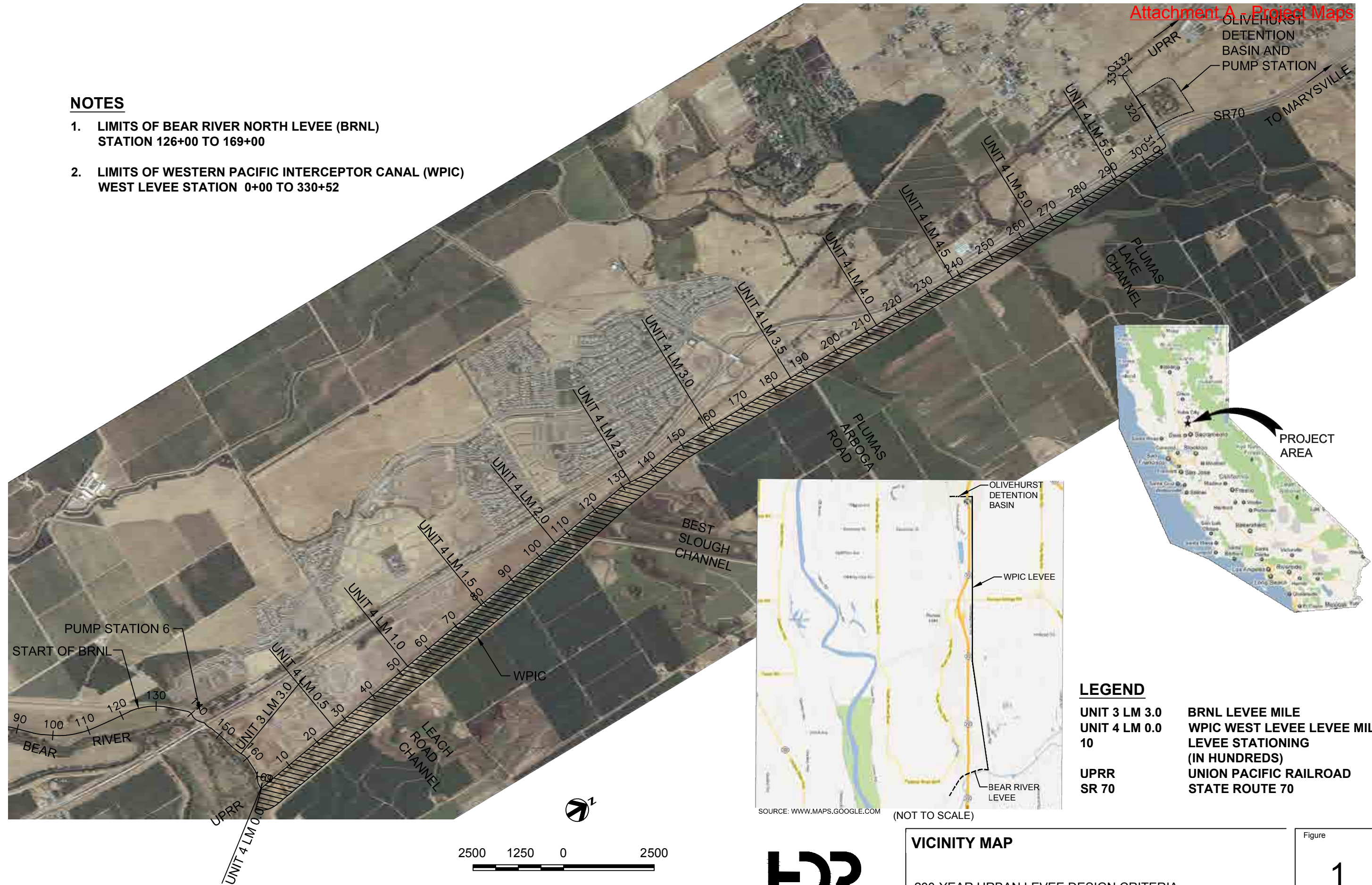
I – Protest Letter

J – TRLIA Response to Protest

Prepared By: Deb Biswas, PhD, PE, Engineer, WR
Environmental Review: Andrea Buckley, Acting Chief, Environmental Services and Land Management Branch
Staff Report Review: Eric Butler, PE, Chief, Plan Implementation and Compliance Branch
Kanwarjit Dua, Board Counsel
Leslie Gallagher, Executive Officer

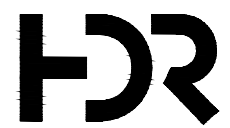
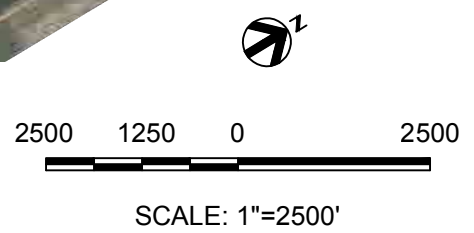
NOTES

1. LIMITS OF BEAR RIVER NORTH LEVEE (BRNL)
STATION 126+00 TO 169+00
2. LIMITS OF WESTERN PACIFIC INTERCEPTOR CANAL (WPIC)
WEST LEVEE STATION 0+00 TO 330+52

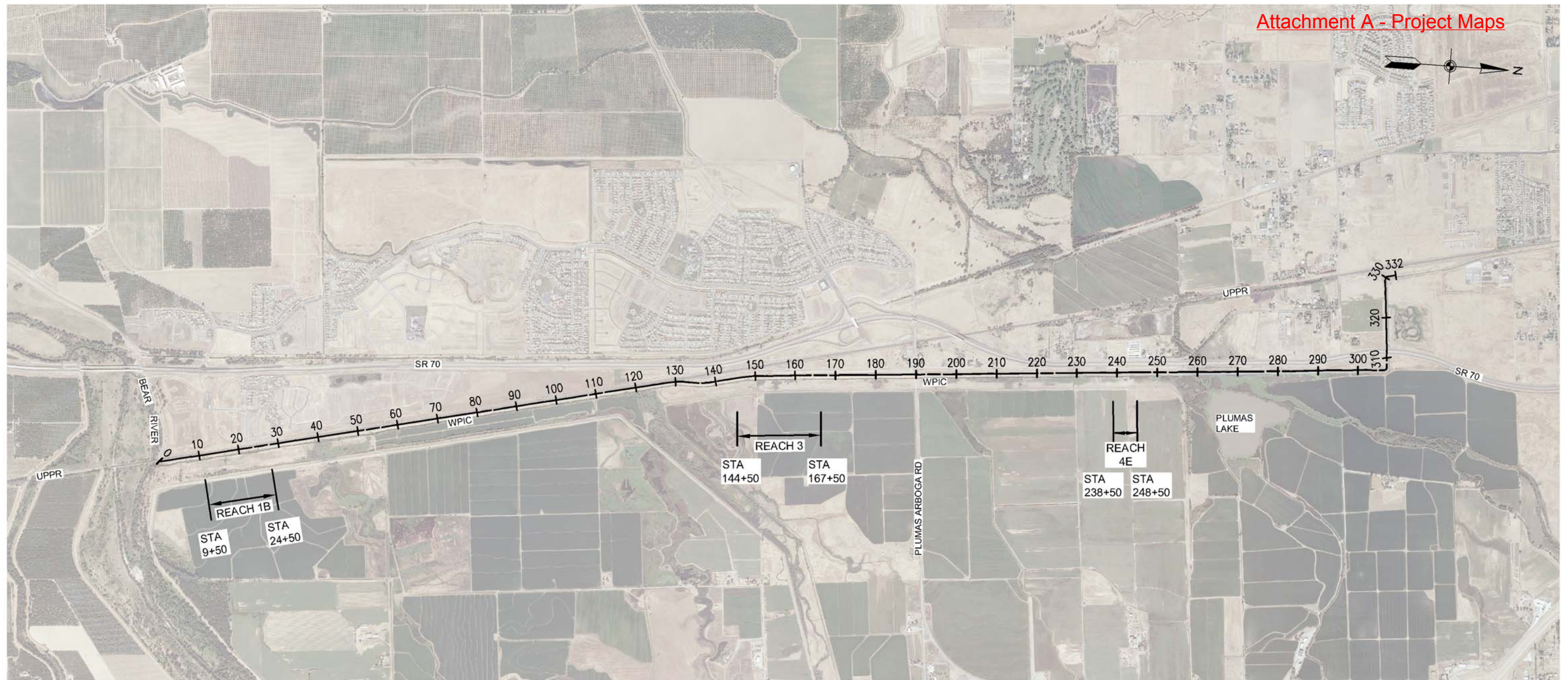


LEGEND

UNIT 3 LM 3.0	BRNL LEVEE MILE
UNIT 4 LM 0.0	WPIC WEST LEVEE LEVEE MILE
10	LEVEE STATIONING (IN HUNDREDS)
UPRR	UNION PACIFIC RAILROAD
SR 70	STATE ROUTE 70



VICINITY MAP
200-YEAR URBAN LEVEE DESIGN CRITERIA
BEAR RIVER NORTH LEVEE AND WPIC WEST LEVEE
YUBA COUNTY, CALIFORNIA

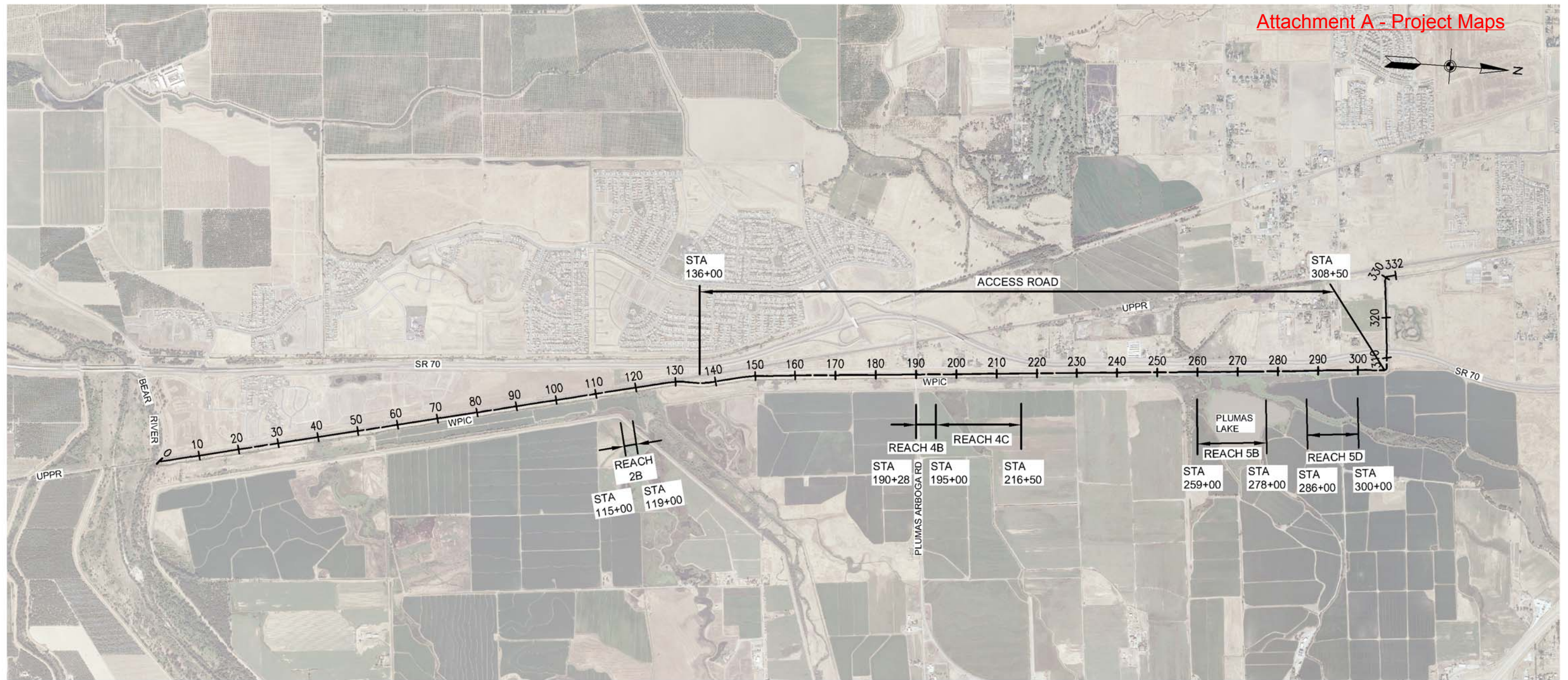


SCALE: NTS



VICINITY MAP CVFPB Permit No. **19020**
WESTERN PACIFIC INTERCEPTOR CANAL
 TRLIA 200-YEAR URBAN LEVEE CRITERIA COMPLIANCE
 YUBA COUNTY, CA

Date	AUGUST 2014
Figure	1



SCALE: NTS

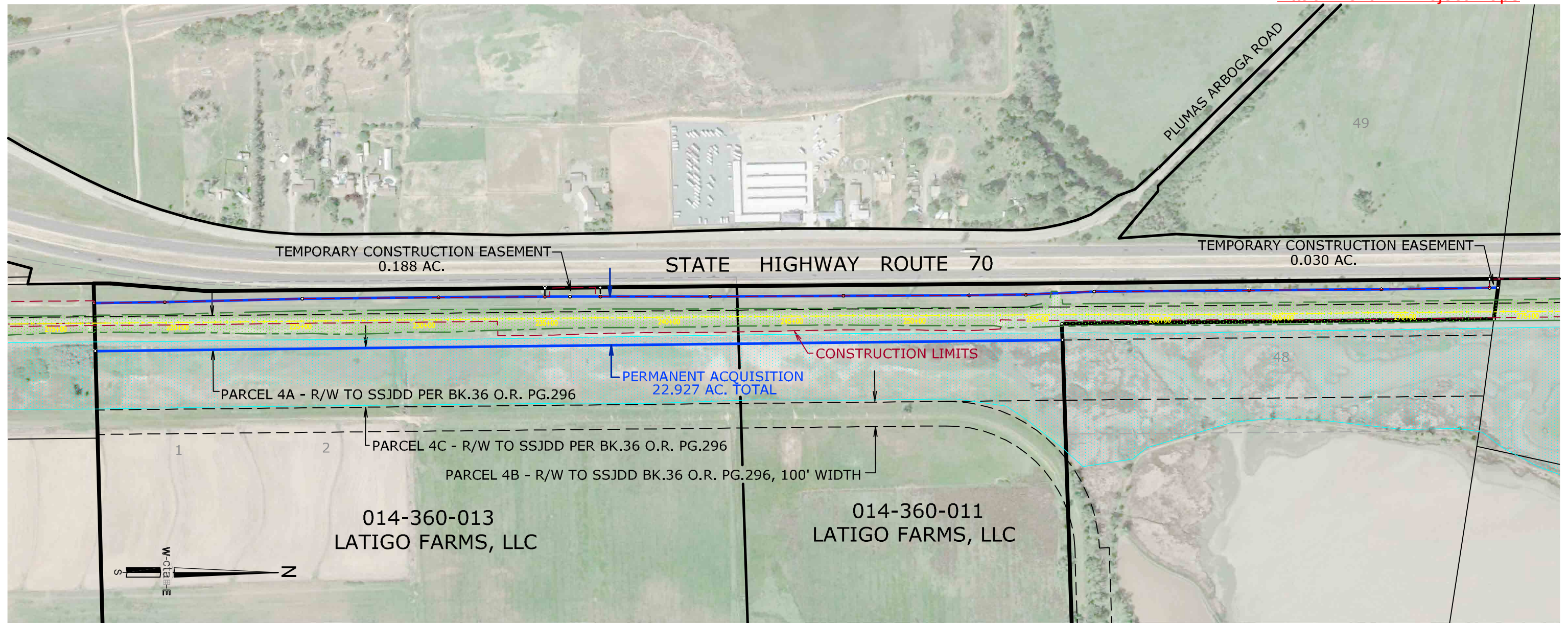


VICINITY MAP CVFPB Permit No. 19020-1

TRLIA 200-YEAR URBAN LEVEE CRITERIA COMPLIANCE
YUBA COUNTY, CA

Date
AUGUST 2014

Figure
2



EXISTING LEVEE



APPROXIMATE CHANNEL LIMITS

EXHIBIT DEPICTING T.R.L.I.A. ACQUISITIONS
FROM

LATIGO FARMS, LLC PROPERTY

ASSESSOR'S PARCEL NO.'S 014-360-013 & 014-360-011 COUNTY OF YUBA STATE OF CALIFORNIA

GRAPHIC SCALE



(IN FEET)
1 inch = 400 ft.

**STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD**

DRAFT RESOLUTION 2016-09

**FINDINGS AND DECISION AUTHORIZING ISSUANCE OF
FLOOD SYSTEM ALTERATION PERMITS 19020 AND 19020-1**

**THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
WESTERN PACIFIC INTERCEPTOR CANAL
200-YEAR STANDARD PROJECT, YUBA COUNTY**

WHEREAS, the Three Rivers Levee Improvement Authority (TRLIA), a joint powers agency was established in May 2004 by the County of Yuba and Reclamation District 784 to finance and construct levee improvements in south Yuba County, with a mission to provide 200-year flood protection to lands protected by State Plan of Flood Control facilities along the Yuba, Feather, and Bear Rivers and the Western Pacific Interceptor Canal (WPIC); and

WHEREAS, the project area is located in southern Yuba County, south of Olivehurst and immediately east of State Route 70. The WPIC west levee is approximately 6 miles long and extends north from the Bear River North Levee (Station 0+00) to approximately Station 307+00, where it turns west, and forms the southern levee of the Olivehurst Detention Basin west of State Route 70; the levee then turns north to Station 332+00 on the west side of the detention basin; and

WHEREAS, TRLIA has proposed to alter the WPIC west levee to bring the entire WPIC west levee into compliance with the California Department of Water Resources' (DWR) Urban Levee Design Criteria (ULDC) to provide a "200-year" level of flood protection in the area; and

WHEREAS, the proposed project is referred to as the WPIC 200-Year Standard Project; and

WHEREAS, TRLIA submitted Application 19020 dated April 13, 2015 to the Central Valley Flood Protection Board (Board) in which TRLIA has proposed the following improvements:

- A soil-cement-bentonite cutoff wall constructed between approximate stations 9+50 and 24+50 (1,500 linear feet) in Reach 1B using the Deep Mix Method (DMM);
- A conventional cutoff wall constructed between approximate stations 144+50 and 167+50 (2,300 linear feet) in Reach 3;
- A conventional cutoff wall constructed between approximate stations 238+50 and 248+50 (1,000 linear feet) in Reach 4E; and

WHEREAS, TRLIA submitted Application 19020-1 dated April 13, 2015 to the Board in which TRLIA has proposed the following improvements:

- Landside ditch fill placed between approximate stations 115+00 and 119+00 in Reach 2B;
- A drain berm constructed along the landside levee toe between stations 190+28 and 216+50 (2,622 linear feet) in Reaches 4B and 4C;
- A stability berm constructed along the landside levee toe between stations 259+00 and 278+00 (1,900 linear feet) in Reach 5B;
- Landside fill placed between approximate stations 286+00 and 300+00 (Reach 5D);;
- An 18-foot-wide toe access road between approximate stations 136+25 and 308+00 (17,175 linear feet) in Reaches 3 to 5D; and

WHEREAS, TRLIA as lead agency under the California Environmental Quality Act, Public Resources Code sections 21000 et seq. (“CEQA”) prepared an Initial Study (IS)/Mitigated Negative Declaration (MND) on the proposed WPIC 200-Year Standard Project (SCH No. 2015062074, June 2015), and a Mitigation Monitoring Reporting Program (MMRP) (incorporated herein by reference and available at Board or TRLIA offices); and

WHEREAS, based on the Initial Study, TRLIA determined that the Project would have potentially significant or significant impacts on air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and transportations and circulation, but mitigation measures are proposed to reduce these effects to less-than-significant; and

WHEREAS, pursuant to CEQA Guidelines Section 15073 and 15105, TRLIA provided a review period for the IS/MND from June 25, 2015 to July 24, 2015, and agency comments have been incorporated into the final IS/MND in accordance with CEQA Guidelines; and

WHEREAS, TRLIA determined that the project would not have a significant effect on the environment and adopted Resolution 2016-05 on April 5, 2016 and filed a Notice of Determination with the Yuba County Clerk and State Clearinghouse on April 6, 2016; and

WHEREAS, Reclamation District (RD) 784 has conditionally endorsed Application 19020 on May 5, 2015 and Application 19020-1 on May 6, 2015. Board staff has incorporated all RD endorsement conditions into the draft permits; and

WHEREAS, for Application 19020 the USACE Headquarters Record of Decision (ROD) is not anticipated to be transmitted to Board staff through a Letter of Permission (LOP) from the USACE Sacramento District until sometime in June 2016; and

WHEREAS, when the USACE ROD is received the Board staff will review and incorporate the USACE ROD and LOP into permit 19020 as Exhibit A; and

WHEREAS, for Application 19020-1, the USACE Sacramento District LOP, dated May 10, 2016, was received on May 12, 2016; and

WHEREAS, the LOP has been attached to the Permit 19020-1 as Exhibit A and is incorporated by reference; and

WHEREAS, DWR has partnered with TRLIA to achieve the goal of 200-year level of flood protection for the area protected by the Yuba River, Feather River and Bear River levee system, and has committed approximately \$40.4 million in State Proposition 1E Early Implementation Project funds to date to improve the system, and the total construction cost of the WPIC 200-Year Standard Project is \$7.9 million with a State cost share of 70 percent; and

WHEREAS, DWR intends to extend its partnership agreement with TRLIA through December 2017 to include the WPIC 200-Year Standard Project, and DWR 100% plan review is scheduled to be completed by May 6, 2016 with its determination delivered to TRLIA the week of May 9, 2016; and

WHEREAS, TRLIA will secure all necessary property access rights prior to construction; and

WHEREAS, the Board staff and TRLIA received a protest letter dated December 23, 2015, from Churchwell White LLP on behalf of Latigo Farms LLC, Marysville, California. The letter protested both Applications 19020 and 19020-1. The Protestors own two parcels (APN 014-360-011 and 014-360-013) within or adjacent to the proposed project footprint; and

WHEREAS, the Board staff has reviewed all supporting technical documents submitted by TRLIA including the project plans and drawings, and has determined that the proposed improvements will not be injurious to the public interest and will not impair the usefulness of the Sacramento River Flood Control Project (SRFCP). If, as stated by the Board staff in its June 1, 2015 letters to the USACE for Applications 19020 and 19020-1, upon completion of the proposed project, if the USACE formally incorporates the project into the SRFCP, the Board will adhere to the following:

- The State of California, acting through the Board, will accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works;
- Within 180 days of completion of the proposed alteration, the Board will provide information to the USACE for the purpose of preparing a revised Operation and Maintenance Manual for this portion of the SRFCP, and as-built Plans and Specifications for the alteration; and

WHEREAS, the Board has conducted a public hearing on May 20, 2016 to consider approval of Permit Applications 19020 and 19020-1, and has reviewed the Staff Report and Attachments, the documents and correspondence in its files, and the environmental documents prepared by TRLIA.

NOW, THEREFORE, BE IT RESOLVED THAT,

Findings of Fact

1. The Board hereby adopts as findings the facts set forth in the Staff Report.

2. The Board has reviewed all Attachments, Exhibits, Figures, and References listed in the Staff Report.

CEQA Findings

3. The Board, as a responsible agency under CEQA, has independently reviewed the analyses in the IS/MND on the WPIC 200-year levee improvement project (SCH No. 2015062074, June 2015), the MMRP on the WPIC 200-year levee improvement project, and the TRLIA findings, and has reached its own conclusions regarding them.
4. The Board finds that TRLIA has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the TRLIA's MMRP and address impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and transportations and circulation. The description of the mitigation measures is further described in the adopted IS/MND.
5. The Board, after consideration of the IS/MND, and MMRP findings, adopts the project description, analysis, and findings which are relevant to activities authorized by issuance of Encroachment Permits 19020 and 19020-1 for the WPIC 200-Year Standard Project.
6. **Custodian of Record.** The custodian of the CEQA record for the Board is its Executive Officer, 3310 El Camino Avenue, Suite 170, Sacramento, California 95821. These documents may be viewed or downloaded from the Board website at <http://cvfpb.ca.gov/meetings/2016/05-20-2016.cfm> on the May 20, 2016 Board meeting page. The documents are also available for review in hard copy at the Board and TRLIA offices.

Considerations pursuant to Water Code section 8610.5

7. **Evidence Admitted into the Record.** The Board has considered all available evidence, including permit applications 19020 and 19020-1, supporting technical documents provided by TRLIA, comments and endorsements from the relevant agencies, a protest letter and TRLIA's response, analyses presented in the final IS/MND (SCH No. 2015062074, June 2015), the MMRP, and the TRLIA findings, as well as all other evidence submitted up to the date of the decision on the WPIC 200-year Standard Project.

The custodian of the file is the Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Avenue, Suite 170, Sacramento, California 95821.

8. **Best Available Science.** In making its findings, the Board has used the best available science for the scope of the proposed work, while analyzing the issues related to the proposed project. All analyses provided in this report adhere to current industry standards and methods, and the project is compliant with State and Federal standards.
9. **Effects of the Proposed Decision on the State Plan of Flood Control.** The proposed project is expected to result in no adverse impacts on facilities of the State Plan of Flood

Control, and is consistent with the adopted 2012 Central Valley Flood Protection Plan and current Title 23 standards because the proposed project is predicted to result in no increase in water surface elevations or channel velocities, and no adverse geotechnical impacts to State Plan of Flood Control facilities.

10. **Effects of Reasonably Projected Future Events.** Based on the best available information, the proposed system alterations are not anticipated to be impacted by any reasonable projected future events, including, but not limited to changes in hydrology, climate, and development within the watershed. For the purpose of geotechnical evaluations during the remediation alternative analysis, an additional one (1) foot was added to the DWSE to allow remediation alternatives to be geotechnically more resilient in consideration of climate change and any uncertainties associated with the hydrologic/hydraulic analyses.

Other Findings/Conclusions regarding Issuance of the Permits

11. Based on the foregoing and particularly on the evidence that the WPIC 200-Year Standard Project reduces the risk of life and property damages from a 200-year flood, the Board finds and concludes that issuance of flood system alteration permits 19020 and 19020-1:
- will result in an overall betterment to the SRFCP and State Plan of Flood Control facilities,
 - are consistent with the CVFPP and California Water Action Plan,
 - will not be injurious to the public interest, and
 - will not impair the usefulness of the SRFCP.
12. Based on the Board staff's independent review and analysis of the protest and TRLIA's response, the Board finds that the flood control concerns of the protestors have been adequately addressed by the CEQA Initial Study/Mitigated Negative Declaration.
13. The Board has further determined that the primary purpose of the proposed project is to reduce the risk of flooding to the area west of the WPIC through the remediation of seepage and stability deficiencies. The remediation measures do not alter the levee height or waterside geometry of the channel; therefore, the project will result in no changes to water surface elevations in the WPIC. Furthermore, prior construction of the Bear River levee setback project, an earlier phase of TRLIA's levee improvement program, reduced water surface elevations in the Bear River and WPIC through the creation of a levee setback which enlarged the Bear River floodway. Thus, the cumulative effect of the previously constructed improvements and the improvements proposed herein will result in reduced flood risk to the area west of the WPIC by achieving a 200-year level of flood protection pursuant to the ULDC.
14. This resolution shall constitute the written decision of the Board in the matter of Permits 19020 and 19020-1.

Approval of Flood System Alteration Permits 19020 and 19020-1

15. Based on the foregoing, the Board adopts the CEQA findings and Resolution 2016-09.
16. The Board hereby approves flood system alteration permit 19020, in substantially the form provided by the Board staff at the May 20, 2016 meeting of the Board, conditioned upon receipt, review and incorporation of the anticipated USACE Letter of Permission and Record of Decision.
17. The Board hereby approves flood system alteration permit 19020-1, in substantially the form provided by the Board staff at the May 20, 2016 meeting of the Board.
18. The Board delegates authority to the Executive Officer to make non-substantive changes to the draft permits if needed, or to incorporate the anticipated USACE decision for Permit 19020.
19. The Board delegates authority to the Executive Officer to issue technical construction variances as needed to incorporate requested design changes due to unanticipated field conditions that may be encountered during construction.
20. The Board directs the Executive Officer to take the necessary actions to issue Flood System Alteration Permits 19020 and 19020-1, and to prepare and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

PASSED AND ADOPTED by vote of the Board on _____, 2016

William H. Edgar
President

Jane Dolan
Secretary

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19020 BD

This Permit is issued to:

Three Rivers Levee Improvement Authority
1114 Yuba Street, Suite 218
Marysville, California 95901

The work includes installation of 1) a Deep Mix Method cutoff wall between approximate stations 9+50 and 24+50 (Reach 1B) approximately 66 feet deep; 2) a conventional cutoff wall between approximate stations 144+50 and 167+50 (Reach 3) approximately 46-50 feet deep; and 3) a conventional cutoff wall between approximate stations 238+50 and 248+50 (Reach 4E), approximately 46-50 feet deep.

The project is located along the west levee of the Western Pacific Interceptor Canal. (Section 4,9,16/ 21,28,33, T13N14, R4E, MDB&M, Reclamation District 784, Western Pacific Interceptor Canal, Yuba County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the

permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19020 BD

LIABILITIES / INDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board (Board) and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act (CEQA). The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability and shall defend, indemnify, and hold the Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board, Department of Water Resources (DWR), and Reclamation District 784 (RD 784) shall not be held liable for damages to the permitted project resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

BOARD CONTACTS

SIXTEEN: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

PERMITTING AND AGENCY CONDITIONS

SEVENTEEN: The permittee shall comply with all conditions set forth in the Record of Decision and Letter of Permission from the U.S. Army Corps of Engineers, Sacramento District dated May XX, 2016, which is attached to this permit as Exhibit A and is incorporated by reference.

EIGHTEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

NINETEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

TWENTY: Permittee shall pay to the Board, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the Board.

REAL ESTATE

TWENTY-ONE: Prior to construction, the permittee shall have obtained all required access rights to all property where work is to be performed under this permit.

TWENTY-TWO: The permittee shall secure from the owner(s) of the property a permanent easement granting the Sacramento and San Joaquin Drainage District, acting by and through the Board, the flood control rights over that portion of the existing or to-be-constructed levee (including the areas parallel to and extending 50 feet from the waterward and landward toes of the levee) which is not presently encumbered by a Board easement.

PRE-CONSTRUCTION

TWENTY-THREE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

TWENTY-FOUR: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the existing site conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or licensed civil engineer registered in the State of California and submitted to the Board within thirty (30) calendar days of beginning the project.

CONSTRUCTION

TWENTY-FIVE: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Board.

TWENTY-SIX: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Board.

TWENTY-SEVEN: All addenda and contract change orders made to the approved plans and / or specifications by the permittee after Board approval of this permit shall be submitted to the Board's Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include all supplemental plans, specifications, and necessary supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agencies when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

TWENTY-EIGHT: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15, and shall be removed after completion of the project.

TWENTY-NINE: All debris generated by this project shall be disposed of outside of the Western Pacific Interceptor Canal floodway.

THIRTY: Fill material shall have 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50; and shall be free of stones or lumps exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

THIRTY-ONE: All fill materials shall be placed in four to six inch layers and compacted to a relative compaction of not less than 90 percent per ASTM D 1557-91 or 97 percent per ASTM D 698-91 above optimum moisture content. Fill material within two feet of the bridge shall be compacted by appropriate hand operated compaction equipment. Field density tests shall be taken by a certified soils laboratory to verify compaction of the fill placed.

THIRTY-TWO: The permittee shall be responsible for all damages due to any construction-induced activities.

THIRTY-THREE: During construction of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the

attention of the Flood Project Inspector immediately and prior to continuation. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Board's inspector.

THIRTY-FOUR: The haul ramps and utilized levee crown roadway shall be maintained in a manner prescribed by the authorized representative of the Board, Reclamation District No. 784 or any other agency responsible for maintenance.

THIRTY-FIVE: Any damage to the access ramps or levee crown roadway that will be used for access to this project shall be promptly repaired to the condition that existed prior to this project.

THIRTY-SIX: All fencing, gates and signs removed during construction of this project shall be replaced in kind and at the original locations. If it is necessary to relocate any fence, gate or sign, the permittee is required to obtain written approval from the Board prior to installation at a new location.

THIRTY-SEVEN: All temporary fencing, gates and signs shall be removed upon completion of the project.

THIRTY-EIGHT: All drains and abandoned conduits shall be removed from the site prior to levee construction.

THIRTY-NINE: All holes, depressions, and ditches in the foundation area shall be stripped of surface vegetation to a depth of 6-inches. Organic soil and roots greater than 1-1/2 inches shall be removed to a depth of 3 feet. Backfill material shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91.

FORTY: Ditches, power poles, standpipes, distribution boxes, and any other aboveground structures located within 50 feet of the waterward or landward levee toes shall be relocated a minimum distance of 50 feet beyond the levee toes.

FORTY-ONE: Prior to construction, all areas to receive fill shall have surface vegetation removed to a depth of 6 inches. Organic soil and roots greater than 1-1/2 inches in diameter shall also be removed to a depth of 3 feet.

FORTY-TWO: Density tests by a certified soils laboratory will be required to verify compaction of levee fill and trench backfill.

FORTY-THREE: Fill on the levee slope shall be keyed into the existing levee section with each lift.

FORTY-FOUR: Excess bentonite or other drilling fluids shall be properly disposed of outside of the floodway. The bentonite or other drilling fluids shall not be used as backfill.

FORTY-FIVE: The levee crown roadway and access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

FORTY-SIX: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

VEGETATION / ENVIRONMENTAL MITIGATION

FORTY-SEVEN: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

FORTY-EIGHT: Trees, brush, sediment, and other debris shall be kept cleared from the site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

FORTY-NINE: No further work, other than that covered by this application, shall be performed in the area without prior approval of the Board.

FIFTY: The permittee shall replant or reseed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

FIFTY-ONE: Trees removed from the floodway shall have their root systems removed and disposed of outside the floodway. All voids created by tree removal shall be backfilled and compacted to at least the density of the adjacent, firm, undisturbed material.

POST-CONSTRUCTION

FIFTY-TWO: The work area shall be restored to the condition that existed prior to start of work.

FIFTY-THREE: Within 120 days of completion of the project, the permittee shall submit to the Board as-built drawings and a certification report, stamped and signed by a licensed civil engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Board permit conditions and submitted drawings and specifications.

FIFTY-FOUR: Within 180 days of the completion of the project, the permittee shall submit to the Board proposed revisions to the U. S. Army Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, and the associated "as-built" drawings for the system alterations that are to be incorporated into the federal Sacramento River Flood Control Project.

OPERATIONS AND MAINTENANCE

FIFTY-FIVE: The permittee shall maintain the permitted project within the utilized area in accordance with applicable current or future local, State, and federal standards in the manner required as requested by an authorized representative of the Board, DWR, RD 784, or any other agency responsible for maintenance.

FIFTY-SIX: The permitted project shall not interfere with operation and maintenance of the Sacramento River Flood Control Project. If the permitted project is determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall

be required, at permittee's cost and expense, to modify or remove the permitted project under direction of the Board. If the permittee does not comply, the Board may modify or remove the project at the permittee's expense.

FIFTY-SEVEN: At the request of either the permittee or Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

FIFTY-EIGHT: If the project, or any portion thereof, is significantly damaged or is to be abandoned in the future, the permittee shall abandon or repair the project under direction of the Board at the permittee's cost and expense.

FIFTY-NINE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19020-1 BD

This Permit is issued to:

Three Rivers Levee Improvement Authority
1114 Yuba Street, Suite 218
Marysville, California 95901

The work includes: 1) placement of landside ditch fill between approximate stations 115+00 and 119+00 (Reach 2B); 2) construction of a drain berm along the landside levee toe between approximate stations 190+28 and 216+50 (Reaches 4B and 4C); 3) construction of a stability berm along the landside levee toe between approximate stations 259+00 and 278+00 (Reach 5B); 4) placement of landside fill between approximate stations 286+00 and 300+00. (Reach 5D); and 5) construction of an 18-foot-wide landside toe access road between approximate stations 136+25 and 308+00 (Reaches 3 to 5D).

The project is located along the landside of the Western Pacific Interceptor Canal. (Section 4,9,16/ 21,28,33, T13N14, R4E, MDB&M, Reclamation District 784, Western Pacific Interceptor Canal, Yuba County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any

other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19020-1 BD

LIABILITIES / IMDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board (Board) and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act (CEQA). The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability and shall defend, indemnify, and hold the Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board, Department of Water Resources (DWR), and Reclamation District 784 (RD 784) shall not be held liable for damages to the permitted project resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

BOARD CONTACTS

SIXTEEN: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

PERMITTING AND AGENCY CONDITIONS

SEVENTEEN: The permittee shall comply with all conditions set forth in the U.S. Army Corps of Engineers, Sacramento District Letter of Permission dated May 10, 2016, which is attached to this permit as Exhibit A and incorporated by reference.

EIGHTEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

NINETEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

TWENTY: Permittee shall pay to the Board, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the Board.

REAL ESTATE

TWENTY-ONE: Prior to construction, the permittee shall have obtained all required access rights to all property where work is to be performed under this permit.

TWENTY-TWO: The permittee shall secure from the owner(s) of the property a permanent easement granting the Sacramento and San Joaquin Drainage District, acting by and through the Board, the flood control rights over that portion of the existing or to-be-constructed levee (including the areas parallel to and extending 50 feet from the waterward and landward toes of the levee) which is not presently encumbered by a Board easement.

PRE-CONSTRUCTION

TWENTY-THREE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

TWENTY-FOUR: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the existing site conditions. The photo record shall be certified

(signed and stamped) by a licensed land surveyor or licensed civil engineer registered in the State of California and submitted to the Board within thirty (30) calendar days of beginning the project.

CONSTRUCTION

TWENTY-FIVE: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Board.

TWENTY-SIX: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Board.

TWENTY-SEVEN: All addenda and contract change orders made to the approved plans and / or specifications by the permittee after Board approval of this permit shall be submitted to the Board's Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include all supplemental plans, specifications, and necessary supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agencies when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

TWENTY-EIGHT: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15, and shall be removed after completion of the project.

TWENTY-NINE: All debris generated by this project shall be disposed of outside of the Western Pacific Interceptor Canal floodway.

THIRTY: Fill material shall have 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50; and shall be free of stones or lumps exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

THIRTY-ONE: All fill materials shall be placed in four to six inch layers and compacted to a relative compaction of not less than 90 percent per ASTM D 1557-91 or 97 percent per ASTM D 698-91 above optimum moisture content. Fill material within two feet of the bridge shall be compacted by appropriate hand operated compaction equipment. Field density tests shall be taken by a certified soils laboratory to verify compaction of the fill placed.

THIRTY-TWO: The permittee shall be responsible for all damages due to any construction-induced activities.

THIRTY-THREE: During construction of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the attention of the Flood Project Inspector immediately and prior to continuation. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Board's inspector.

THIRTY-FOUR: The haul ramps and utilized levee crown roadway shall be maintained in a manner prescribed by the authorized representative of the Board, Reclamation District No. 784 or any other agency responsible for maintenance.

THIRTY-FIVE: Any damage to the access ramps or levee crown roadway that will be used for access to this project shall be promptly repaired to the condition that existed prior to this project.

THIRTY-SIX: All fencing, gates and signs removed during construction of this project shall be replaced in kind and at the original locations. If it is necessary to relocate any fence, gate or sign, the permittee is required to obtain written approval from the Board prior to installation at a new location.

THIRTY-SEVEN: All temporary fencing, gates and signs shall be removed upon completion of the project.

THIRTY-EIGHT: All drains and abandoned conduits shall be removed from the site prior to levee construction.

THIRTY-NINE: All holes, depressions, and ditches in the foundation area shall be stripped of surface vegetation to a depth of 6-inches. Organic soil and roots greater than 1-1/2 inches shall be removed to a depth of 3 feet. Backfill material shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91.

FORTY: Ditches, power poles, standpipes, distribution boxes, and any other aboveground structures located within 50 feet of the waterward or landward levee toes shall be relocated a minimum distance of 50 feet beyond the levee toes.

FORTY-ONE: Prior to construction, all areas to receive fill shall have surface vegetation removed to a depth of 6 inches. Organic soil and roots greater than 1-1/2 inches in diameter shall also be removed to a depth of 3 feet.

FORTY-TWO: Density tests by a certified soils laboratory will be required to verify compaction of levee fill and trench backfill.

FORTY-THREE: Fill on the levee slope shall be keyed into the existing levee section with each lift.

FORTY-FOUR: Excess bentonite or other drilling fluids shall be properly disposed of outside of the floodway. The bentonite or other drilling fluids shall not be used as backfill.

FORTY-FIVE: The levee crown roadway and access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

FORTY-SIX: Aggregate base material shall be compacted to a relative compaction of not less than 95

percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

VEGETATION / ENVIRONMENTAL MITIGATION

FORTY-SEVEN: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

FORTY-EIGHT: Trees, brush, sediment, and other debris shall be kept cleared from the site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

FORTY-NINE: No further work, other than that covered by this application, shall be performed in the area without prior approval of the Board.

FIFTY: The permittee shall replant or reseed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

FIFTY-ONE: Trees removed from the floodway shall have their root systems removed and disposed of outside the floodway. All voids created by tree removal shall be backfilled and compacted to at least the density of the adjacent, firm, undisturbed material.

POST-CONSTRUCTION

FIFTY-TWO: The work area shall be restored to the condition that existed prior to start of work.

FIFTY-THREE: Within 120 days of completion of the project, the permittee shall submit to the Board as-built drawings and a certification report, stamped and signed by a licensed civil engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Board permit conditions and submitted drawings and specifications.

FIFTY-FOUR: Within 180 days of the completion of the project, the permittee shall submit to the Board proposed revisions to the U. S. Army Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, and the associated "as-built" drawings for the system alterations that are to be incorporated into the federal Sacramento River Flood Control Project.

OPERATIONS AND MAINTENANCE

FIFTY-FIVE: The permittee shall maintain the permitted project within the utilized area in accordance with applicable current or future local, State, and federal standards in the manner required as requested by an authorized representative of the Board, DWR, RD 784, or any other agency responsible for maintenance.

FIFTY-SIX: The permitted project shall not interfere with operation and maintenance of the

Sacramento River Flood Control Project. If the permitted project is determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted project under direction of the Board. If the permittee does not comply, the Board may modify or remove the project at the permittee's expense.

FIFTY-SEVEN: At the request of either the permittee or Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

FIFTY-EIGHT: If the project, or any portion thereof, is significantly damaged or is to be abandoned in the future, the permittee shall abandon or repair the project under direction of the Board at the permittee's cost and expense.

FIFTY-NINE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS

Exhibit A - Permit 19020-1- Letter of Permission



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Executive Office (19020-1)

MAY 10 2016

Ms. Leslie M. Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Ms. Gallagher:

Pursuant to U.S.C. Title 33, Chapter 9, Subchapter 1, Section 408, the Sacramento District Engineer of the U.S. Army Corps of Engineers has approved your request to alter the Federal flood risk reduction project, Sacramento River Flood Control Project (SRFCP), by constructing the *Western Pacific Interceptor Canal West Levee Improvement Project*, included in encroachment permit number 19020-1. Permission has been granted for you to alter the project works as described in detail in the *Central Valley Flood Protection Board Encroachment Permit Application 19020-1* which includes the 65% design, *WPIC West Levee Improvement Project STA 0+00 to 310+00*. It has been determined that such alteration will not be injurious to the public interest and will not impair the usefulness of the project works.

The work located along the landside of the WPIC west levee consists of placing fill from Station 115+00 to 119+00 (Reach 2B) and Station 286+00 to 310+50 (Reach 5D), constructing a drained berm from Station 190+10 to 196+00 (Reach 4B), constructing a stability berm from Station 259+00 to 278+00 (Reach 5B), and constructing a toe access road from Station 135+00 to 309+00.

As a condition of this letter of permission, the Central Valley Flood Protection Board (CVFPB) is required to comply with the conditions provided in the attached enclosures. My point of contact for this action is Ryan Larson, Chief, Flood Protection and Navigation Section. He may be reached at 916-557-7568 or by email at ryan.t.larson2@usace.army.mil.

Sincerely,


Michael J. Farrell
Colonel, U.S. Army
District Commander

Enclosures



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1326 J STREET
SACRAMENTO CA 95814-2922

33 U.S.C. §408 Letter of Permission
Western Pacific Interceptor Canal West Levee Improvement Project Sta 0+00 to 310+00

The term "you" and its derivatives, as used in this approval letter, means the Central Valley Flood Protection Board or any future transferee. The term "this office" refers to the Sacramento District of the U.S. Army Corps of Engineers. Alteration of this project must be in accordance with the following conditions:

General Conditions:

- a. That the proposed work shall not interfere with the integrity or hydraulic capacity of the flood risk reduction project; easement access; or maintenance, inspection, and flood fighting procedures.
- b. You must accept the operation and maintenance responsibility of the completed work.
- c. You are responsible for continued operations and maintenance for this project during construction.
- d. If construction activities will last longer than 1 week, you are required to submit to this office on a weekly basis construction records documenting field conditions.
- e. The proposed work shall not be performed during the flood season of November 1 to April 15, unless otherwise approved in writing by your Board.
- f. That in the event trees and brush are cleared, they shall be properly disposed of by either complete burning or complete removal outside the limits of the project right-of-way.
- g. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this approval.

Special Conditions:

- h. You are required to submit a revision to the Operation and Maintenance (O&M) Manual (33 CFR Section 208.10) for this office's review within 180 days of project completion. Any additional non-Federal O&M or real estate requirements resulting from this modification must be documented in the O&M manual and the project real estate documents. Stamped As-Built drawings and permanent maintenance easement boundaries shall be submitted in conjunction with the draft O&M manual. Upon receipt of the draft O&M manual, this office will schedule a transfer inspection with you to verify all construction has been completed in accordance with this permission. Any features found to be deficient during that inspection will require your correction prior to the Corps acknowledging that the work was completed in accordance with this letter of permission. Construction data is required to be provided to this office for review by our Engineering Division during construction. Within 180 days of project completion, you must furnish a certification report that the work has been completed in accordance with the conditions of this permission.

Exhibit A - Permit 19020-1- Letter of Permission

SUBJECT: 33 U.S.C. §408 Letter of Permission Western Pacific Interceptor Canal West Levee Improvement Project Sta 0+00 to 310+00

i. If any cultural artifact or an unusual amount of bone, shell, or nonnative stone is uncovered during construction, work should be halted in that area and the Corps notified immediately so that a professionally qualified archaeologist approved by the Corps can determine the significance of the find. The Corps will initiate any necessary Federal and State coordination to ensure continued compliance with the National Historic Preservation Act. If human bone is uncovered, the Yuba County Coroner should be contacted immediately. If human remains are discovered in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until (a) the county coroner has been informed and has determined that no investigation of the cause of death is required; and if the remains are of Native American origin, (b) the landowner has satisfied the requirements of California Public Resources Code, Section 5097.98 including conferral with the Most Likely Descendant as designated by the California Native American Heritage Commission (NAHC), or (c) the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within the time prescribed by Public Resources Code, Section 5097.98. According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052).

j. That all areas to receive fill shall be cleared of vegetation prior to fill placement.

k. That the backfill material should be as permeable or more than the soil in the adjacent natural ground.

l. That conservation measures outlined in the enclosed Fish and Wildlife Service Biological Opinion (Number 08ESMF00-2015-F-0761, dated July 14, 2015) shall be implemented.

m. That no construction of any kind shall take place on the proposed berms.

n. That cross-sections, with your as-builts, shall be submitted to this office. Cross-sections shall be taken at important break points along the WPIC west levee. Surveys shall extend from 100 feet waterward to 100 feet landward of the levee toe. All data shall be in GIS format (ESRI Version 10.0 or latest version) in correct projection for seamless geographic location, referenced in NAVD88 using Geoid03 and NAD83, using the relevant California State Plane Zone. Data shall also be provided in GIS ready georeferenced CADD data format as well as pdf format.

Further Information:

o. Limits of this permission.

1. This permission does not obviate the need to obtain other Federal, state or local authorizations, approvals or permissions required by law.
2. This permission does not grant any property rights or exclusive privileges.
3. This permission does not authorize any injury to the property or rights of others.

**SUBJECT: 33 U.S.C. §408 Letter of Permission
Western Pacific Interceptor Canal West Levee Improvement Project Sta 0+00 to 310+00**

4. This 33 U.S.C. 408 permission does not authorize you to take any endangered species, in particular giant garter snake (*Thamnophis gigas*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*), or adversely modify designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 08ESMF00-2015-F-0761, dated July 14, 2015) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this 33 U.S.C. 408 permission is conditioned upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permission. Failure to comply with the terms and conditions associated with the incidental take statement of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your 33 U.S.C. 408 permission. You must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.
- p. The determination of this office to approve this action as not injurious to the public interest, nor will it impair the usefulness of the project works, was made in reliance on the information you provided.
- q. The Corps may reevaluate its decision on this approval at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to the following:
1. You fail to comply with the terms and conditions of this approval.
 2. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate. Should field conditions or future investigations require a deviation from the Final Plans, this deviation must be approved by this office through a request from the Board.
 3. Significant new information surfaces which this office did not consider in reaching the original public interest decision.
- r. This approval should not be construed as an endorsement of certification for the FEMA base flood event.
- s. The Corps acknowledges your commitment to accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction work.



In Reply Refer to:
08ESMP00-
2015-F-0761

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846



JUL 14 2015

Mr. Ryan T. Larson
Chief, Flood Protection and Navigation Section
U.S. Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814

Subject: Formal Consultation on the Western Pacific Interceptor Canal 200-Year Standard Project in Yuba County, California

Dear Mr. Larson:

This letter is in response to the U.S. Army Corps of Engineers' (Corps) April 23, 2015, request to initiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Western Pacific Interceptor Canal (WPIC) 200-year Standard Project (proposed project) in Yuba County, California. Your request was received by the Service on April 29, 2015. At issue are the proposed project's effects on the federally-threatened giant garter snake (*Thamnophis gigas*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50CFR 402).

The Federal action we are consulting on is a project which will enable Three Rivers Levee Improvement Authority (TRLIA) to meet recent California Department of Water Resources (DWR) Urban Levee Design Criteria (ULDC). Project work will be along the western levee of the WPIC. Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is likely to adversely affect giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp; and may affect, not likely to adversely affect the valley elderberry longhorn beetle. The proposed project is not within designated or proposed critical habitat for any federally-listed species.

encl 2

In considering your request, we based our evaluation on the following: (1) the Corps' April 29, 2015, initiation request; (2) the April 2015 biological assessment prepared by AECOM; (2) e-mail and telephone correspondence between the Service, the Corps, and AECOM; and (3) other information available to the Service.

In the Service's review of the effects and avoidance measures included in the project description on the valley elderberry longhorn beetle the Service concurs with your findings that the proposed project may affect, but is not likely to adversely affect the valley elderberry longhorn beetle. The Corps has proposed the following measures to avoid effects to the valley elderberry longhorn beetle.

- Fencing along the construction area boundary in Reach 1B will be adjusted, if necessary, to ensure a buffer of at least 20 feet from the dripline of elderberry shrub #2 and at least 50 feet from the dripline of elderberry shrub #3 is maintained to prevent accidental damage during construction activities.
- At least two evenly spaced signs (no more than 50 feet apart) will be placed on the fencing in this area, stating: "This area his habitat of the valley elderberry longhorn beetle, a threatened species, and it must not be disturbed. This species is protected by the ESA. Violators are subject to prosecution, fines, and imprisonment." The signs will be clearly readable from a distance of 20 feet and will be maintained throughout the construction period.
- Dust control measures will be implemented for all ground-disturbing activities in Reach 1B construction and staging area. These measures may include application of water to haul routes and other unvegetated areas in which equipment is operating. To avoid attracting Argentine ants, at no time will water be sprayed within the dripline of elderberry shrubs.
- No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant will be used or stored within 100 feet of elderberry shrubs adjacent to the construction area.
- Areas of ground disturbance within 100 feet of elderberry shrubs will be restored to pre-project conditions when construction activities are complete.

Given the above avoidance measures, the Service believes that potential effects from the proposed project are extremely unlikely to occur, and are therefore discountable for purposes of this consultation.

The remainder of this document provides our biological opinion on the effects of the proposed project on the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Consultation History

January 22, 2015. The Service attended a meeting with the Corps of Engineers, AECOM, and MBK engineers to discuss the proposed project.

March 16, 2015. AECOM provided a draft biological assessment for the Service to review prior to the Corps' formal initiation.

March 26, 2015. The Service provided AECOM and the Corps with comments on the draft biological assessment via electronic mail.

April 23, 2015. The Corps initiated formal consultation on the proposed project.

June 8, 2015. The Corps provided an electronic mail message which clarified the determination for the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp as may affect, likely to adversely affect.

June, 22, 2015. The Corps provided additional information for the project description related to the compensation proposed for vernal pool fairy shrimp and vernal pool tadpole shrimp.

Description of the Action

The proposed project is going to bring the entire WPIC west levee into compliance with the ULDC. To accomplish this, the project will improve the WPIC west levee to a 200-year level of flood protection by correcting deficiencies related to seepage and slope stability. The WPIC west levee is just over 6 miles long and extends north from its intersection with the Bear River North Levee to its terminus on the east side of State Route 70. The footprint of the proposed levee fixes include 5.9 miles of the levee east of State Route 70. Remediation measures proposed to achieve ULDC compliance include cutoff walls, berms, landside fill, and a landside access road. Description of how these measures will be carried out follows below as well as a table summarizing where the measures will occur.

Table 1. Locations of Remediation and Landside Access Road Construction

Reach	Length (feet)	Area (acres)	Construction Activity
1B	3,050	8.9	70-foot-deep cutoff wall from Station 9+50 to 24+50, constructed using deep-mix method (because of proximity of active railroad tracks immediately landside of the levee)
2B	400	3.7	Landside ditch fill (minimum of 3 feet)
3	3,350	14.3	50-foot-deep cutoff wall from Station 144+50 to 167+50, constructed using open trench method Landside access road from Station 135+00 to 167+50
4A	2,260	5.3	Landside access road
4B	590	2.1	Drained berm Landside access road
4C	1,900	6.3	Landside access road
4D	2,350	4.6	Landside access road
4E	1,000	4.2	50-foot-deep cutoff wall, constructed using open trench method Landside access road
5A	1,050	3.9	Landside access road
5B	1,900	6.9	10-foot-tall/10-foot-wide stability berm Landside access road
5C	800	2.5	Landside access road
5D	2,450	14.0	Landside fill (minimum of 3.5 feet) Landside access road from Station 286+00 to 309+00

Cutoff Walls

Levee remediation measures for the proposed action include constructing cutoff walls. Cutoff walls are vertical walls, measuring about 3 feet wide that consists of low-hydraulic-conductivity materials and are constructed through the levee embankment and foundation to cut off potential through-seepage and underseepage. To be effective for underseepage, cutoff walls usually tie into an impervious sublayer (aquiclude). Walls generally require no additional permanent levee footprint. However, the levee must be temporarily taken out of service and degraded to prevent hydraulic fracturing of the levee and provide a wide enough working surface to accommodate construction of the cutoff wall.

For the proposed project, the levee will be degraded by about one-third to one-half of its overall height. Degraded levee material will be side-cast along the landside and waterside of the levee to establish the working surface. Cutoff walls will be constructed through the center of the levee and will range in depth from about 50 to 70 feet, as measured from the levee degrade elevation. As described below under *Construction Workers and Schedules*, cutoff wall construction could occur 24 hours a day. During nighttime construction, light fixtures will be oriented to the greatest degree practical to direct light downward and away from residences to minimize light spill.

Cutoff walls will be constructed of either soil-bentonite using the open-trench method or soil-cement-bentonite using the deep-mix method. In cutoff-wall construction with soil-bentonite using the open-trench method, a 3-foot-wide trench is excavated through the center of the levee and filled with bentonite slurry to keep the trench sidewalls from caving in during excavation. Material excavated from the trench is mixed, adjacent to the trench, with bentonite slurry in appropriate proportions, then is pushed back into the excavated trench. This process creates a wall through the center of the levee with reduced permeability. In cut-off wall construction using the deep-mix method, augers are used to drill through the center of the levee to the appropriate depth. As the augers are raised, a bentonite and cement mixture is injected through the augers and mixed into the soil to form the wall.

After the cutoff wall has been installed and undergone the appropriate settlement period, the levee embankment will be reconstructed to its original lines and grades. The reconstructed embankment will include an 8-foot-wide clay core. Clay core material will be imported from one or more local commercial borrow sources. Topsoil will then be placed on the levee slopes and aggregate base along the levee crown and access ramps. Disturbed areas will then be hydroseeded with a mix of at least 30 % native grass and forb seeds.

Berms

In addition to constructing cutoff walls, levee remediation measures for the proposed project include constructing a stability berm and a drained berm. A stability berm is a prism of engineered material placed on the landside slope and toe of a levee to act as a buttress to increase stability factors of safety. Typical stability berms are about 10 feet high and 10 to 25 feet wide. If there is also a deficiency related to through-seepage, a filter/drain zone can be incorporated into a typical berm creating a drained berm that captures seepage that otherwise will exist on the unprotected slope, potentially eroding the embankment material.

For the proposed action, the drained berm will be 20 feet wide and 2 feet high and will include a 1-foot-thick drain layer. The stability berm will be 10 feet high and 10 feet wide at the top, with a 2:1 side slope. To facilitate berm construction, the top 6 inches of topsoil will be stripped from the

existing ground, and then the area will be disked to a depth of 6 inches, moisture-conditioned (i.e., wetting and/or drying), and compacted before the placement of fill material. Fill will be keyed and benched into the existing levee as appropriate.

Landside Fill

In addition to constructing cutoff walls and berms, levee remediation measures for the proposed project include placing fill along the landside of the levee toe. The landside fill will be placed in engineered layers. Fill will be placed landside of the levee to raise low areas. To facilitate the placement of the landside fill, the top 6 inches of topsoil will be stripped from the existing ground, then the area will be disked to a depth of 6 inches, moisture-conditioned (i.e., wetting and/or drying), and compacted before the placement of fill material.

Landside Access Road

A raised, all-weather access road to be used for flood fighting and operations and maintenance will be constructed along a portion of the landside toe of the levee. The toe access road will be about 20 feet wide and will include a 16-foot wide aggregate base. Elevations and grades for the toe access road have not yet been established. However, the toe access road will follow the existing landside elevations and will have a general 2% cross slope, to drain water away from the levee, and maximum 10% longitudinal slope.

Borrow Material Sources and Needs

Fill material for the levee (clay core), berms, and fill areas will be obtained either from one or more off-site borrow sources or from excess material obtained from the levee degradation operations. The construction contractor will be required to obtain any off-site borrow material, which may be imported to the project site from existing permitted commercial sources located in the Marysville or Yuba City area. If borrow material is obtained from a site that is not already permitted, the contractor will be responsible for ensuring compliance and permitting for the site.

Staging Areas and Access

Before and during construction of the proposed action, several staging areas will be developed to allow for efficient use and distribution of materials and equipment. All staging will occur within construction limits established for remediation and access road construction. Construction materials, equipment, the batch plant, spoils, and excess material will be stored in the staging areas during the construction period. The staging areas also will provide a parking location for construction workers. Throughout the project's various construction phases, material deliveries will be made to the project site. Access to the project site for personnel, equipment, and material delivery will be via State Route 70, Feather River Boulevard, and Plumas-Arboga Road (existing paved roadways). Access within the project site will be along either the levee crown or the existing routes along the landside or waterside of the levee (existing unpaved access).

Disposal of Excess Materials

The proposed action will generate excess materials that will require disposal. Before the start of construction, the levee and work areas will be cleared and grubbed to remove vegetation, debris, rubble, trash, and other items. Material obtained from the clearing and grubbing operations will be removed from the site and taken to commercial waste or recycling facilities in the Marysville or Yuba City area, as appropriate. The top 6 inches of topsoil will then be stripped and stockpiled on-site for later reuse. Excess material resulting from levee remediation that could not be reused on-site will be hauled off-site to permitted and approved disposal areas near Marysville or Yuba City.

Construction Schedule

Crew sizes will vary depending on the construction phase but are estimated to consist of 50-100 people working one shift 6 days a week (Monday through Saturday). Construction activities will typically be limited to 7:00 a.m. to 8:00 p.m. but may be extended to 6:00 a.m. to 10:00 p.m. for equipment maintenance. Equipment maintenance will also occur on Sunday. Cutoff wall construction will be a 24-hour operation using two shifts of workers 6 days a week (Monday through Saturday), as necessary to complete levee reconstruction before the flood season begins. Construction will occur over two construction seasons, beginning as soon as summer 2015 and ending by December 2016. Work will occur in summer 2015 to fall of 2015 and spring 2016 to fall 2016.

Giant Garter Snake Habitat

The WPIC provides aquatic habitat for the giant garter snake. Work along the western levee of the WPIC as part of the proposed project will affect upland giant garter snake habitat where it is within 200 feet of the edge of aquatic habitat. This includes about 35 acres of temporarily affected uplands and 10.10 acres of uplands that will be permanently converted to access road.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat

Vernal pool crustacean habitat is present on and near the project area on the western side of the WPIC levee. The proposed project will fill 0.70 acre of seasonal wetland habitat that could support the vernal pool fairy shrimp and vernal pool tadpole shrimp. There are 1.67 acres of seasonal wetlands that would not be affected by project activities. A PG&E transmission project in 2013 likely created 0.25 acre of seasonal wetland that will be affected by the project.

Conservation Measures

- Before on-site construction activities begin, a review of all required permits and notifications will be conducted to ensure requirements for environmental compliance are fully understood, specific limits of activities and work are defined and understood, and all natural resource clearances and authorizations have been obtained from the appropriate resource agencies.
- Prior to construction beginning the construction area will be fenced to clearly delineate the work area. Silt fencing will be used along waterside construction boundaries and access routes. Silt fencing will also be used to delineate landside construction area boundaries in the vicinity of wetland habitats. All construction crews will be provided a set of drawings showing construction area boundaries, haul/access routes, and locations of environmentally sensitive areas to be avoided.
- Project-related vehicles will observe a 15-mile-per-hour speed limit within construction areas and haul/access routes, except on county roads and State and Federal highways.
- A biological monitor will conduct inspections of the construction area to ensure best management practices and resource agency protection measures are being implemented. Biological monitors will be notified in advance of all work activities and locations and scheduled to be on-site, as required. A report of monitoring activities and observations will be prepared and provided to the Service upon completion of project activities.
- A worker awareness training program will be conducted for all construction personnel before they start work on the proposed action. The program will summarize relevant laws and regulations that protect biological resources and discuss sensitive habitats and species

addressed in this biological opinion, the role of biological monitors, applicable avoidance measures to protect species and habitats, and the penalties for not complying with such measures. Proof of training will be provided to the Service as part of the monitoring report submitted to the Service upon completion of project activities.

- Work will stop immediately if a listed or protected species is encountered and the appropriate agency or agencies (the Service, National Marine Fisheries Service, or California Department of Fish and Wildlife (CDFW)) will be notified. Work will not resume prior to the agencies' approval, or as agreed to in prior consultation with the agencies.
- All food and food-related trash items will be enclosed in sealed containers and removed daily from the project site; pets will not be allowed on the project site.
- Silt fencing will be used to fence construction area boundaries within 250 feet of suitable vernal pool crustacean habitat to prevent accidental incursion by construction vehicles and personnel and minimize potential for water quality degradation.
- At least 30 days before construction activities begin, the names and curriculum vitae of the biological monitor(s) for the project will be submitted to the Service for review and approval.
- Unless specifically authorized by the Service, construction activities within 200 feet of aquatic habitat within the WPIC will not commence before May 1. Initial ground disturbance in all construction areas will be completed by October 1, and construction activities will be completed as soon after October 1 as possible.
- Construction areas will be surveyed for giant garter snakes by a qualified biologist within 24 hours before on-site project activities begin. Additional surveys will be conducted within 24 hours before initial ground disturbance begins. Surveys will be repeated after any lapse in construction activity of 2 weeks or longer.
- Any snake observed on-site will be allowed to leave the construction area on their own volition. If a possible giant garter snake is observed retreating into an underground burrow or is otherwise stationary within the construction area, construction activities will not begin or will cease immediately in the reach where the snake is present, the biological monitor will be notified immediately, and actions will be taken to ensure the burrow is not disturbed or the stationary snake is allowed to leave the area. If the burrow must be disturbed or the snake does not leave the construction area, the biologist will consult with CDFW and the Service before work resumes.
- The biologist will notify the Service immediately by telephone at (916) 414-6600 if a giant garter snake is found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake.
- After completion of construction activities, all disturbed soil surfaces will be revegetated within the same construction season that disturbance occurs. Levee slopes, stability berms, fill areas, and other uplands disturbed during project activities will be hydroseeded with a mix of at least 30 % native grass and forb seeds. Up to 70 % of the mixture may be non-aggressive European annual grasses, but aggressive non-native grasses, including perennial ryegrass (*Lolium perenne*), cheatgrass (*Bromus tectorum*), fescue (*Festuca spp.*), giant reed (*Arundo donax*), medusa-head (*Taeniatherum caputmedusae*), and Pampas grass (*Cortaderia selloana*) are prohibited from being included in the hydroseed mix.
- TRLIA will purchase 0.25 acre of vernal pool crustacean creation habitat and 0.25 acre of vernal pool preservation habitat at a Service approved vernal pool crustacean conservation bank for the seasonal wetlands created during the 2013 PG&E transmission line project.

- For the loss of 10.1 acres of upland habitat that will be converted to unpaved roadway TRLIA has proposed to purchase 30.3 acres of giant garter snake habitat at a giant garter snake conservation bank. TRLIA proposes to use 22.65 acres of excess credit created from a previous flood control project at Tule Basin Giant Garter Snake Preserve and purchase the remaining 7.65 acres of habitat from a Service approved conservation bank.

Action Area

The action area is defined in 50 CFR § 402.02 as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the proposed project, the action area encompasses the footprint of the WPIC west levee and adjacent landside and waterside areas where project activities will occur, including access and staging areas.

Analytical Framework for the Jeopardy Determination

The following analysis relies on four components to support the jeopardy determination for the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp: (1) the *Status of the Species*, which evaluates the species' range-wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of these species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on these three species.

In accordance with the implementing regulations for Section 7 and Service policy, the jeopardy determination is made in the following manner: the effects of the proposed Federal action are evaluated in the context of the aggregate effects of all factors that have contributed to the current status of the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Additionally, for non-Federal activities in the action area, we will evaluate those actions likely to affect the species in the future, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both its survival and recovery in the wild.

The following analysis places an emphasis on using the range-wide survival and recovery needs of the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp, and the role of the action area in providing for those needs as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

Giant Garter Snake

For the most recent assessment of the species' range-wide status please refer to the *Giant Garter Snake (Thamnophis gigas) 5-year Review: Summary and Evaluation* (Service 2012) for the current status of the species. Ongoing threats to giant garter snake include habitat loss from water transfers, rice fallowing due to drought conditions, habitat disturbance and loss from irrigation and drainage ditch

maintenance, climate change, and invasive species. While these threats continue to effect the giant garter snake throughout its range, to date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for the giant garter snake.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The status of the vernal pool fairy shrimp and vernal pool tadpole shrimp have been assessed in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (Service 2005) (Recovery Plan) and 5-year reviews. For the most recent comprehensive assessment of the range-wide status of the fairy shrimp, please refer to the *Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation* (Service 2007a). For the most recent comprehensive assessment of the range-wide status of the tadpole shrimp, please refer to the *Vernal Pool Tadpole Shrimp (*Lepidurus packardii*) 5-Year Review: Summary and Evaluation* (Service 2007b).

No change in either species' listing status was recommended in the 5-year reviews. Threats such as the loss of vernal pool habitat primarily due to widespread urbanization were evaluated during the reviews and discussed in the final documents and have continued to act on the fairy shrimp and tadpole shrimp since the 2007 5-year reviews were finalized. The construction of infrastructure associated with urbanization also has contributed greatly to the loss and fragmentation of vernal pool species including the construction of roads. Habitat loss exacerbates the highly fragmented distribution of these species. Direct losses of habitat generally represent an irreversible damage to vernal pools. The alteration and destruction of habitat disrupts the physical processes conducive to functional vernal pool ecosystems. Vernal pool hydrology may be altered by further changes to the patterns of surface and subsurface flow due to the increase in runoff associated with infrastructure.

While there have been continued losses of vernal pool habitat throughout the various vernal pool regions identified in the Recovery Plan, including the Southeastern Sacramento Valley Vernal Pool Region where the proposed project is located, to date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for either species.

Environmental Baseline

Portions of the action area have undergone previous consultations with the Service for effects on the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp. TRLIA has previously done levee repairs to the western levee of the WPIC which temporarily affected giant garter snake habitat and temporarily and permanently affected the vernal pool fairy and tadpole shrimp habitat. Additionally, Pacific Gas and Electric (PG&E) completed a project in 2013 that included some of the area along the WPIC which effected vernal pool fairy shrimp and vernal pool tadpole shrimp.

Giant Garter Snake

The proposed project is located within the American Basin giant garter snake population as identified in the 5-year review (Service 2012). The closest known occurrence in the California Natural Diversity Database (CNDDDB 2015) is less than a mile away, though this is an older (prior to 1986) observation. This portion of the American Basin population, the area east of the Feather River, has had relatively little to no concentrated giant garter snake surveys; therefore, it is difficult to say how widely distributed giant garter snakes are east of the Feather River.

The WPIC provides suitable aquatic habitat for the snake. Some rice farming occurs outside of the action area which will help support any snake populations in the area. The action area contains about 45 acres of suitable upland habitat for the snake adjacent to the WPIC. Because the overall area has not been surveyed and given the presence of aquatic habitat adjacent to the work and rice farming within the overall area, the Service considers it likely that snakes may be found within the action area.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The action area is located in the Southeastern Sacramento Valley Vernal Pool Region, as described in the Recovery Plan (2005). Core areas within each Vernal Pool Region have been identified. These core areas support high concentrations of vernal pool species, area representative of a given species range, and are where recovery actions are focused. The action area is not within a core area.

Formal surveys for the fairy shrimp and the tadpole shrimp were not conducted within the action area. TRLIA has previously conducted flood control work along the WPIC in 2005 and 2006. Prior to construction, a consultant conducted wet-season sampling for listed branchiopods in 2004. Vernal pool tadpole shrimp were found on March 17, 2004, in wetlands in the project area. Vernal pool fairy shrimp have been identified within 5 miles of the action area. Because tadpole shrimp have previously been found in the action area and fairy shrimp are known to occur in the vicinity of the proposed project, seasonal wetlands are assumed to be occupied by tadpole and fairy shrimp.

The previous WPIC project permanently filled seasonal wetlands and temporarily affected other seasonal wetlands. In the 2005 biological opinion, TRLIA and the Corps chose to mitigate for any effects to seasonal wetlands as permanent impacts. Therefore, some of the seasonal wetlands previously mitigated for remain on-site post-construction of the project. Additionally, PG&E has done transmission line work within the proposed project's action area (81420-F-2011-0007) which was completed in 2013. This work involved some effects to seasonal wetlands and may have created new seasonal wetlands that were found by the AECOM during surveys and had not been documented previously.

Effects of the Action

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The construction of the project will result in direct effects to 0.70 acre of habitat for the tadpole shrimp and the fairy shrimp. The project related activities, such as grading, placement of fill, berm construction, and access road construction will result in the loss of fairy shrimp and tadpole shrimp habitat and the death of an unknown number of individuals and cysts. The earthmoving equipment will be moving dirt and filling tadpole shrimp and fairy shrimp habitat during construction activities and will likely crush or destroy the tadpole shrimp and fairy shrimp individuals and cysts, or otherwise prevent the cysts from hatching.

Of the 0.70 acre of seasonal wetland loss, 0.45 acre has been identified as being affected in the previous TRLIA levee improvement project. These lands were mitigated through the NEPA process at a ratio of 3:1 for preservation and 1:1 for creation. The remaining effected vernal pools will be compensated at a Service approved conservation bank. Because the remaining 0.25 acre of seasonal wetlands has been recently disturbed and lack hydrologic connection to the previously

surveyed habitat, it is not as likely that vernal pool crustaceans are occupying the seasonal wetlands. However, because TRLIA did not do surveys for vernal pool fairy shrimp or vernal pool tadpole shrimp, it cannot be known for certain. They have proposed to compensate at a conservation bank for effects to the species. Conservation banks provide protection and funding in perpetuity for the targeted species on lands that might otherwise be developed. Vernal pool fairy shrimp and vernal pool tadpole shrimp habitat will be protected on lands with a conservation easement and a non-wasting endowment to fund long-term maintenance of the site and monitoring of the species.

The remaining 1.67 acres of seasonal wetlands in the project area will be avoided through the implementation of the conservation measures described in the project description above.

Giant Garter Snake

Upland habitat will be temporarily affected due to construction of the cutoff wall, fill of the landside berm, fill of low areas adjacent to the levee, and general construction of the access routes, staging, and temporary waterside stockpiling. About 35 acres of uplands will be temporarily unavailable to the snake for one season. Construction of the maintenance road along the landside of the levee will result in permanent loss of 10.1 acres of upland habitat.

Ground disturbing activities can result in displacement, injury, or death of giant garter snakes. Construction is scheduled to occur during the snake's active season (May 1 – October 1) when snakes use underground refugia less often and therefore entombment and injury will occur less often. Snakes use uplands for basking, temperature regulation, and cover. The construction will remove vegetation cover and basking sites, fill or crush burrows or crevices, and may result in direct disturbance, injury, and/or mortality of snakes. Snakes may disperse across or may bask on existing unpaved roads and may be killed or injured by construction equipment or other vehicles accessing the project site.

Conservation measures included in the project description are expected to reduce effects to the giant garter snake. This will include restoring temporarily disturbed areas, installing fencing along the waterside berm to exclude snakes from the work area, and purchasing credits at a conservation bank. The Conservation banks will provide protection and funding in perpetuity for the giant garter snake. Giant garter snake habitat will be protected with a conservation easement and the bank has a non-wasting endowment to fund long-term maintenance of the site and monitoring of the species.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, county, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-Federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the giant garter snake, vernal pool fairy shrimp, and vernal pool tadpole shrimp, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the WPIC 200-Year Standard Project, as proposed, is not likely to jeopardize the continued existence of the giant garter snake, vernal pool fairy shrimp, or vernal pool tadpole shrimp. The Service reached this conclusion because the project-related effects to the species; when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any permit issued to the applicant for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the local sponsor to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, TRLIA must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

Giant Garter Snake

The Service anticipates that incidental take of giant garter snake will be difficult to detect due to its life history and ecology. Specifically, giant garter snakes can be difficult to locate due to their cryptic appearance and cryptic behavior and finding a dead or injured individual is unlikely due to their cryptic nature. There is a risk of harm, harassment, injury, and mortality as a result of degrading the levee for cutoff wall construction, fill placement on landside berm, and general construction for a total of 35 acres. Additionally, 10.10 acres of upland habitat for the giant garter snake will be permanently unavailable to giant garter snakes due to the conversion of grassland to access road.

Therefore, the Service is authorizing take incidental to the proposed action as harm, harassment, and injury of all giant garter snakes within 45.10 acres of upland habitat. The Service authorizes take incidental to the proposed action as mortality for one snake within 45.10 acres of upland habitat.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The Service anticipates that incidental take of vernal pool tadpoles shrimp and vernal pool fairy shrimp will be difficult to detect due to its life history and ecology. Specifically, vernal pool tadpole and fairy shrimp can be difficult to locate due to their small size, therefore finding a dead or injured individual is unlikely. There is a risk of harm and mortality as a result of the proposed construction activities; therefore, the Service is authorizing take incidental to the proposed action as harm and mortality of all vernal pool fairy shrimp and vernal pool tadpole shrimp within 0.70 acre of seasonal wetlands as a result of construction.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the giant garter snake, vernal pool fairy shrimp and vernal pool tadpole shrimp resulting from implementation of this project have been incorporated into the project's proposed conservation measures. This Reasonable and Prudent Measure shall be supplemented by the Terms and Conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Corps shall include full implementation and adherence to the conservation measures as a condition of any permit issued for the project.
2. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the Corps and TRLIA shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the Corps must immediately reinstate formal consultation as per 50 CFR 402.16.
 - (a) For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, TRLIA will provide monthly updates to the Service with a precise accounting of the total acreage of habitat impacted. Updates shall also include any information about changes in project implementation that result in habitat disturbance not described in the Project Description and not analyzed in this biological opinion.
 - (b) For those components of the action that may result in direct encounters between listed species and project workers and their equipment whereby incidental take in the form of harassment, harm, injury, or death is anticipated, TRLIA shall immediately contact the

Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6600 to report the encounter. If the encounter occurs after normal working hours, TRLIA shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, TRLIA shall follow the steps outlined in the Salvage and Disposition of Individuals section below.

- (c) Post-construction, TRLIA will provide the Service a report which describes the final restoration plantings as well as the as-built. During the 3-year post restoration operation and maintenance TRLIA shall provide the Service with a yearly report which describes how the restoration plantings are performing, what the mortality of the plants is, and if any problems with the restoration site have been identified.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. The Corps and TRLIA should work with the Service to assist us in meeting the goals of the recovery plan for vernal pool fairy shrimp and vernal pool tadpole shrimp as outlined in the December 2005, *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (Service 2005).
2. The Corps and TRLIA should work with the Service to assist us in meeting the goals of the forthcoming recovery plan for the giant garter snake.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Western Pacific Interceptor Canal 200-Year Standard Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
- (d) If a new species is listed or critical habitat designated that may be affected by the identified action.

Mr. Ryan T. Larson

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If you have any questions regarding this biological opinion, please contact Jennifer Hobbs (Jennifer_hobbs@fws.gov) or Doug Weinrich (Douglas_Weinrich@fws.gov), at the letterhead address, (916) 414-6600, or by e-mail.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Norris", with a long horizontal flourish extending to the right.

Jennifer M. Norris
Field Supervisor

Literature Cited

- California Natural Diversity Database (CNDDB). 2015. Biogeographic Data Branch, Department of Fish and Wildlife. Sacramento, California. Accessed 20 April 2015.
- U.S. Fish and Wildlife Service (Service). 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon. xxii + 574 pp.
- _____. 2007a. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-year Review: Summary and Evaluation. September 2007.
- _____. 2007b. Vernal Pool Tadpole Shrimp (*Lepidurus packardii*) 5-year Review: Summary and Evaluation. September 2007.
- _____. 2012. Giant Garter Snake (*Thamnophis gigas*) 5-year Review: Summary and Evaluation. June 2012.

Attachment F – RD 784 Endorsement for 19020

State of California

DEPARTMENT OF WATER RESOURCES
CENTRAL VALLEY FLOOD PROTECTION BOARD

California Natural Resources Agency

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD
ENCROACHMENT PERMIT

Application No. 19020
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.
Install approximately 3,300 feet of conventional cutoff wall approximately 50-feet deep from Sta 144+50 to 167+50 (Reach 3) and 238+50 to 248+50 (Reach 4E), and install approximately 1,500 feet of DMM cutoff wall approximately 70 feet deep from Sta 9+50 to 24+50 (Reach 1B) along the west levee of the Western Pacific Interceptor Canal.

2. Project Location: Yuba County, in Section 16, 9, and 4; and 33, 28, 21
Township: 13N and 14N (N) (S), Range: 4E and 4E (E) (W), M. D. B. & M.
Latitude: 38.58.34N Longitude: 121.32.06W
Stream: WPIC, Levee: WPIC west Designated Floodway: WPIC
APN: See attached.

3. Three Rivers Levee Improvement Authority of 1114 Yuba Street, Suite 218
Name of Applicant / Land Owner Address
Marysville California 95901 530-749-7841
City State Zip Code Telephone Number
pbrunner@co.yuba.ca.us
E-mail

4. Paul Brunner of Three Rivers Levee Improvement Authority
Name of Applicant's Representative Company
Marysville California 95901 530-749-7841
City State Zip Code Telephone Number
pbrunner@co.yuba.ca.us
E-mail

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

We, the Trustees of Reclamation District 784 approve this plan, subject to the following conditions:
Name of LMA

Conditions listed on back of this form Conditions Attached No Conditions

Pick Brown 5/5/15 [Signature] 5/5/15
Trustee Date Trustee Date
[Signature] 5/5/15 [Signature] 5/5/15
Trustee Date Trustee Date

Attachment F – RD 784 Endorsement for 19020

**RECLAMATION DISTRICT NO. 784 – ENDORSEMENT CONDITIONS
WESTERN PACIFIC INTERCEPTOR CANAL
SLURRY CUTOFF WALL PROJECT STATION 0+00 TO 310+00**

Reclamation District No. 784 has the following conditions of endorsement to be included on the Central Valley Flood Protection Board Encroachment Permit for the Three Rivers Levee Improvement Authority Western Pacific Interceptor Canal Slurry Cutoff Wall Project. The conditions are as follows:

1. All improvements shall meet or exceed Central Valley Flood Protection Board Title 23, Department of Water Resources, DWR Urban Levee Design Criteria, FEMA, **Reclamation District No. 784**, and U.S Army Corps of Engineers Standards and requirements.
2. All work endorsed by this permit shall be in accordance with the drawings and specifications dated 65 Percent Drawings WPIC West Levee Improvement Project Station 0+00 to 310+00. **Reclamation District No. 784** shall review and acknowledge (approve) the 100 percent plans prior to bidding and construction. No work shall commence until improvement plans and specification are approved by **Reclamation District No. 784**.
3. The permittee shall be responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the **Reclamation District No. 784**, Central Valley Flood Protection Board, and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.
4. The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, **Reclamation District No. 784**, and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.
5. The Central Valley Flood Protection Board, Department of Water Resources, and **Reclamation District No. 784** shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, construction, operation, maintenance, inspection, or emergency repair.
6. A copy of operation and maintenance manual for the pipe line shall be provided to **Reclamation District No. 784** upon completion of the work. The O&M manual shall include provisions for annual inspection (i.e. pressure test, video of pipe, etc.) which meet or exceed the CVFPB, DWR, USACE, TRLIA, and **Reclamation District No. 784** standards. The results of the annual inspection shall be provided to **Reclamation District No. 784** prior to November 1 each year.
7. The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley

Attachment F – RD 784 Endorsement for 19020

**RECLAMATION DISTRICT NO. 784 – ENDORSEMENT CONDITIONS
WESTERN PACIFIC INTERCEPTOR CANAL
SLURRY CUTOFF WALL PROJECT STATION 0+00 TO 310+00**

Flood Protection Board or **Reclamation District No. 784** may remove the encroachment(s) at the permittee's expense.

8. The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation and maintenance of the flood control project to interfere, the permittee shall be required, at permittee's sole cost and expense, to modify or remove the permitted encroachment(s).
9. If the project or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project, at the permittee's or successor's sole cost and expense.
10. The proposed project shall not increase, as determined by the U.S. Corps of Engineers and the California Central Valley Flood Protection Board, the 1-in-100 and 1-in-200 water surface elevation or the velocity on the Western Pacific Interceptor Canal.
11. A set of As-Built Mylar plans and specifications shall be provided to **Reclamation District No. 784** upon completion of the work.
12. A copy of the final Central Valley Flood Protection Board Permit shall be provided to **Reclamation District No. 784** upon approval of the permit by the CVFPB Board.
13. **Reclamation District No. 784** shall be notified five (5) working days prior to any construction activities.

Attachment F – RD 784 Endorsement for 19020-1

State of California

DEPARTMENT OF WATER RESOURCES
CENTRAL VALLEY FLOOD PROTECTION BOARD

California Natural Resources Agency

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD
ENCROACHMENT PERMIT

Application No. 19020-1
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.

Along the landside of the Western Pacific Inceptor Canal west levee, placement of fill from Sta 115+00 to 119+00 (Reach 2B) and Sta 286+00 to 310+50 (Reach 5D); construction of a drained berm from Sta 190+10 to 196+00 (Reach 4B); construction of a stability berm from Sta 259+00 to 278+00 (Reach 5B); and construction of a toe access road from Sta 135+00 to 309+00.

2. Project

Location: Yuba County, in Section 16, 9, and 4; and 33, 28, 21
Township: 13N and 14N (N) (S), Range: 4E and 4E (E) (W), M. D. B. & M.
Latitude: 38.58.34N Longitude: 121.32.06W
Stream: WPIC, Levee: WPIC west Designated Floodway: WPIC
APN: See attached.

3. Three Rivers Levee Improvement Authority of 1114 Yuba Street, Suite 218
Name of Applicant / Land Owner Address

Marysville California 95901 530-749-7841
City State Zip Code Telephone Number
pbrunner@co.yuba.ca.us
E-mail

4. Paul Brunner of Three Rivers Levee Improvement Authority
Name of Applicant's Representative Company

Marysville California 95901 530-749-7841
City State Zip Code Telephone Number
pbrunner@co.yuba.ca.us
E-mail

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

We, the Trustees of Reclamation District 784 approve this plan, subject to the following conditions:
Name of LMA

Conditions listed on back of this form Conditions Attached No Conditions

[Signature] 5/6/15 [Signature] 5/6/15
Trustee Date Trustee Date
[Signature] 5/6/15 _____
Trustee Date Trustee Date

Attachment F – RD 784 Endorsement for 19020-1

**RECLAMATION DISTRICT NO. 784 – ENDORSEMENT CONDITIONS
WEST LEVEE OF WESTERN PACIFIC INTERCEPTOR CANAL**

**PLACEMENT OF FILL (STA 115+00 TO 119+00 - REACH 28)
PLACEMENT OF FILL (STA 286+00 TO 310+50 - REACH 50)
CONSTRUCTION OF DRAINAGED BERM (STA 190+10 TO 196+00 - REACH 48)
CONSTRUCTION OF STABILITY BERM (STA 259+00 TO 278+00 - REACH 58)
CONSTRUCTION OF TOE ACCESS ROAD (STA 135+00 TO 309+00)**

Reclamation District No. 784 has the following conditions of endorsement to be included on the Central Valley Flood Protection Board Encroachment Permit for the Three Rivers Levee Improvement Authority west levee of Western Pacific Interceptor Canal Project. The work includes placement of fill (Station 115+00 to 119+00 – Reach 28) and Station 286+00 to 310+50 – Reach 50), construction of drained berm (Station 190+10 to 196+00), construction of stability berm (Station 259+00 to 278+00), and construction of toe access road (Station 135+00 to 309+00). The conditions are as follows:

1. All improvements shall meet or exceed Central Valley Flood Protection Board Title 23, Department of Water Resources, DWR Urban Levee Design Criteria, FEMA, **Reclamation District No. 784**, and U.S Army Corps of Engineers Standards and requirements.
2. All work endorsed by this permit shall be in accordance with the drawings and specifications dated 65 Percent Drawings WPIC West Levee Improvement Project Station 0+00 to 310+00. **Reclamation District No. 784** shall review and acknowledge the 100 percent plans prior to bidding and construction. No work shall commence until improvement plans and specification are approved by **Reclamation District No. 784**.
3. The permittee shall be responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the **Reclamation District No. 784**, Central Valley Flood Protection Board, and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.
4. The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, **Reclamation District No. 784**, and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.
5. The Central Valley Flood Protection Board, Department of Water Resources, and **Reclamation District No. 784** shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, construction, operation, maintenance, inspection, or emergency repair.
6. A copy of operation and maintenance manual for the pipe line shall be provided to **Reclamation District No. 784** upon completion of the work. The O&M manual shall include provisions for annual inspection (i.e. pressure test, video of pipe, etc.) which meet or exceed the CVFPB,

Attachment F – RD 784 Endorsement for 19020-1

**RECLAMATION DISTRICT NO. 784 – ENDORSEMENT CONDITIONS
WEST LEVEE OF WESTERN PACIFIC INTERCEPTOR CANAL**

**PLACEMENT OF FILL (STA 115+00 TO 119+00 - REACH 28)
PLACEMENT OF FILL (STA 286+00 TO 310+50 - REACH 50)
CONSTRUCTION OF DRAINAGED BERM (STA 190+10 TO 196+00 - REACH 48)
CONSTRUCTION OF STABILITY BERM (STA 259+00 TO 278+00 - REACH 58)
CONSTRUCTION OF TOE ACCESS ROAD (STA 135+00 TO 309+00)**

DWR, USACE, TRLIA, and **Reclamation District No. 784** standards. The results of the annual inspection shall be provided to **Reclamation District No. 784** prior to November 1 each year.

7. The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board or **Reclamation District No. 784** may remove the encroachment(s) at the permittee's expense.
8. The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation and maintenance of the flood control project to interfere, the permittee shall be required, at permittee's sole cost and expense, to modify or remove the permitted encroachment(s).
9. If the project or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project, at the permittee's or successor's sole cost and expense.
10. The proposed project shall not increase, as determined by the U.S. Corps of Engineers and the California Central Valley Flood Protection Board, the 1-in-100 and 1-in-200 water surface elevation or the velocity on the Western Pacific Interceptor Canal.
11. A set of As-Built Mylar plans and specifications shall be provided to **Reclamation District No. 784** upon completion of the work.
12. A copy of the final Central Valley Flood Protection Board Permit shall be provided to **Reclamation District No. 784** upon approval of the permit by the CVFPB Board.
13. **Reclamation District No. 784** shall be notified five (5) working days prior to any construction activities.

CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682



June 1, 2015

Colonel Michael Farrell, Commander
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

Subject: Three Rivers Levee Improvement Authority, Western Pacific Interceptor Canal
West Levee Improvement Project, Cutoff Wall Construction – Reaches 1B, 3, 4E
(Application No. 19020)

Dear Colonel Farrell:

Pursuant to 33 United States Code Section 408 (Section 408) as described by the U.S. Army Corps of Engineers (USACE) Engineering Circular 1165-2-216, Section 7c(2) *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408*, the Central Valley Flood Protection Board (Board), on behalf of Three Rivers Levee Improvement Authority (TRLIA), is requesting permission to alter approximately 1.4 miles of the Sacramento River Flood Control Project (SRFCP) along the west levee of the Western Pacific Interceptor Canal (WPIC) in Yuba County, California.

The TRLIA levee system was authorized by the SRFCP by Congress in the Flood Control Act of 1917, as modified by subsequent Acts of 1928, 1937, and 1941, was completed in 1941.

For several years, TRLIA has undertaken significant effort to reduce risk to the Reclamation District 784 (RD 784) area. Work along the WPIC was performed in 2005 and 2006, prior to adoption of the Urban Levee Design Criteria (ULDC). Following the State's evaluation under the Department of Water Resources' Urban Levee Evaluations (ULE) program, as documented in its Geotechnical Evaluation Report (GER) Volumes 1 and 2 (URS, 2014a and URS, 2014b), TRLIA performed a design level evaluation, as documented in the August 2014 HDR Geotechnical Alternative Analysis (GAA) Report for the WPIC West levee. This report described the geotechnical evaluation of the WPIC west levee based on the ULDC, and outlined sections of the WPIC requiring remediation measures.

The proposed repair project consists of in-place repair/remediation by constructing approximately 3,300 linear-feet of conventional cutoff wall (Station 144+50 to 167+50 and 238+50 to 248+50, in Reaches 3 and 4E, respectively) at an approximate depth of 50 feet, and construction of approximately 1,500 linear-feet of deep mixing method (DMM) wall (Station 9+50 to 24+50 in Reach 1B) at an approximate depth of 70 feet. The project does not propose any raises to the existing levee height. Construction is proposed to begin in 2015 and is expected to be completed in 2016.

Colonel Michael Farrell, Commander

June 1, 2015

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Based on the Board's review of 65% plans, the Board concludes the following:

- That the Board has reviewed the relevant documents and has determined that the improvements will not be injurious to the public interest and will not impair the usefulness of the SRFCP.
- That within 180 days of completion of the proposed alteration, the Board will provide both information to the USACE for the purpose of preparing a revised Operation and Maintenance Manual for this portion of the SRFCP and As-built Plans and Specifications for the alteration.
- That if the proposed project is formally incorporated within the federal SRFCP by the USACE, the State of California, acting through the Board, will accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works.

If you have any questions regarding this request, please contact me at (916) 574-0609, or your staff may contact Ms. Nancy Moricz, Senior Engineer, Projects and Environmental Branch at (916) 574-2381 or by email at nancy.moricz@water.ca.gov.

Sincerely,


for Leslie Gallagher
Acting Executive Officer

Enclosure: Attachments for project application materials including all maps, 65% design drawings and specifications, and analyses submitted by TRLIA to the Board

cc: (via electronic file)

Mr. Paul Brunner, Executive Director
Three Rivers Levee Improvement Authority

Mr. Larry Dacus
MBK Engineers

Ms. Claire Marie Turner
MBK Engineers

CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682



June 1, 2015

Colonel Michael Farrell, Commander
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

Subject: Three Rivers Levee Improvement Authority, Western Pacific Interceptor Canal
West Levee Improvement Project, Berm and Access Road Construction
Reaches 2B, 4A – 4D, and 5A – 5D (Application No. 19020-1)

Dear Colonel Farrell:

Pursuant to 33 United States Code Section 408 (Section 408) as described by the U.S. Army Corps of Engineers (USACE) Engineering Circular 1165-2-216, Section 7c(2) *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408*, the Central Valley Flood Protection Board (Board), on behalf of Three Rivers Levee Improvement Authority (TRLIA), is requesting permission to alter approximately 2.6 miles of the Sacramento River Flood Control Project (SRFCP) along the west levee of the Western Pacific Interceptor Canal (WPIC) in Yuba County, California.

The TRLIA levee system was authorized by the SRFCP by Congress in the Flood Control Act of 1917, as modified by subsequent Acts of 1928, 1937, and 1941, was completed in 1941.

For several years, TRLIA has undertaken significant effort to reduce risk to the Reclamation District 784 (RD 784) area. Work along the WPIC was performed in 2005 and 2006, prior to adoption of the Urban Levee Design Criteria (ULDC). Following the State's evaluation under the Department of Water Resources' Urban Levee Evaluations (ULE) program, as documented in its State's Geotechnical Evaluation Report (GER) Volumes 1 and 2 (URS, 2014a and URS, 2014b), TRLIA performed a design level evaluation, as documented in the August 2014 HDR Geotechnical Alternative Analysis (GAA) Report for the WPIC West levee. This report described the geotechnical evaluation of the WPIC west levee based on the ULDC, and outlined sections of the WPIC requiring remediation measures.

The proposed repair project consists of placement of landside fill from approximately Stations 115+00 to 119+00 and 286+00 to 310+50 (Reaches 2B and 5D, respectively); construction of a drained berm from approximately Station 190+10 to 196+00 (Reach 4B); construction of a stability berm from approximately Station 259+00 to 278+00 (Reach 5B); and construction of a toe access road from approximately Station 135+00 to 309+00 (reaches 4A – 5D). The project does not propose any raises to the existing levee height. Construction is proposed to begin in 2015 and is expected to be completed in 2016.

Colonel Michael Farrell, Commander
June 1, 2015
Page 2

Based on the Board's review of 65% plans, the Board concludes the following:

- That the Board has reviewed the relevant documents and has determined that the improvements will not be injurious to the public interest and will not impair the usefulness of the SRFCP.
- That within 180 days of completion of the proposed alteration, the Board will provide both information to the USACE for the purpose of preparing a revised Operation and Maintenance Manual for this portion of the SRFCP and As-built Plans and Specifications for the alteration.
- That if the proposed project is formally incorporated within the federal SRFCP by the USACE, the State of California, acting through the Board, will accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works.

If you have any questions regarding this request, please contact me at (916) 574-0609, or your staff may contact Ms. Nancy Moricz, Senior Engineer, Projects and Environmental Branch at (916) 574-2381 or by email at nancy.moricz@water.ca.gov.

Sincerely,



for Leslie Gallagher
Acting Executive Officer

Enclosure: Attachments for project application materials including all maps, 65% design drawings and specifications, and analyses submitted by TRLIA to the Board

cc: (via electronic file)

Mr. Paul Brunner, Executive Director
Three Rivers Levee Improvement Authority

Mr. Larry Dacus
MBK Engineers

Ms. Claire Marie Turner
MBK Engineers

Note: Attachment H is an excerpt from the MBK Engineers' Technical Memorandum, Subject: 200-year Design Water Surface Elevation in Western Pacific Interceptor Canal, dated May 14, 2014.

Appendix C

Tables and Plots with all data: 200-year water surface, 200-year water surface plus 3 feet, 500-year water surface, and HTOL.

Tables

Table C-1. Profile Data, Yuba River adjacent to RD 784 Levee	Page C-1
Table C-2. Profile Data, Feather River	Page C-2
Table C-3. Profile Data, Bear River	Page C-3
Table C-4. Profile Data, Western Pacific Interceptor Canal (WPIC)	Page C-4

Figures

Figure C-1. ULDC Criteria Water Surface Profiles, Yuba River adjacent to RD 784 Levee	Page C-5
Figure C-2. ULDC Criteria Water Surface Profiles, Feather River	Page C-6
Figure C-3. ULDC Criteria Water Surface Profiles, Bear River	Page C-7
Figure C-4. ULDC Criteria Water Surface Profiles, Western Pacific Interceptor Canal (WPIC)	Page C-8

Table C-3. Profile Data, Bear River				
Levee Mile	200-yr Water Surface Elevation (DWSE) (ft-NGVD 29)	200-yr Water Surface Elevation + 3 feet (ft-NGVD 29)	500-yr Water Surface Elevation (ft-NGVD 29)	HTOL (ft-NGVD 29)
3.569	57.95	60.95	60.51	60.51
3.562	57.96	60.96	60.51	60.51
3.553	57.94	60.94	60.50	60.50
3.44	57.71	60.71	60.39	60.39
3.35	57.66	60.66	60.36	60.36
3.22	57.55	60.55	60.30	60.30
3	57.36	60.36	60.21	60.21
2.76	57.18	60.18	60.11	60.11
2.5	56.98	59.98	60.01	59.98
2.25	56.82	59.82	59.93	59.82
2	56.69	59.69	59.85	59.69
1.75	56.60	59.60	59.80	59.60
1.5	56.49	59.49	59.74	59.49
1.25	56.39	59.39	59.68	59.39
1.01	56.28	59.28	59.61	59.28
0.75	56.06	59.06	59.40	59.06
0.67	55.97	58.97	59.33	58.97

Table C-4. Profile Data, Western Pacific Interceptor Canal (WPIC)				
Levee Mile	200-yr Water Surface Elevation (DWSE) (ft-NGVD 29)	200-yr Water Surface Elevation + 3 feet (ft-NGVD 29)	500-yr Water Surface Elevation (ft-NGVD 29)	HTOL (ft-NGVD 29)
4.94	59.22	62.22	61.41	61.41
4.93	59.22	62.22	61.41	61.41
4.75	59.21	62.21	61.40	61.40
4.5	59.21	62.21	61.40	61.40
4.25	59.21	62.21	61.40	61.40
4	59.21	62.21	61.40	61.40
3.75	59.20	62.20	61.40	61.40
3.5	59.20	62.20	61.40	61.40
3.25	59.20	62.20	61.40	61.40
3	59.20	62.20	61.39	61.39
2.75	59.19	62.19	61.39	61.39
2.5	59.19	62.19	61.39	61.39
2.44	59.19	62.19	61.39	61.39
2.25	59.19	62.19	61.39	61.39
2.24	59.19	62.19	61.39	61.39
2	59.18	62.18	61.39	61.39
1.75	59.18	62.18	61.39	61.39
1.5	59.18	62.18	61.39	61.39
1.25	59.17	62.17	61.39	61.39
1	59.17	62.17	61.38	61.38
0.75	59.16	62.16	61.38	61.38
0.5	59.16	62.16	61.38	61.38
0.25	59.15	62.15	61.38	61.38
0.06	59.15	62.15	61.38	61.38

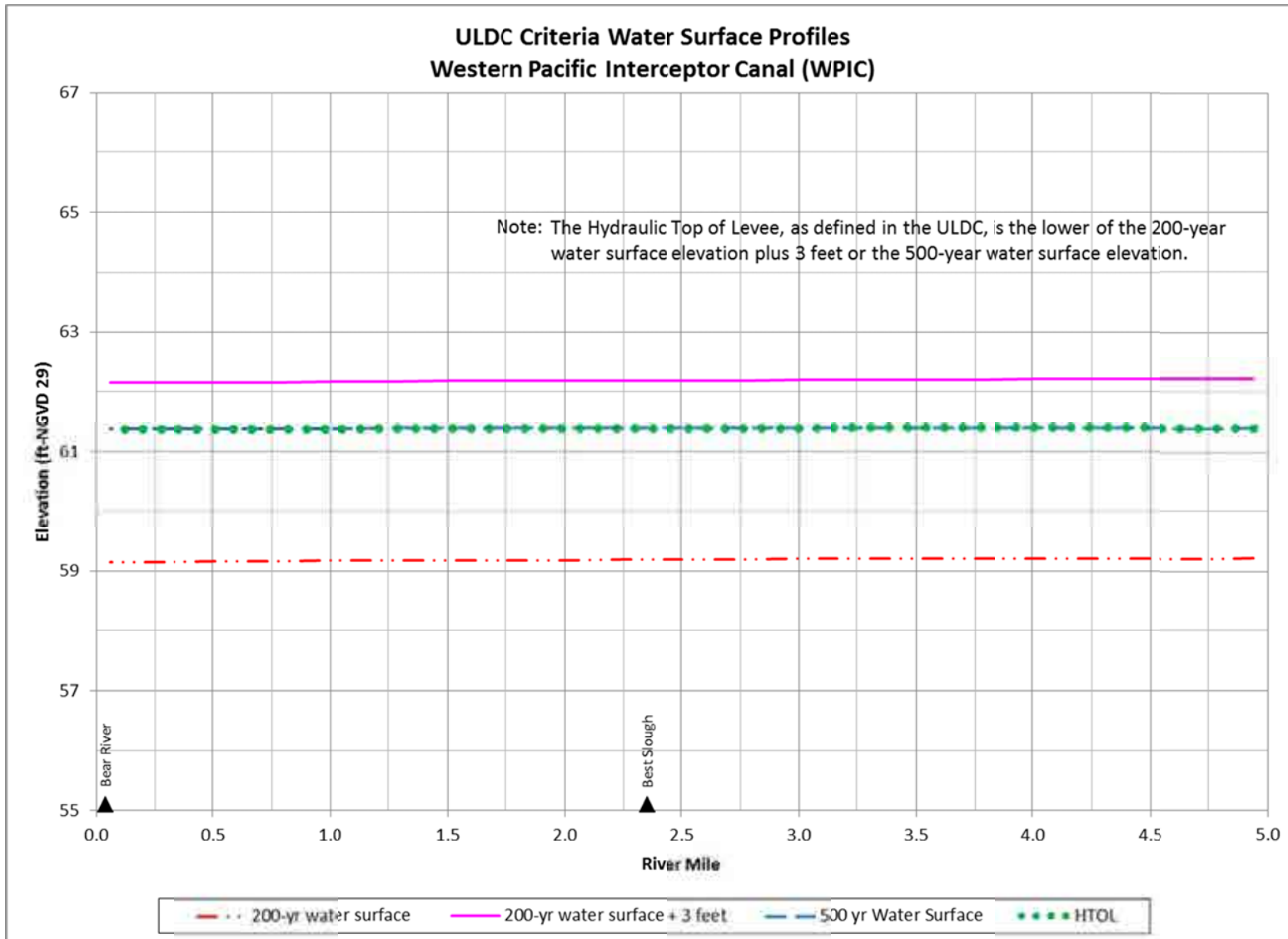


Figure C-4. ULDC Criteria Water Surface Profiles, Western Pacific Interceptor Canal (WPIC)

December 23, 2015

Via U.S. Mail/Email (eric.butler@water.ca.gov)

Central Valley Flood Protection Board
Attn: Eric Butler
3310 El Camino Ave, Rm. 151
Sacramento, CA 95821

Re: *PROTEST – Applications # 19020 BD & 19020-1 BD - Three Rivers Levee Improvement Authority Projects on the Western Pacific Interceptor Canal*

Dear Mr. Butler:

Our office represents Bruce and Robin Burrow of Latigo Farms LLC. This letter is written in protest to application # 19020 BD, submitted by Three Rivers Levee Improvement Authority (“TRLIA”) to install approximately 3,300 feet of conventional cutoff wall approximately 50-feet deep and install approximately 1,500 feet of DMM cutoff wall approximately 70 feet deep along the west levee of the Western Pacific Interceptor Canal. The Burrows also protest application # 19020-1 BD, submitted by TRLIA, which intends to place fill and to construct a drain berm, stability berm, and toe access road along the landside levee of the Western Pacific Interceptor Canal. Both applications will hereafter be referred to collectively (the “Projects”).

1. Protestant Identification

The protestants are Bruce and Robin Burrow, of Latigo Farms LLC. They own APNs 014-360-011 and 014-360-013, which are adjacent parcels to the Projects.

Their contact information is:

Latigo Farms LLC
Attn: Bruce and Robin Burrow
4774 Virginia Rd
Marysville, CA 95901
Telephone: (530) 218-4868
Email: brburrow1@gmail.com

Mr. Eric Butler
December 23, 2015
Page 2

With copies to:

Churchwell White LLP
Attn: Barbara Brenner
1414 K Street, 3rd Floor
Sacramento, CA 95814
Telephone: (916) 468- 0625
Email: barbara@churchwellwhite.com.

2. Statement of Objections

While the Burrows have many objections to TRILIA's actions and activities on and near their property, the most pressing concerns with the Projects are raised below.

The Burrows have not been provided a full description of the Projects or explanatory documents that would properly notify them of the risks associated with the Projects. The notification of application from the Central Valley Flood Protection Board (the "Board") was the first document that was mailed to the Burrows regarding the Projects and that document provides only a limited description of the proposed Projects. The full application and description of the Projects were not provided and are not available on either the Board's website, nor on TRILIA's website. The Burrows require full access to the corresponding application and documentation to assist them in understanding the full scope of the Projects.

The Burrows also object to the Projects based on serious concerns over the potential impact to their water source as a result of the Projects. Construction of a slurry wall, berms and an access road may damage both the water supply and water quality to the adjacent parcels. The change in water flows from the slurry wall, berms, and an access road construction may harm the groundwater basin and in turn, damage the groundwater resources and equipment. The Burrows have both wells and pumps on their adjacent parcels. The Projects could damage this equipment and result in extensive costs to repair. There has been no information provided by the Board or TRILIA to explain whether the Projects will impact underground flows or the Burrows' property or equipment.

The Projects could also damage the riparian corridor and areas adjacent to the Burrows' property. The insertion of a slurry wall, berms, and access road construction could negatively impact the surrounding environment near the levee. The Burrows have not seen any documentation from TRILIA or the Board's review of the environmental impacts for the Projects. The Burrows are concerned that both agencies have failed to thoroughly evaluate the environmental impacts as required by the California Environmental Quality Act.

Perhaps the most concerning issue to be raised before the Board is the potential increased risk of flooding on the Burrows' property. The insertion of the slurry wall, berms, and an access road could redirect flow patterns onto the Burrows' property and increase the likelihood of significant

Mr. Eric Butler
December 23, 2015
Page 3

flood events on the parcels. No explanation has been provided by TRLIA regarding the Projects or any risks of flooding. The Burrows need additional documentation and explanation of any potential flood risks that could result from TRLIA's work near the Burrows' property in order to fully evaluate the scope and potential impacts of the Projects.

3. Adverse Effects from the Projects

The Burrows own two parcels adjacent to the location of the Projects, and any work performed could have a negative impact on the surrounding environment, including the value of the Burrows' property. The Projects also have the potential to significantly and negatively impact the water quality and water supply to the Burrows' parcels. The Projects could also increase the risk of flooding on the Burrows' parcels. TRLIA has not provided any documentation or support to explain the Projects or the potential impacts on the Burrows. Consequently, the Burrows are unaware of the extent of risk or damage that the Projects may create and ask that TRLIA provide the necessary information so that the Burrows may fully evaluate the Projects.

We thank you for the opportunity to protest the Projects and raise the Burrows' concerns. A formal request, pursuant to the California Public Records Act (Government Code section 6250 et seq.), to inspect and obtain copies of all records related to the Projects in the possession of the Board or TRLIA will be submitted in addition to this letter. We reserve the right to raise additional concerns or amend this protest after receipt of any additional documentation or at any evidentiary hearing scheduled by the Board for the Projects.

Regards,

Churchwell **White** LLP


Barbara A. Brenner

BAB/dg

cc: Three Rivers Levee Improvement Authority



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

Office (530) 749-7841 Fax (530) 749-6990

February 1, 2016

Bruce and Robin Burrow
Latigo Farms LLC
4774 Virginia Road
Marysville, California 95901

RE: PROTEST – Applications # 19020 BD & 19020-1 BD – Three Rivers Levee Improvement Authority Projects on the Western Pacific Interceptor Canal

Dear Mr. and Mrs. Burrow,

Three Rivers Levee Improvements Authority (TRLIA) recently received the December 23, 2015 letter from Churchwell White LLP protesting TRLIA applications 19020 and 19020-1 submitted to the Central Valley Regional Water Quality Control Board. TRLIA has not responded to this letter until now because a copy of the protest letter was not received at the TRLIA office, as appears to have been intended. The CVFPB staff only recently forwarded TRLIA a copy of the letter. The protest letter raises several objections to TRLIA's applications, each of which is addressed below.

The first objection raised in the protest letter relates to not having been provided a full description of the proposed project associated with the applications. A complete project description is available in the Draft Environmental Assessment/Finding of No Significant Impact and Initial Study/Proposed Mitigated Negative Declaration (Draft EA/IS) at www.trlia.org. The Draft EA/IS was issued for public comment in June 2015. In summary, TRLIA is proposing to improve the Western Pacific Interceptor Canal (WPIC) west levee through its WPIC 200-Year Standard Project. Portions of the work included in permit applications 19020 and 19020-1 would occur on property owned by Latigo, specifically, APN 014-360-011 and 014-360-013, although this work would occur on the portion of the parcel currently being acquired by TRLIA. The work on APN -013 includes construction of a levee cutoff wall and a landside access road for operations and maintenance purposes. Work on APN -011 also includes these features, as well as construction of a berm between the levee and landside access road. The purpose of these features is to reduce flood risk to the area west of the WPIC.

The second objection is regarding the potential impact to your water source. Three cutoff walls are proposed as part of the project; one of these will be constructed on the portion of the Latigo property (APN -013 and -011) being acquired by TRLIA. This cutoff wall would be relatively shallow, extending 50 feet below the levee crown and is designed to reduce seepage through and under the levee caused by high water in the WPIC. Existing groundwater conditions and potential for the cutoff walls to adversely affect the local groundwater table level and well yields are

described in Section 3.10 (Hydrology and Water Quality) of the Draft EA/IS. Specifically, the analysis on page 3-89 concludes that wells in the region are typically deeper than the proposed cutoff walls. Shallow wells near the cutoff walls, if any, could experience some disruption in radial flow; however, no substantial decrease in well yields or lowering of the local groundwater table level is expected to occur. Therefore, the cutoff walls are not expected to substantially affect the utility of existing or future supply wells.

The third objection is regarding damage to the riparian corridor. Effects on riparian vegetation are evaluated in Section 3.5 (Biological Resources) of the Draft EA/IS. As indicated on page 3-41, the project would not result in removal of any riparian vegetation on the east side (waterside) of the WPIC west levee. Impacts on willow scrub and oak woodland vegetation landside of the levee on APN 360-011 are described on pages 3-42 and 3-43. A relatively narrow strip along the eastern edge of this area of willow scrub and oak woodland would be removed to accommodate construction of the toe access road. However, the project was designed to limit infringement on these habitats to the maximum extent feasible, and the majority of the willow scrub vegetation and small oak trees present on APN 360-011 would be retained. In addition, this vegetation is within the portion of the parcel that is being acquired by TRLIA, and no riparian vegetation on the portion of the parcel to be retained by Latigo LLC would be affected.

The fourth objection is regarding potential increased risk of flooding. The primary purpose of the proposed project is to reduce the risk of flooding to the area west of the WPIC through remediation of seepage and stability deficiencies. The remediation measures do not alter the levee height or waterside geometry of the channel; therefore, there are no changes in water surface elevations. Further, implementation of the Bear River setback project, a previous phase of TRLIA's levee improvement program, reduced water surface elevations through creation of a levee setback. Thus, the cumulative result, to both the protected area west of the WPIC, and the area east of the WPIC, is reduced flood risk. More information about the Bear River Setback and TRLIA's levee improvement program is available at www.trlia.org.

As summarized above and discussed in detail in the Draft EA/IS, TRLIA does not anticipate any unmitigated significant environmental effects as a result of the project. Further, TRLIA does not anticipate any significant adverse effects to the water quality, water supply, riparian corridor, or flood risk for the Latigo property and owners and therefore would not expect any negative influence on the value of the property.

Sincerely,



Paul G. Brunner, P.E.
Executive Director
Three Rivers Levee Improvement Authority

Cc:
CVFPB
Churchwell White