Meeting of the Central Valley Flood Protection Board
May 26, 2011

Staff Report

West Sacramento Area Flood Control Agency (WSAFCA)
West Sacramento Levee Improvement Program
The Rivers, Yolo County

1.0 – ITEM

Consider approval of Permit No. 18313-2 (Attachment B).

2.0 – APPLICANT

West Sacramento Area Flood Control Agency (WSAFCA)

3.0 – LOCATION

The project is located in West Sacramento along the right (south) bank of the Sacramento River approximately 1.5 miles upstream from the American River outfall along the Riverbank Road, in Yolo County (see Attachment A).

4.0 – DESCRIPTION

Applicant proposes to construct approximately 0.56 linear-miles of levee on the crest of River Crest Drive Levee (STA 71+50 to 101+00) along the south bank of the Sacramento River; installing a seepage cutoff wall from Station 71+50 to 101+00, ranging in depth from 90 to 135-feet deep; re-grade the landside slope to a 3:1 from Station 70+50 to 101+00; install six 4 inch diameter piezometers to a depth ranging from 23 feet to 54 feet; provide recreation features such as 262 feet of maintenance road, paved ramps, ADA parking, 3,936 feet of paved trails and bicycle/ pedestrian gates at levee station 100+25, along the right (south) bank of the Sacramento River.

5.0 – PROJECT ANALYSIS

The proposed levee, cutoff wall, construction and utility relocations will be designed and constructed in accordance with United States Army Corps of Engineers (USACE), Department of Water Resources (DWR) Interim Levee Design Criteria (ILDC) Version 4, and Central Valley Flood Protection Board (Board) standards. The levee modification will have a cutoff wall for under-seepage. The construction will be completed in one construction season and will include all of the above improvements as well as the recreational features, and utility improvements in the project area. The proposed project currently it is planned to:

- open bids on this project May 31, 2011,
- with a Notice To Proceed (NTP) on June 20, 2011,
- and mobilize equipment on June 21, 2011.

For more detailed project information refer to Attachments D through I.

5.1 – Project Background

The West Sacramento Basin is bounded by the Sacramento bypass on the north, the Sacramento River on the east, the Yolo Bypass and Sacramento Deep Water Ship Channel (DWSC) on the west and the South Cross Levee on the south. The West Sacramento Basin is divided into the north and south basins. The levee system that protects these basins is a part of the Sacramento River Flood Control Project (SRFCP) and includes over 50 miles of levees in Reclamation District (RD) 900, RD 537, Maintenance Area 4, and DWSC. Its primary purpose is to prevent Sacramento River and Yolo Bypass flood flows from entering the City. The Rivers site is part of the Sacramento River North West Levee and is referred to as “The Rivers” EIP site.

The West Sacramento flood protection system was originally constructed by the U.S. Army Corps of Engineers as a part of the Sacramento River Flood Control Project. The non-federal sponsor of the flood control system is the Central Valley Flood Protection Board (CVFPB); however, the project is maintained and operated by the California Department of Water Resources (DWR), RD 900 and RD 537.

The West Sacramento Area Flood Control Agency (WSAFCA) and the City of West Sacramento City Council defined a policy of achieving a minimum 200-year flood protection for the City by adopting Ordinance 07-11at a City Council Meeting on May 2, 2007. The City of West Sacramento, through a team of consultants lead by HDR

Engineering, has evaluated the levee system and found it to be inadequate for protecting the City from a 200-year flood event.

The City's overall levee improvement program includes identification of candidate sites for the State Flood Control System Program, Early Implementation Projects (EIP). These are projects that are to be built in advance of publication of the State Plan of Flood Control scheduled for 2012. EIP sites are assumed to conform to the eventual requirements defined by the State Plan of Flood Control. The Rivers EIP site was identified for improvement as part of the EIP program.

Land use in the proposed project area is primarily residential with a school and parks nearby. There is also a large riparian strip of land adjacent to the Sacramento River. The impacts to private landowners will be compensated, and public lands will be used where possible for outfall location, and valuable riparian habitat will be avoided as well.

Maintenance Area (MA) 4 has endorsed this project and construction has been initiated on one other phase of the WSAFCA to the south of the proposed project. This project and the CHP Police Academy Levee along the south bank of the Sacramento Bypass is the next phase of improvements scheduled for the WSAFCA. The most recent project to be approved and constructed was permit number 18336. This initial Early Implementation Project was to construct a 600 foot long seepage cutoff wall on the right (west) bank of the Sacramento River south of the "I" Street Bridge.

At the July 2010 Board Meeting, Board authorized sending a letter to the USACE to request 33 U.S.C Section 408 approval of the WSLIP for both the CHP Academy and Rivers projects.

5.2 – Project Design Review

The Flood System Improvements Section staff completed a technical review of the following documents:

- 100% Plans and Specifications for, Station 71+50 to 101+00.
- 100% Design Documentation Report
- 100% Technical Specifications
- Geotechnical Analysis Summary, Station 70+00 to 115+00 – Kleinfelder (September 9, 2009) Volumes 1 and 2.

- Hydrology / Hydraulic Analysis – MBK Engineers

This technical review concluded that the designs for the Rivers Site are in accordance with Board, USACE, and DWR Interim Levee Design Criteria (ILDC) Version 4 standards.

5.3 – Hydraulic Analysis

The project has been designed for the 200-year event based on the American River carrying the design flow from the Folsom Joint Federal Project (JFP) of 160,000 cfs, levees overtop without failure, and the Sacramento weir is in full operation. This scenario produces the most conservative design Water Surface Elevation (WSE) for the 200-year event.

Changes were made to the hydrology and hydraulic model from the March 2007 report and the effects of these changes on the computed 200-year design and the 100-year FEMA criteria water surface elevations in the waterways surrounding West Sacramento made improvements to the perimeter levee system around the City.

The hydraulic design performed by MBK Engineers modeled the design water surface elevation (WSE) based on the following criteria:

- A 200-year (1/200 Annual Exceedence Probability (AEP)) flood event,
- Levees overtop without failure,
- Folsom Joint Federal Project (JFP) in place (200-year peak Folsom Dam release of 160,000 cfs),
- The following components of the Three Rivers Levee Improvement Project is in place:
    - RD 784 Bear River levee setback
    - RD 784 Western Pacific Interceptor Canal levee raise
- Sacramento River Flood Control Project (SRFCP) levees with deficient design freeboard were raised to eliminate the deficiency.

Refinements, modifications and updates to the hydraulic model and hydrology have resulted in revised water surface elevations. The changes and the resulting revised water surface elevations are incorporated in this staff report.

The proposed design provides a minimum of 3-feet of freeboard above the 200-year design storm plus an additional height for post-construction settlement. This designed

levee should not have significant issues with erosion and scour due to the location of the existing levee, which will be relocated a maximum of twenty-five feet water ward and still posses 340 feet to 440 feet of slope to the normal water edge along a 10:1 slope (flat).

Station	Freeboard (ft)	200-yr WSE (ft)	Existing Grade (ft)	Finished Grade (ft)
71+00	4.65	36.67	41.50	41.32
101+00	5.35	36.68	42.10	42.03

The wind setup and wave run-up should be negligible for this reach of the Sacramento River which flows west to east and in the same direction of the wind-waves. The fetch distance is relatively small across this portion of the river with the wind /wave run-up reduced to non-existent with existing riparian vegetation in place.

Storm-water runoff from the waterside of the levee and the landside of the existing levee will be collected in drainage swales. Flows from swales, trails and maintenance roads will be accumulated and safely conveyed to rock rip-rap outfalls into the Sacramento River. A series of culverts will direct water away form the levee under the recreation trails into the riparian mitigation areas. The drainage system is designed for a 10-year storm event; however, the system can handle a larger storm event without failing the levee.

No major project feature of the project encroaches into the channel and overbank of the Sacramento River. The drainage outfalls will, however, include some energy dissipation measures (rock riprap) on the bank of the river.

SB 276, which was signed into law October 13, 2007, states in part,

> *"... the increase in flood protection associated with improving the American and Sacramento River levees and modifying Folsom Dam will be accomplished without altering or otherwise impairing the design flows and water surface elevations prescribed as part of the Sacramento River Flood Control Project. Accordingly, these improvements will not result in significant adverse hydraulic impacts to the lands protected by the Sacramento River Flood Control Project. Thus, it is not necessary or appropriate to require these projects to include hydraulic mitigation…"*

The West Sacramento engineering consultant performed hydraulic simulations to estimate effects of future mean sea level change on the design. From their report dated February 09, 2009, that rate of rise in water surface elevation varies from 0.01 feet to 0.08 feet. This is less than significant.

Staff reviewed the hydraulics analysis and agreed with the hydraulic report's conclusion that the project will not have adverse hydraulics impact to the Sacramento River Flood Control System. No major project feature of the project encroaches into the channel and overbank of the Sacramento River.

5.4 – Geotechnical Analysis

This geotechnical review has been made based upon the documentations provided by WSAFCA for the improvement of the Rivers Site (from Station 71+50 to Station 101+00) along the Sacramento River, Yolo County, California. In particular, the review is based on the data presented in the geotechnical data and Design Document Report, and partially on the Technical Memorandum Analysis Summary and Recommendations.

The proposed levee re-configuration varies in re-compacted height from 10 to 15 feet. Top widths are 20 feet wide at the crest with 12 feet of 3 inch A.C. on 9 inches of AB. Landside slopes are designed to be 3:1 and waterside slopes vary from 3:1 to ~10:1. The soil cement bentonite (SCB) cut-off wall will be positioned along the centerline of the reconstructed levee and consist of a clay cap and 95 percent compacted soil benched and keyed into the existing levee.

Models for analysis of the Rivers Site levee were selected at station 87+50, 97+50 and 114+00. The model cross sections were developed at each location using available topographic data provided by HDR Engineering. The stratigraphy and soil property parameters for the models were selected using available subsurface data gathered from the exploration locations and presented in the Technical Memorandum provided by West Sacramento and dated September 9, 2009. The subsurface data includes borings and cone penetration tests (CPTs) performed by URS in 2006, CPTs performed by DWR in 2006 and 2007, and borings and CPTs performed by Kleinfelder in 1988,1989, 1992, 2007, and 2009.

The design water surface elevation (WSE) values (1957, 100-year, 200-year, and 200-year + 3 feet) are based on the information provided in the report entitled "Supplemental Report for the City of West Sacramento Levee Alternatives Hydraulic Analysis (Draft)," by MBK Engineers (MBK), dated august 6, 2008.

Based on the general subsurface conditions, cross sections at stations 87+50, 97+50, and 114+00 were analyzed for seepage and slope stability as provided in the Rivers Site Technical Memorandum by DWR and Kleinfelder. The seepage analysis summary table (exit gradients) and slope stability factor of safety (FOS) tables are shown below.

The acceptable exit gradient values for the ACOE and DWR are 0.5 and 0.6, respectively; the acceptable FOS for stability for the ACOE and DWR are 1.2 to 1.4 and 1.3 to 1.4 respectively.

Seepage Summary Table

Station	Existing Exit Gradient	Proposed Condition	Cutoff Wall Depth (ft)
87+50	1.47	0.13	125
97+50	1.00	<0.13	95
114+00	1.72	0.18	85

Slope Stability Summary Table

Station	Existing Exit Gradient	Proposed Condition	Cutoff Wall Depth (ft)
87+50	1.47	0.13	125
97+50	1.00	<0.13	95
114+00	1.72	0.18	85

The geotechnical analyses conducted were seepage analysis, slope stability analysis, settlement analysis, seismic analysis, and cutoff wall trench stability analysis during construction. The seepage and slope stability analyses were conducted based on both USACE and DWR Interim Levee Design (ILDC - 2009) criteria. A deterministic 200-year water surface elevation by MBK Engineers, were used in the models. The analyses were generally in agreement with the standard of practice in the Sacramento area, and as per required regulatory guidelines.

There are six monitoring wells proposed. Three are to be located at Sta. 87+50 and three are proposed at Sta. 97+50. Each series of the wells will be located at the Landside toe, the levee crest on the waterside of the cutoff wall and the levee crest on the Landside of the cutoff wall. Installation of wells on the crest to both waterside and landside of the cutoff wall will allow for measurement of water level on each side of the cutoff wall and assess efficiency of the cutoff wall. Well depths vary from 23.5 feet deep to 52 feet deep.

The proposed project geometry consists of a crest elevation that is a minimum of 3-feet over the 200-yr WSE, a minimum 20-foot crest, and a waterside levee slope varying from 3:1 (H:V) to 19:1 (H:V) and minimum landside levee slope of 3:1 (H:V). See Attachments E and H.

Staff has concluded that they agree with the applicant's assessment that the project does not bear any geotechnical impacts to the Sacramento River Flood Control System of the State Plan of Flood Control, as all geotechnical issues have either been mitigated or determined to have insignificant effects on the structural integrity of the levee as long as the piezometers are installed, per the design plans and specifications. The

piezometers will be installed under this permit, but will be awarded under a separate construction contract.

5.5 – Project Benefits

The project has the following benefits associated with its completion:

- Addresses major geotechnical concerns such as through and under-seepage, excessive hydraulic gradients, bank erosion, scour, and unacceptable encroachments
- Strengthens and improves the levee to provide increased stability
- Provides 200-year water surface elevation (WSE) + 3-feet hydraulic protection in the majority of the project

5.6 – Riparian Mitigation

ICF International (a sub-consultant to WSAFCA for tree plantings) provided 60% Plans and Design Submittal for Riparian Mitigation, as analyzed in the FEIR and which were presented to Board Staff in April 2011 after USACE approval at Washington D.C. for the bulk of the project development. It is intended by the USACE and WSAFCA to permit the Vegetative work under the USACE 208.10 process.

WSAFCA's rational is that the major civil work will be constructed first under an initial construction contract followed by site vegetative plantings at the latter part of the contract which is typical in these types of projects. Therefore, it is WSAFCA's intent to hire a separate qualified Landscape Contractor to do this final mitigation work at a savings for the contract. WSAFCA did not want to risk delays in construction for the levee improvements due to the approval of the mitigation features.

The scope of work under this Riparian Mitigation will be to:

- Prepare the soil.
- Plant approximately 900 trees and 4,900 grasses and sedges in the following planting zones (acres): Riparian -1.78, Oak Woodland - 1.73, Infill - 0.45, and Trail Side - 1.11.
- Provide erosion control for the mitigation area.
- Prepare a temporary irrigation system for the establishment period.
- Provide plant maintenance for the establishment period.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- Permit No. 18313-2 is not valid until the Central Valley Flood Protection Board has received 33 U.S.C. Section 408 approval and letter of permission from the U.S. Army Corps of Engineers (Corps). The permittee shall comply with all conditions set forth in the letter of permission from the Corps once it is received, which shall be attached to this permit as Exhibit A and incorporated by reference. The Corps letter is expected to be received prior to the Board meeting on May 26, 2011.
- DWR Maintenance Area 4 (MA 4) has endorsed this project and has been incorporated into Permit No. 18313-2 by reference as Exhibit B.

7.0 – CEQA ANALYSIS

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) (SCH No. 2007102130, May 2009) and Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR, February 2011) for the West Sacramento Levee Improvements Program – CHP Academy and The Rivers Early Implementation Projects submitted by the West Sacramento Area Flood Control Agency. The West Sacramento Area Flood Control Agency, as the lead agency, determined that the project would have a significant effect on the environment and adopted Resolution 11-03-01 (which includes Findings, Facts in Support of Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan) on March 10, 2011 and subsequently filed a Notice of Determination on March 11, 2011 with the Yolo County Clerk. These documents, including project design and WSAFCA resolutions, may be viewed or downloaded from the Central Valley Flood Protection Board website at http://www.cvfpb.ca.gov/meetings/2011/5-26-2011.cfm under a link for this agenda item. The documents are also available for review in hard copy at the Board and City of West Sacramento offices.

7.1 – Impacts that can be Mitigated

The significant impacts and the mitigation measures to reduce them to less than significant are adopted in WSAFCA Resolution 11-03-01 dated March 10, 2011 (which includes Findings, Facts in Support of Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan). Based on its independent review of the DEIS/DEIR and FEIS/FEIR and the WSAFCA Resolution 11-03-01, the Board finds that for each of the significant impacts described, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the DEIS/DEIR and FEIS/FEIR. Moreover, such changes or alterations are within the responsibility and jurisdiction of the WSAFCA and such changes have been adopted by that agency. The following are the significant impacts and the mitigation measures to reduce them to less than significant:

- Flood Control – The project proponent has prepared drainage studies as needed, and remediated effects of the alteration of existing drainage patterns through project design.

- Water Quality and Groundwater Resources – Prior to construction, the project proponent will implement a Stormwater Pollution Prevention Plan (SWPPP), Bentonite Slurry Spill Contingency Plan (BSSCP), and a Spill Prevention, Control, and Countermeasures Plan (SPCCP) to mitigate for effects on groundwater or drinking water quality resulting from construction and operation.

- Transportation and Navigation – The effects of temporary road closures or restricted access to parking on the levee crown or roads that run adjacent to levee will be mitigated by implementing the environmental commitments of a Traffic Control Plan, coordination to ensure minimal overlap in disturbances to traffic during construction, and notification of construction area closure.

- Noise and Vibration – Implementation of noise-reducing construction practices and employ measures to prevent exposure of buildings and structures to excessive groundborne vibration.

- Biological Resources – The project proponent will install protective barrier fencing around sensitive wetland/riparian habitats, comply with the City of West Sacramento Tree Preservation Ordinance, conduct mandatory Contractor/Worker Awareness Training for construction personnel, retain a Biological Monitor during construction, and conduct Pre-Construction Surveys for listed species and nesting migratory birds to minimize the effects on their respective habitats. Compensation plans for the loss of woody riparian habitat and wildlife if loss occurs will be completed post construction.

- Visual Resources – The proposed Revegetation Plan will minimize the changes to the existing visual character or quality of the site and its surroundings as a result of construction, operations, and maintenance.

- Utilities and Public Services – The project proponent will verify utility locations, coordinate with utility providers, prepare a Response Plan and conduct worker training to minimize damage of public utility infrastructure and disruption of service during construction.

- Hazards and Hazardous Materials – To minimize effects of exposure to hazardous materials encountered at the project site, the project proponent will implement measures to maintain surface water quality and groundwater quality, provisions for dewatering, and complete Phase I and Phase II (if necessary) Environmental Site Assessment Investigations.

- Geologic and Soils Resources – The project proponent will implement the corrective actions identified as part of a project-specific Geotechnical Report to minimize the effects of expansive soils.

7.2 – Significant Unavoidable Adverse Impacts of the Project

The following impacts of the proposed project remain significant following adoption and implementation of the mitigation measures described in the FEIS/FEIR:

- Effects on Residents - Construction-related socioeconomic effects on residents will potentially disrupt day to day activities that, even though temporary, may still cause substantial inconvenience.

- New Source of Light or Glare - During construction, residents across the Sacramento River and the landside of the levee would temporarily experience a new source of light or glare that would affect their viewshed.

- Archaeological Resource - Project proponent will implement Inadvertent Discovery Procedures of the WSLIP Program Historic Properties Management Plan.

- Disturbance of Native American and Historic-Period Human Remains - Project proponent will implement Human Remains Discovery Procedures of the WSLIP Program Historic Properties Management Plan.

- Construction Emissions - Project proponent will implement measures to reduce exhaust emissions, and a fugitive dust control plan.

The Board finds that the specific economic, legal, social, technological or other benefits of the project outweigh the unavoidable adverse environmental effects, which are thus considered to be “acceptable.”

7.3 – Statement of Overriding Considerations

WSAFCA adopted Resolution 11-03-01 which included the Statement of Overriding Considerations. The Board concurs with this Statement.

The Board has independently considered the significant and unavoidable environmental impacts of the proposed project. The Board has also considered the benefits of the project, including achieving 200-year flood protection, incremental levee improvements that will bring the levees protecting the city of West Sacramento up to current Federal standards, and providing recreation opportunities that are compatible with flood improvement actions that also meet the city’s recreation and open space goals. The Board finds that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects of the project, and the adverse environmental effects are considered acceptable when these benefits of the project are considered.

The documents and other materials which constitute the record of the Central Valley Flood Protection Board’s proceedings in this matter are in the custody of Jay Punia, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

8.0 – SECTION 8610.5 CONSIDERATIONS

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

   The Board has considered all the evidence presented in this matter, including the original and updated applications for Permit No. 18313-2, technical documentation provided by WSAFCA on Rivers Project proposed improvements, past and present Staff Reports and attachments, the Environmental Impact Report on the Rivers Project (Draft and Final Versions), WSAFCA Resolution 11-03-01 including findings and Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program, all letters and other correspondence received by the Board and in the Board’s files related to this matter.

The custodian of the file is Executive Officer Jay Punia at the Central Valley Flood Protection Board, 3310 El Camino Avenue, Room 151, Sacramento, California 95821.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

   In making its findings, the Board has used the best available science relating to the issues presented by all parties. On the important issue of hydraulic impacts and the computed water surface profiles, SAFCA used the UNET one-dimensional unsteady flow model developed by the USACE for the Sacramento-San Joaquin Comprehensive Study. The model is considered by many experts as one of the best available scientific tools for the purpose of modeling river hydraulics, including flood control system simulations and water surface profile computations. Geotechnical and overall standards for levee design including the United States Army Corps of Engineers (USACE), Department of Water Resources (DWR) Interim Levee Design Criteria (ILDC), and Central Valley Flood Protection Board (Board) have been taken into consideration and the design is in compliance with these standards.

3. Effects of the decision on the entire State Plan of Flood Control:

   This project has positive effects on the State Plan of Flood Control as it includes features that will provide to the City of West Sacramento a level of 200-year flood protection. The Board also finds that none of the changes in project design between the 60 to 100 percent design levels result in adverse hydraulic impacts on the entire State Plan of Flood Control.

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

   The project would have no net increases in operational greenhouse gas (GHG) emissions impacting climate change. Emissions associated with the project would occur over a finite period of time as opposed to operational emissions, which would occur over the lifetime of a project. The project analysis included projected calculations of sea-level rise, in which, the rise was determined to be insignificant.

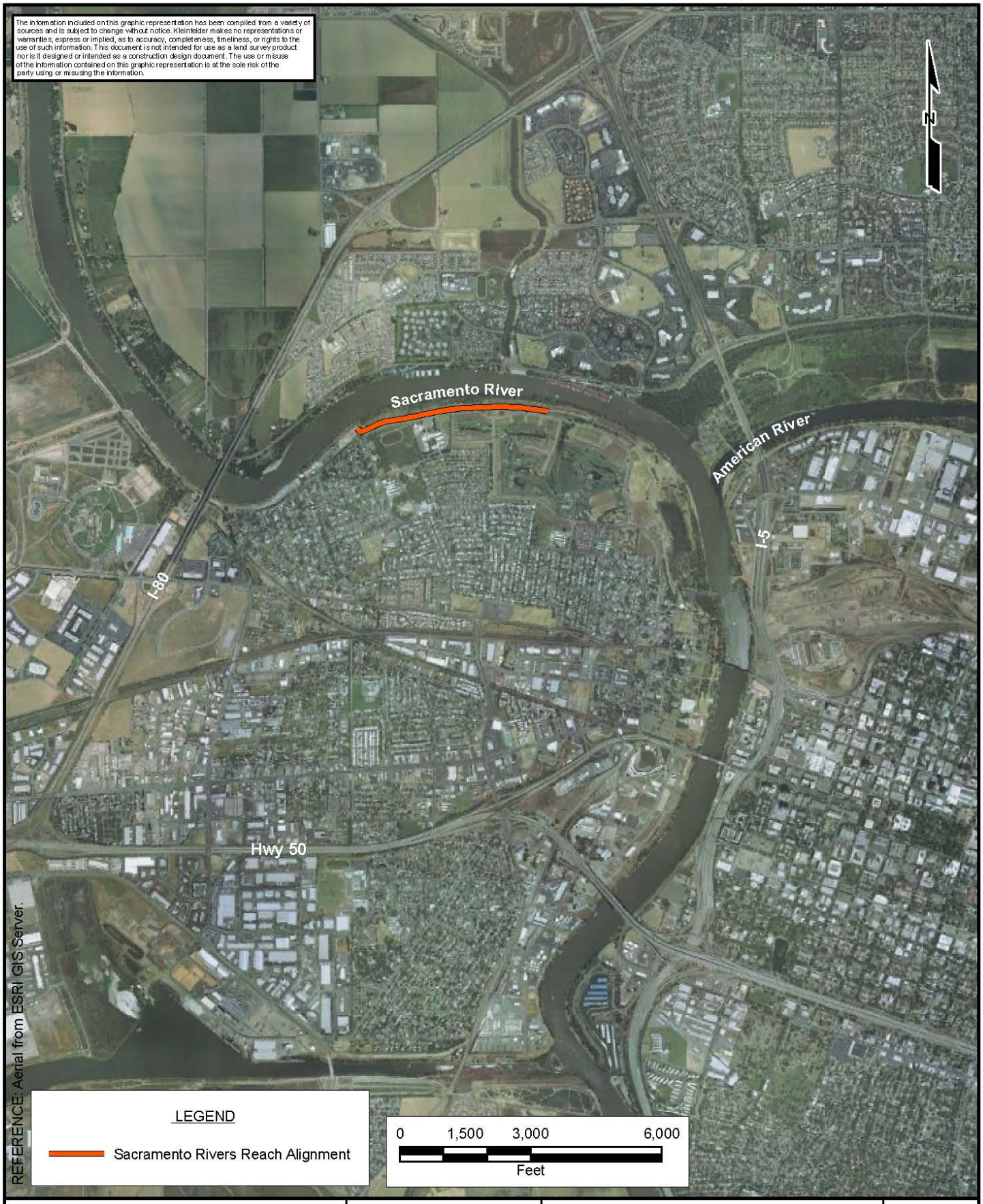
9.0 – STAFF RECOMMENDATION

Staff recommends that the Board adopt the CEQA findings, Resolution No. 11-18, approve Permit No. 18313-2, conditioned upon receipt 33 U.S.C. Section 408 approval and letter of permission from the U.S. Army Corps of Engineers, and direct staff to file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

A. Location Map
B. Draft Permit No. 18313-2
    - Exhibit A: U.S. Army Corps of Engineers 33 U.S.C. Section 408 Approval and Letter of Permission (expected prior to 5-26-11)
    - Exhibit B: DWR MA 4 Endorsement
C. Resolution 11-18
D. Project Syllabus – Design Features
E. Typical Cross Sections
F. Real Estate Drawings

Design Review:	David R. Williams, P.E.
Environmental Review:	James Herota, E.S. Andrea Mauro, E.S.
Document Review:	Nancy C. Moricz, P.E. Len Marino, P.E.



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PROJECT NO.	101153-riv
DRAWN:	6/22/09
DRAWN BY:	D. Anderson
CHECKED BY:	B. Anderson
FILE NAME:	101153 BOD Riv SLM.mxd

SITE LOCATION MAP

DRAFT GEOTECHNICAL BASIS OF DESIGN REPORT
THE RIVERS SITE, SRWNL STA 70+00 TO STA 115+00
WEST SACRAMENTO LEVEE IMPROVEMENT PROGRAM
WEST SACRAMENTO, CALIFORNIA

PLATE
1-1

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18313-2 BD

This Permit is issued to:

West Sacramento Area Flood Control Agency
1420 Merkley Avenue
West Sacramento, California 95691

To construct approximately 0.57 linear-miles of levee on the crest of River Crest Drive Levee (STA 68+41 to 102+00) along the south bank of the Sacramento River; installing a seepage cutoff wall from Station 70+77.73 to 101+24.07, ranging in depth from 90 to 135-feet deep; re-grade the landside slope to a 3:1 from Station 70+50 to 101+00; install six 4 inch diameter piezometers to a depth ranging from 23 feet to 54 feet; provide recreation features such as 262 feet of maintenance road, paved ramps, ADA parking, 3,936 feet of paved trails and bicycle/ pedestrian gates at levee station 100+25, along the right (south) bank of the Sacramento River. The project is located in West Sacramento, east of Jefferson Boulevard (Section N/A, T8N, R4E, MDB&M, Maintenance Area 4, Sacramento River, Yolo 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. 18313-2 BD

THIRTEEN: Within three years from completion of the construction of the work authorized under this permit, the permittee shall provide the Sacramento and San Joaquin Drainage District, acting by and through the Central Valley Flood Protection Board of the State of California, a permanent easement and/or a joint use agreement granting all flood control rights upon, over and across the property that is or will be occupied by the existing or to-be-constructed levee including the area of the cutoff wall and levee raise and realignment fill areas. The easement must include the following: 1)the levee section; 2) an area ten (10) feet in width from the waterside levee toe; the area ten (10) feet in width adjacent to the existing and new landward levee toes, if the areas are not presently encumbered by a Central Valley Flood Protection Board easement. For information regarding existing Central Valley Flood Protection Board Easements, please contact Angelica Aguilar at (916) 653-5782.

FOURTEEN: No construction work within the easement or rights of way, both existing and to be provided under this permit, of flood control features, including levees and seepage berms shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

FIFTEEN: All work approved by this permit shall be in accordance with the (100%) submitted drawings and specifications and Drawing Number C105 of the 90% plan set dated February 2010 which is the Levee Piezometer Plan and Detail, 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 Central Valley Flood Protection Board.

SIXTEEN: All addendums or other changes made to the submitted drawings or specifications by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted drawings or specifications the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

SEVENTEEN: There shall be no plantings within the project area under this permit, except that of native grasses. The permittee shall be required to apply for a separate or modified permit for any proposed plantings within the floodway.

EIGHTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the 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.

NINETEEN: The permittee shall defend, indemnify, and hold the 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 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.

TWENTY: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-ONE: All proposed recreational features and asphalt pavement on the finished levee and the recreational / pedestrian ramps and roads will be maintained in total by the City of West Sacramento.

TWENTY-TWO: 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.

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

TWENTY-FOUR: Prior to commencement of excavation, the permittee shall create a photo record, including associated descriptions, of the levee conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer, registered in the State of California, and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

TWENTY-FIVE: The permittee shall contact the U.S. Army Corps of Engineers regarding inspection of the project during construction as the proposed work is an alteration to the existing Federal Flood Control Project that will be incorporated into the Sacramento River Flood Control Project, an adopted plan of flood control.

TWENTY-SIX: If FEMA certification of the levee by the Corps of Engineers is being considered, the project proponent should contact the U. S. Army Corps of Engineers regarding inspection of this project during construction for FEMA certification purposes.

TWENTY-SEVEN: The stability of the levee shall be maintained at all times during construction.

TWENTY-EIGHT: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-NINE: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

THIRTY: The permittee shall cooperate with the Central Valley Flood Protection Board to ensure that any encroachment that must be relocated, modified or otherwise altered to accommodate construction of the improvements permitted herein are relocated, modified or otherwise altered in a manner that complies with current applicable state and federal standards. If the affected encroachment has an existing Board permit or is subject to some other applicable Board authorization, the permittee shall cooperate with the Board to ensure the permit or other authorization is appropriately amended to reflect the changed condition as shown on as-built drawings for the encroachment and the overall project. If the encroachment does not have a Board permit or other Board authorization, the permittee shall cooperate with the Board to determine whether a Board permit is required. If so, permittee shall cooperate with the Board to ensure that required permit application is made and, if granted, the permit reflects the changed condition as shown on as-built drawings for the encroachment and the overall project.

THIRTY-ONE: During demolition 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 Department of Water Resources Inspector and the Early Implementation Project (EIP) Construction Supervisor.

THIRTY-TWO: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

THIRTY-THREE: A profile of the levee crown roadway and access ramp that will be utilized for access to and from the borrow area shall be submitted to the Central Valley Flood Protection Board prior to commencement of construction.

THIRTY-FOUR: The haul ramps and utilized levee crown roadway shall be maintained in a manner prescribed by the authorized representative of the Department of Water Resources, or any other

agency responsible for maintenance.

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

THIRTY-SIX: Excavations below the design flood plane and within the levee section or within fifty (50) feet of the projected waterward and landward levee slopes, excluding the cutoff wall trench, shall have side slopes no steeper than 1 horizontal to 1 vertical. Flatter slopes may be required to ensure stability of the excavation.

THIRTY-SEVEN: Fluid pressures and flow rates shall be carefully monitored and controlled to minimize the potential for hydrofracturing.

THIRTY-EIGHT: Excess bentonite or other cutoff wall fluids shall be properly disposed of outside of the floodway. The bentonite or other cutoff wall fluids shall not be used as backfill material for levee reconstruction.

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

FORTY: Fill material shall be placed only within the area indicated on the approved plans.

FORTY-ONE: All fill material shall be impervious material with a minimum of 30 percent or more passing the No. 200 sieve, a plasticity index of 8 to 30, and a liquid limit of less than 55 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

FORTY-TWO: Density tests by a certified soils laboratory will be required to verify compaction of backfill within the floodway and within 10 feet of the levee toes.

FORTY-THREE: The fill surface area shall be graded to direct drainage away from the toe of the levee.

FORTY-FOUR: Backfill material for excavations within the, existing and to be constructed, levee section and within ten (10) feet of the levee toes shall be placed in 4- to 6-inch layers, moisture conditioned above optimum moisture content, and compacted to a minimum of 95 percent relative compaction as measured by ASTM Method D698.

FORTY-FIVE: The slopes of the proposed levee shall be no steeper than 3 horizontal to 1 vertical on the water side and 2 horizontal to 1 vertical on the land side.

FORTY-SIX: Any pipe or conduit being reinstalled in the levee section and within fifty (50) feet of both the waterward and landward levee toes shall meet Title 23 standards.

FORTY-SEVEN: Where appropriate the new and reconstructed 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-EIGHT: 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.

FORTY-NINE: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

FIFTY: All revetment on the waterside of the levee or river bank shall be quarry stone and shall meet the design and grading requirements, as specified, in Title 23, Section 121.

FIFTY-ONE: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

FIFTY-TWO: In the event existing revetment on the channel bank or levee slope is disturbed or displaced, it shall be restored to its original condition upon completion of the proposed installation.

FIFTY-THREE: 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-FOUR: 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 Central Valley Flood Protection Board prior to installation at a new location.

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

FIFTY-SIX: All debris generated by this project shall be disposed of outside the floodway and off the levee section.

FIFTY-SEVEN: Debris that may accumulate on the permitted encroachment(s) and related facilities shall be cleared off and disposed of outside the floodway after each period of high water with the exception of habitat debris, which may remain.

FIFTY-EIGHT: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources, or any other agency responsible for maintenance.

FIFTY-NINE: In the event that permitted improvements cause levee or bank erosion injurious to the adopted plan of flood control to occur at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

SIXTY: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the

permittee's expense.

SIXTY-ONE: Thorny plant will be removed from the planting pallet so inspections and maintenance are not impacted.

SIXTY-TWO: 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 may remove the encroachment(s) at the permittee's expense.

SIXTY-THREE: The permitted encroachment(s) shall not interfere with operation and maintenance of the current or future flood control project. If the permitted encroachment(s) are 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 encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

SIXTY-FOUR: The permittee acknowledges that some portions of the levee improvements may be overbuilt to account for settlement and that upon adoption of the updated Central Valley Flood Protection Plan, the permittee shall perform a levee crown profile survey of all levee crown covered by this permit and said profile shall be compared to the levee crown profile adopted in the updated Central Valley Flood Protection Plan. The permittee shall ensure that the levee crown does not exceed the updated Central Valley Flood Protection Plan profile.

SIXTY-FIVE: According to the permittee, the improvements herein permitted will control flood flows from a storm with a probability of occurrence of 0.005 in any year (200-year protection). Permittee's design assumed that non-urban existing levees upstream of Natomas will not be raised above the current design for the Sacramento River Flood Control Project as shown on the 1957 profile. Permittee's design flow therefore, reflects upstream flood water losses from levee overtopping where the water surface elevation for the permittee's design storm exceeds the top of levee elevation shown on the 1957 profile. Permittee acknowledges that a Central Valley Flood Protection Plan will be developed, adopted, and regularly updated by the State and the plan and subsequent updates could include improvements that would change the flow and water level associated with permittee's design storm, possibly reducing the level of protection provided by the permitted improvements. Permittee agrees to participate in future modifications to the West Sacramento levees as may be required by the Central Valley Flood Protection Plan and its subsequent updates. Permittee's level of participation shall be equivalent to the level required of other local jurisdictions by the plan. Permittee further agrees that should the Plan include measures that reduce the level of protection provided by the permitted improvements, permittee shall have no basis for a claim of hydraulic impacts.

SIXTY-SIX: Upon completion of the project, the permittee shall perform a levee crown profile survey and create a photo record, including associated descriptions, of "as-built" levee conditions. The levee crown profile survey and photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer, registered in the State of California, and submitted to the Central Valley Flood Protection Board within 120 days of project completion.

SIXTY-SEVEN: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional civil engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

SIXTY-EIGHT: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board proposed revision to the U.S. Army Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, West Sacramento River Flood Control Project, and the associated "as-built" drawings for system alterations that are to be incorporated into the federal West Sacramento River Flood Control Project.

SIXTY-NINE: The permittee is responsible for all liability associated with damage to the permitted facilities resulting from flood fight, operation, maintenance, inspection or emergency repair and shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, the State of California, and Maintenance Area 4, including their agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "agencies"), 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 agencies expressly reserve the right to supplement or take over their defense, in their sole discretion.

SEVENTY: This permit is not valid until the Central Valley Flood Protection Board has received 33 U.S.C. Section 408 approval and letter of permission from the U.S. Army Corps of Engineers (Corps). The permittee shall comply with all conditions set forth in the letter of permission from the Corps, when it is received, which shall be attached to this permit as Exhibit A and incorporated by reference.

SEVENTY-ONE: The permittee shall comply with all conditions set forth in the comments from Maintenance Area-4 dated May 10, 2011, which is attached to this permit as Exhibit B and is incorporated by reference.

SEVENTY-TWO: The permittee shall contact the Department of Water Resources by telephone, (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. The applicant is also required to contact the Early ImplementationProject (EIP) Construction Supervisor by telephone, (916)574-2646 to initiate inspection of the work.

SEVENTY-THREE: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

SEVENTY-FOUR: If the permittee or successor does not comply with the conditions of the permit and an enforcement by the Central Valley Flood Protection Board is required, the permittee or successor shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees.

SEVENTY-FIVE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board

and Department of Water Resources, at the permittee's or successor's cost and expense.

SEVENTY-SIX: Any additional encroachment(s) in the floodway, on or in the levee section, and within ten (10) feet of the landside levee toe and berm toes, require an approved permit from the Central Valley Flood Protection Board and shall be in compliance with the Central Valley Flood Protection Board's regulations (Title 23 California Code of Regulations).

SEVENTY-SEVEN: By acceptance of this permit, the permittee (West Sacramento Area Flood Control Agency) acknowledges the authority of the Central Valley Flood Protection Board to regulate all future encroachments along this levee reach, including those that may encroach upon alterations approved by this permit to incorporation into the federal West Sacramento River Flood Control Project by the U.S. Army Corps of Engineers.

SEVENTY-EIGHT: The applicant must adopt a resolution within 18 months from the date of issuance of this permit, that complies with Board Resolution No. 11-15, regarding the Board's Joint Powers Agreement (JPA) Policy, and the resolution must be to the satisfaction of the Board.

SEVENTY-NINE: Prior to construction, the applicant, West Sacramento Area Flood Control Agency (WSAFCA), shall have obtained legal possession of all property where work to be performed under this permit is located.

EIGHTY: Survey markers are to be installed to delineate easement boundaries and a GIS shapefile of the boundaries is to be provided to DWR within 120 days of construction completion.

EIGHTY-ONE: WSAFCA or the City of West Sacramento must enter into an agreement with DWR Sacramento Maintenance Yard for use of power and water throughout the project including vegetation irrigation following construction.

EIGHTY-TWO: City of West Sacramento will provide a letter to DWR assuring perpetual maintenance of vegetation within the project boundaries.

EIGHTY-THREE: A copy of this permit shall be included as an attachment to any Long-Term Management Plan for the permitted project area.

EIGHTY-FOUR: This permit shall run with the land and all conditions are binding on permitee's successors and assigns.

ATTACHMENT B – Exhibit A: Corps 33 U.S.C. Section 408 Approval and Letter of Permission

These letters have not been received by Board staff; however, it is expected to arrive prior to the Board Meeting on May 26, 2011

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. 18313-2
(For Office Use Only)

1. Description of proposed work:

The levee improvement plan includes a combination of levee reconstruction measures necessary to correct seepage, stability, levee geometry, and vegetation encroachment issues. The primary levee reconstruction measures will include installation of a seepage cutoff barrier along the upstream portions of the site, as well as levee grading, including slope flattening to correct any slope stability issues identified. Encroachments and vegetation within the project site will be removed or reconfigured, as necessary, to comply with current USACE policy. See Attachment A for more details.

2. Location: Yolo County, in Section ,
Township: 38°36'6.45"N- (N) 38°36'12.01"N (S), Range 121°32'11.34"W- 121°31'21.59"W (W), M. D. B. & M.

3. West Sacramento Area Flood Control Agency (Name of Applicant) of 1420 Merkley Avenue (Address)

West Sacramento (City) | CA (State) | 95691 (Zip Code) | 916-371-1483 (Telephone Number)
916-371-1494 (Fax Number)

4. Endorsement: (of Reclamation District)
We, the Trustees of State of California Department of Water Resources Maintenance Area 4 (Name and District Number)

approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form ☐ Conditions Attached ☒ No Conditions

Trustee: [signature] Date: 5/10/11
Trustee: Date:

Chief, Flood Maintenance Office

5. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If add ional space is required, list names and addresses on back of the application form or an attached sheet.

See Section III of the Application
Name | Address | Zip Code

STATE OF CALIFORNIA
THE RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

RESOLUTION NO. 11- 18

FINDINGS AND DECISION AUTHORIZING ISSUANCE OF
ENCROACHMENT PERMIT NO. 18313-2
WEST SACRAMENTO AREA FLOOD CONTROL AGENCY
WEST SACRAMENTO LEVEE IMPROVEMENTS PROGRAM
RIVERS PROJECT
YOLO COUNTY

WHEREAS, the West Sacramento Area Flood Control Agency ("WSAFCA") has begun a multi-year West Sacramento Levee Improvements Program to provide the City of West Sacramento with a level of 200-year flood protection; and

WHEREAS, WSAFCA is a Joint Powers Authority comprised of the City of West Sacramento, Reclamation District (RD) 900 and RD 537 for the purposes of constructing the improvements necessary to enhance the West Sacramento Levee System, including the levees along the Sacramento Bypass and the Sacramento River; and

WHEREAS, WSAFCA as lead agency under the California Environmental Quality Act, Public Resources Code sections 21000 *et seq*. ("CEQA") prepared an Environmental Impact Report on the West Sacramento Levee Improvements Program ("EIR") incorporated herein by reference and available at the Central Valley Flood Protection Board (Board) offices or WSAFCA offices; and

WHEREAS, WSAFCA as lead agency, prepared a Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) (SCH No. 2007102130, May 2010) and Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR, December 2010) for the West Sacramento Levee Improvements Program – Rivers Project. WSAFCA, as the lead agency, determined that the project would have a significant effect on the environment and adopted Resolution 11-03-01 on March 10, 2011 (which includes Findings, Facts in Support of Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan) and filed a Notice of Determination with the Yolo County Clerk on March 11, 2011; and

WHEREAS, WSAFCA as lead agency, certified the EIR, adopted mitigation measures and a Mitigation Monitoring Reporting Plan ("MMRP") (incorporated herein by reference and available at the Central Valley Flood Protection Board or at WSAFCA), approved findings and a statement of overriding considerations pursuant to CEQA and the CEQA Guidelines (incorporated herein by reference); and approved the Rivers Project; and

WHEREAS, WSAFCA submitted Application No. 18313-2 to the Central Valley Flood Protection Board on May 24, 2010; and

WHEREAS, on July 23, 2010, the Board approved a request to the U.S. Army Corps of Engineers ("Corps") for 33 U.S.C. Section 408 ("Section 408") approval to alter the federal flood control project levee along the south bank of the Sacramento River and delivered that request to the Corps on July 29, 2010; and

WHEREAS, the geographic description of the project area is in the City of West Sacramento, approximately 4,500 feet long and is located on the Sacramento River North Levee, just north of the confluence of the Sacramento and American Rivers, including part of The Rivers residential development; and

WHEREAS, WSAFCA proposes to construct approximately 0.57 linear-miles of levee on the crest of River Crest Drive Levee (STA 68+41 to 102+00) along the south bank of the Sacramento River; installing a seepage cutoff wall from Station 70+77.73 to 101+24.07, ranging in depth from 90 to 135-feet deep; re-grade the landside slope to a 3:1 from Station 70+50 to 101+00; install six 4 inch diameter piezometers to a depth ranging from 23 feet to 54 feet; provide recreation features such as 262 feet of maintenance road, paved ramps, ADA parking, 3,936 feet of paved trails and bicycle/ pedestrian gates at levee station 100+25, along the right (south) bank of the Sacramento River; and

WHEREAS, Board staff completed a technical review of 100% plans and technical specifications for the proposed levee strengthening design, consisting of: slurry cutoff wall, slope protection, and flattening of the landside and waterside levee slopes, and have concluded that design is in accordance with current Board and Corps standards; and

WHEREAS, Board staff will review any addendums or other changes to the submitted drawings or specifications that may occur after issuance of permit No. 18313- 2 and determine if the issues can be resolved without further Board consideration, or if the changes are anything more than minor-technical, that they will require the application be brought back to the Board at a future meeting; and

WHEREAS, the Board has conducted a public hearing on Permit Application No. 18313-2 and has reviewed the Reports of its staff, the documents and correspondence in its file, and the environmental documents prepared by WSAFCA.

NOW, THEREFORE, BE IT RESOLVED THAT,

Findings of Fact.

1. The Central Valley Flood Protection 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 Central Valley Flood Protection Board, as a responsible agency, has independently reviewed the analyses in the Draft Environmental Impact Statement /Draft Environmental Impact Report (DEIS/DEIR) (SCH No. 2007102130, May 2010) and the FEIS/FEIR (SCH No. 2007102130, December 2010) on the Rivers Project, submitted by WSAFCA and has reached its own conclusions regarding them.

4. The Central Valley Flood Protection Board, after consideration of the Draft Environmental Impact Statement /Draft Environmental Impact Report (DEIS/DEIR) (SCH No. 2007102130, May 2010) and the FEIS/FEIR (SCH No. 2007102130, December 2010), MMRP, and WSAFCA Lead Agency findings, adopts the project description, analysis and findings in the FEIR, MMRP and WSAFCA findings which are relevant to activities authorized by issuance of a final encroachment permit consistent with Permit No. 18313-2 for the Rivers Project.

5. **Findings regarding Significant Impacts**. Pursuant to CEQA Guidelines sections 15096(h) and 15091, the Central Valley Flood Protection Board determines that the WSAFCA findings, attached to the Staff Report, and incorporated herein by reference, summarize the FEIR's determinations regarding impacts of the modifications to the Rivers Project before and after mitigation. Having reviewed the FEIR and the WSAFCA findings, the Central Valley Flood Protection Board makes its findings as follows:

   a. Findings regarding Significant and Unavoidable Impacts.

   The Central Valley Flood Protection Board finds that the Rivers Project may have the following significant, unavoidable impacts, as more fully described in the FEIR and the WSAFCA findings. Mitigation has been adopted for each of these impacts, although it does not reduce the impact to less than significant. The impacts and mitigation measures are set forth in more detail in the FEIS/EIR and WSAFCA findings.

   A. New Source of Light or Glare – During construction, residents across the Sacramento River and the nearby Rivers would temporarily experience a new source of light or glare that would affect their viewshed.

   B. Archaeological Resources – Project proponent will implement Inadvertent Discovery Procedures of the WSLIP Program Historic Properties Management Plan.

   C. Disturbance of Native American and Historic-Period Human Remains – Project proponent will implement Human Remains Discovery Procedures of the WSLIP Program Historic Properties Management Plan.

   D. Construction Emissions – Project proponent will implement measures to reduce exhaust emissions, and a fugitive dust control plan.

E. Effects on Residents – Construction-related socioeconomic effects on residents will potentially disrupt day to day activities that, even though temporary, may still cause substantial inconvenience.

Finding: The Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen such impacts, as set forth more fully in the WSAFCA findings, but that each of the above impacts remains significant after mitigation. Such mitigation measures are within the responsibility of another agency, WSAFCA, and WSAFCA can and should implement the described mitigation measures. Specific economic, legal, social, technological or other considerations make infeasible mitigation or alternatives that would have reduced these impacts to less than significant.

b. Findings regarding Significant Impacts that can be reduced to Less Than Significant.

The Final EIR identifies the following significant impacts reduced to a less-than-significant level by mitigation measures identified in the Final EIR and incorporated into the project. It is hereby determined that the impacts addressed by these mitigation measures will be mitigated to a less-than-significant level or avoided by incorporation of these mitigation measures into the project.

A. Flood Control – The project proponent has prepared drainage studies as needed, and remediated effects of the alteration of existing drainage patterns through project design.

B. Water Quality and Groundwater – Prior to construction, the project proponent will implement a Stormwater Pollution Prevention Plan (SWPPP), Bentonite Slurry Spill Contingency Plan (BSSCP), and a Spill Prevention, Control, and Countermeasures Plan (SPCCP) to mitigate for effects on groundwater or drinking water quality resulting from construction and operation.

C. Geologic and Soils Resources – The project proponent will implement the corrective actions identified as part of a project-specific Geotechnical Report to minimize the effects of expansive soils.

D. Biological Resources – The project proponent will install protective barrier fencing around sensitive wetland/riparian habitats, comply with the City of West Sacramento Tree Preservation Ordinance, conduct mandatory Contractor/Worker Awareness Training for construction personnel, retain a Biological Monitor during construction, and conduct Pre-Construction Surveys for listed species and nesting migratory birds to minimize the effects on their respective habitats. Compensation plans for the loss of woody riparian habitat and wildlife if loss occurs will be completed post construction.

E. Utilities and Public Services – The project proponent will verify utility locations, coordinate with utility providers, prepare a Response Plan and conduct worker training to minimize damage of public utility infrastructure and disruption of service during construction.

F. Hazards and Hazardous Materials – To minimize effects of exposure to hazardous materials encountered at the project site, the project proponent will implement measures to maintain surface water quality and groundwater quality, provisions for dewatering, and if necessary complete Environmental Site Assessment Investigations.

G. Transportation and Navigation – The effects of temporary road closures or restricted access to parking on the levee crown or roads that run adjacent to levee will be mitigated by implementing the environmental commitments of a Traffic Control Plan, coordination to ensure minimal overlap in disturbances to traffic during construction, and notification of construction area closure.

H. Noise and Vibration – Implementation of noise-reducing construction practices and employ measures to prevent exposure of buildings and structures to excessive groundborne vibration.

I. Visual Resources – The proposed Revegetation Plan will minimize the changes to the existing visual character or quality of the site and its surroundings as a result of construction, operations, and maintenance.

Finding. The Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen such impacts, as set forth more fully in the WSAFCA findings, which describe the mitigation measures for each impact in detail. With such mitigation, each of the significant impacts will be reduced to less-than-significant. Such mitigation measures are within the responsibility of another agency, WSAFCA, and WSAFCA can and should implement the described mitigation measures.

6. As a responsible agency, the Central Valley Flood Protection Board has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve. The Board confirms that it has reviewed the MMRP, and confirmed that WSAFCA has adopted and committed to implementation of the measures identified therein. The Board agrees with the analysis in the MMRP and confirms that there are no feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment. None of the mitigation measures in the MMRP require implementation by the Board directly, although continued implementation of the MMRP shall be made a condition of issuance of the Encroachment Permit. However, the measures in the MMRP may be modified to accommodate changed circumstances or new information not triggering the need for subsequent or supplemental analysis under CEQA Guidelines sections 15062 or 15063.

7. **Statement of Overriding Considerations.** Pursuant to CEQA Guidelines sections 15096(h) and 15093, the Board has balanced the economic, social, technological and other benefits of the project described in application No. 18313-2, against its significant and unavoidable impacts, listed in paragraph 5 (a) above, and finds that the benefits of the Project outweigh these impacts and they may, therefore, be considered "acceptable".

   The Central Valley Flood Protection Board finds that there is an immediate need to protect the people and property at risk in the project area. The Board has also considered the benefits of the project which is a portion of planned improvements for the flood control system that will provide the City of West Sacramento with a level of 200-year flood protection. The health and safety benefits of the project, which would significantly reduce the risk of an uncontrolled flood that would result in a catastrophic loss of property and threat to residents of the area, outweigh the remaining unavoidable environmental impacts.

8. **Custodian of Record**. The custodian of the CEQA record for the Board is its Executive Officer, Jay Punia, at the Central Valley Flood Protection Board Offices at 3310 El Camino Avenue, Room 151, Sacramento, California 95821.

Considerations pursuant to Water Code section 8610.5

9. **Evidence Admitted into the Record**. The Board has considered all the evidence presented in this matter, including the original and updated applications for Permit No. 18313-2, technical documentation provided by WSAFCA on Rivers Project proposed improvements, past and present Staff Reports and attachments, the Environmental Impact Report on the Rivers Project (Draft and Final Versions), WSAFCA Resolution 11-03-01 including findings and Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program, all letters and other correspondence received by the Board and in the Board's files related to this matter.

   The custodian of the file is Executive Officer Jay Punia at the Central Valley Flood Protection Board, 3310 El Camino Avenue, Room 151, Sacramento, California 95821.

10. **Best Available Science**. In making its findings, the Board has used the best available science relating to the issues presented by all parties. On the important issue of hydraulic impacts and the computed water surface profiles, SAFCA used the UNET one-dimensional unsteady flow model developed by the USACE for the Sacramento-San Joaquin Comprehensive Study. The model is considered by many experts as one of the best available scientific tools for the purpose of modeling river hydraulics, including flood control system simulations and water surface profile computations. Geotechnical and overall standards for levee design including the United States Army Corps of Engineers (USACE), Department of Water Resources (DWR) Interim Levee Design Criteria (ILDC), and Central Valley Flood Protection Board (Board) have been taken into consideration and the design is in compliance with these standards.

11. **Effects on State Plan of Flood Control**. This project has positive effects on the State Plan of Flood Control as it includes features that will provide to the City of West Sacramento a level of 200-year flood protection. The Board also finds that none of the changes in project design between the 60 to 100 percent design levels result in adverse hydraulic impacts on the entire State Plan of Flood Control.

12. **Effects of Reasonably Projected Future Events**. The project would have no net increases in operational greenhouse gas (GHG) emissions impacting climate change. Emissions associated with the project would occur over a finite period of time as opposed to operational emissions, which would occur over the lifetime of a project. The project analysis included projected calculations of sea-level rise, in which, the rise was determined to be insignificant.

Other Findings/Conclusions regarding Issuance of the Permit.

13. Based on the foregoing and particularly on the evidence that the condition of the existing West Sacramento levees poses an unacceptable risk to life and property, the Board finds and concludes that the issuance of Encroachment Permit No. 18313-2 for the Rivers Project in the public interest.

14. This resolution shall constitute the written decision of the Central Valley Flood Protection Board in the matter of Permit No. 18313-2.

Approval of Encroachment Permit No. 18313-2

15. Based on the foregoing, the Central Valley Flood Protection Board hereby approves the CHP Academy Project and approves issuance of Encroachment Permit No. 18313-2, conditioned upon the receipt of 33 U.S.C Section 408 approval and letter of permission from the U.S. Army Corps of Engineers, in substantially the form provided as Staff Report Attachment B, and final 100% plans and specifications.

16. The Board directs the Executive Officer to take the necessary actions to prepare and execute the Encroachment Permit No. 18313-2 and all related documents and to prepare and file a Notice of Determination under the California Environmental Quality Act for the West Sacramento Levee Improvements Program, Rivers Project.

PASSED AND ADOPTED by vote of the Board on _____, 2011

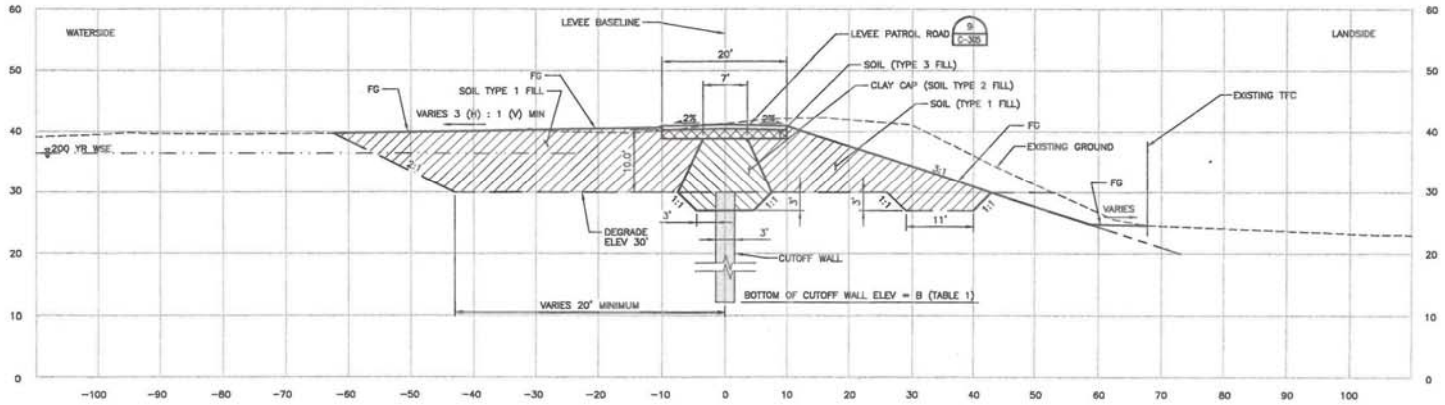
_____
Benjamin F. Carter
President

_____

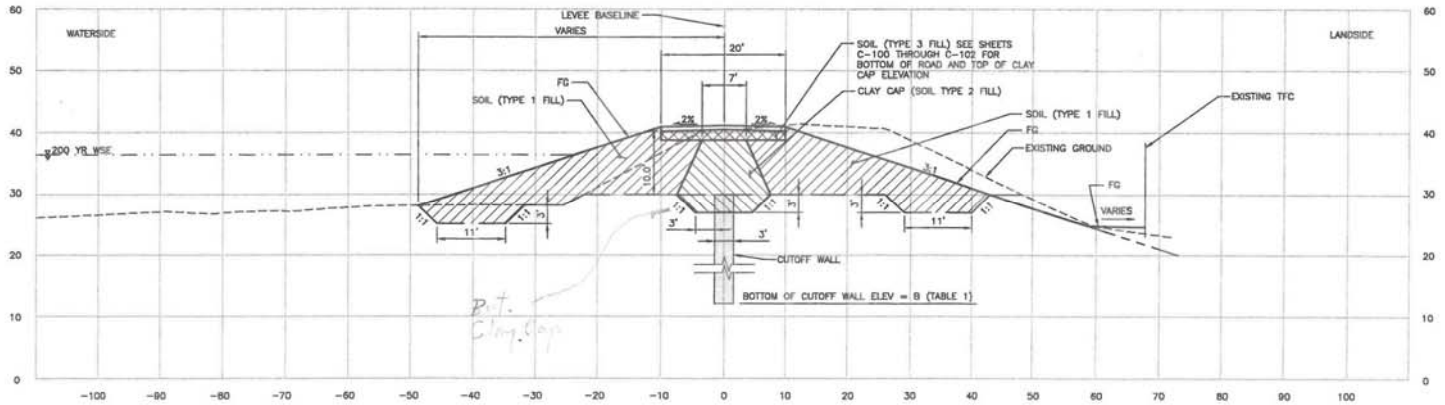
Francis Hodgkins
Secretary

THE RIVERS EIP PROJECT SYLLABUS

Design Feature	Value(s)	Comment
Levee Crest Elevation[1]	40.0 – 44.0 ft.	200-yr WSEL + 3 ft, unless existing levee is higher, in which case existing will be matched
Levee Side Slopes		
Waterside	3(H) : 1(V) Min.	Imbedded in high ground due to over-widened levee section
Landside	3(H) : 1(V)	
Levee Earthwork		
Levee Degrade	147,100 CY (in-place)	Contractor may reuse suitable material
Levee Re-build	99,600 CY (in-place)	
Slope Treatment	Hydroseed	
Upgrade Length	3000 ft.	
Cutoff Wall Depth	125 ft.	Sta 71+00 – Sta 87+25
	100 ft.	Sta 87+25 – Sta 97+25
	90 ft.	Sta 97+25 – Sta 101+00
Levee Patrol Road (Asphalt)	3048 ft.	Sta 70+77 – Sta 101+25
Maintenance Road	260 ft.	Aggregate Base Surface
Access Ramp & Landing	196 ft.	Asphalt Surface
Recreational Features		
Pedestrian/ADA Access Ramp & Single Vehicle Parking Space	306 ft.	Asphalt Surface
Pedestrian Foot Trail	3940 ft.	Asphalt Surface



TYPICAL LEVEE UPGRADE – DETAIL 1
76+75 TO 94+00



TYPICAL LEVEE UPGRADE – DETAIL 2
95+00 TO 98+00

TABLE 1

REACH	STATION RANGE	ELEV B
1	70+00 – 87+50	-95'
2	87+50 – 97+50	-70'
3	97+50 – 101+24	-60'

HORIZONTAL DATUM IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 2 (NAD 83)

VERTICAL DATUM IS

HDR Engineering, Inc.

Project Manager: E. NAGY
Designed: M. VECCHIO
Drafted:
Checked:
Quality:

City of West Sacramento
Levee Improvement Program
Early Implementation Project
The Rivers Site

WEST SACRAMENTO EIP - THE RIVERS SITE

TYPICAL LEVEE SECTIONS AND SECTION SCHEDULE

Date: FEBRUARY 2010
Project No.: 007436-101209-141
Drawing No.:
Issue:

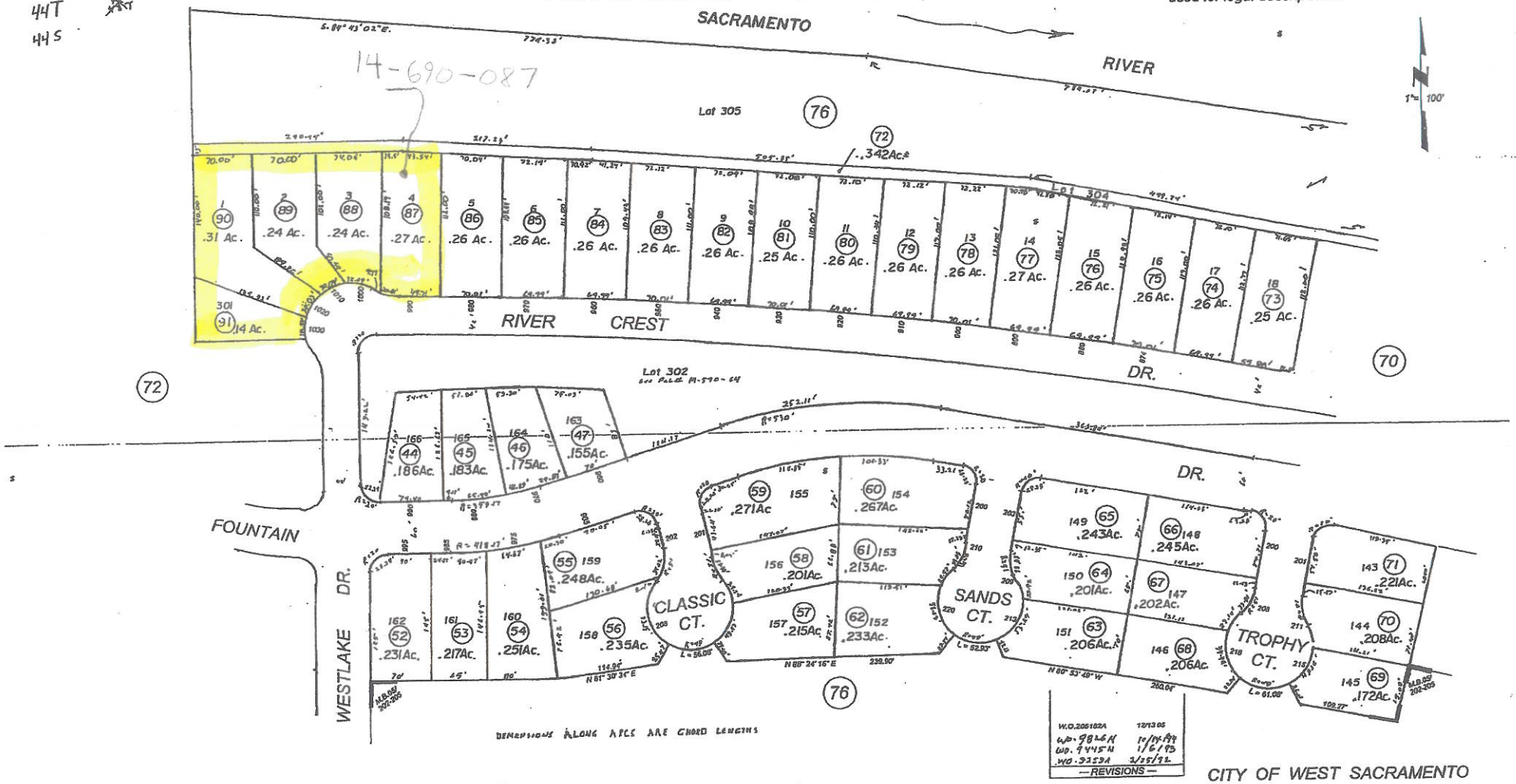
ATTACHMENT E - Typical Cross Sections

44T
44S

POR. OF SEC. 27, T. 9N., R. 4E., M.D.B. & M.

CAUTION - These Maps ARE NOT to be used for legal descriptions.

14 - 69



M.B. 17, Pg. 1 - 18 - Lighthouse Marina - Unit No. A, Subd. # 3953

CITY OF WEST SACRAMENTO
Assessor's Map Bk. 14, Pg. 69
County of Yolo, Calif.

06/07

(formerly por. 14 - 58 & 59)

NOTE - Assessor's Block Number Shown in Ellipses.
Assessor's Parcel Number Shown in Circles.

ATTACHMENT F - Real Estate Drawings

PLATE 4: Real Estate Impact on Sacramento River West Levee at The Rivers

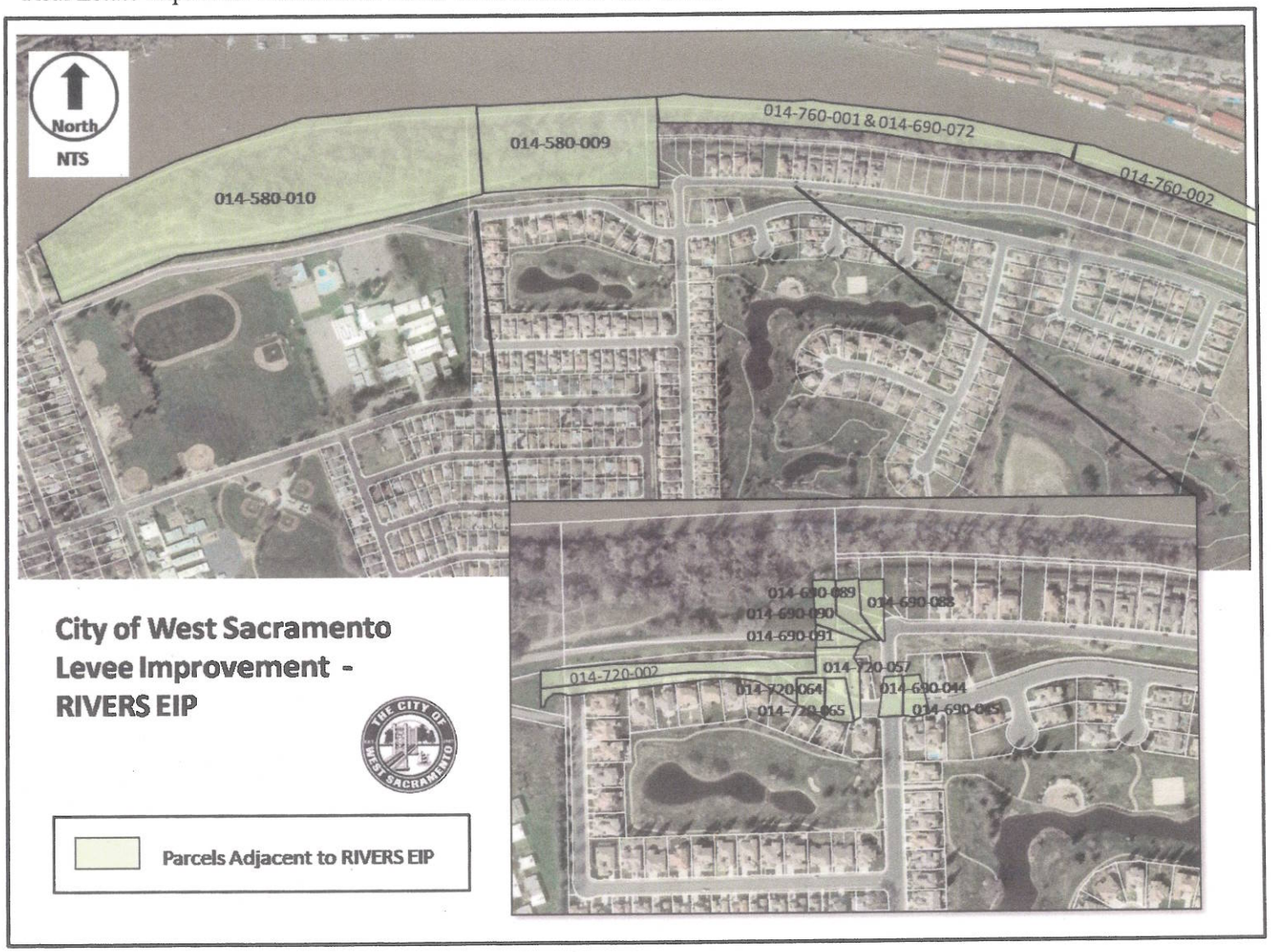


Table 1: CHP Academy Properties Affected by Flood Control Improvements, Fees and Easements

APN	Owner's Name	Owner's Mailing Address	City/State	Zip
014-600-006	State of California	DGS, 707 3rd Street	West Sacramento, CA	95605
014-600-007	State of California	DGS, 707 3rd Street	West Sacramento, CA	95605
014-600-008	State of California	DGS, 707 3rd Street	West Sacramento, CA	95605
014-600-033	State of California	DGS, 707 3rd Street	West Sacramento, CA	95605
014-600-065	State of California	DGS, 707 3rd Street	West Sacramento, CA	95605

12.5.2 The Rivers

Several parcels have been identified as potentially being impacted by construction of the Rivers project. The project specific improvements covered in the EIS/EIR extend further the the currently contemplated construction extent for the Rivers Project. **Plate 4** shows the exiting property limits and the acquisition take lines for The Rivers Project. Table 2 shows a list of the properties that may require some form of real estate action or relocation for The Rivers Project.

Table 2: The Rivers Properties Affected by Flood Control Improvements, Fees and Easements

APN	Owner's Name	Owner's Mailing Address	City/State	Zip
014-580-009	WILLIAMS PORTFOLIO 2	3190 CLEARVIEW WAY #200	SAN MATEO, CA	94402
014-580-010	WILLIAMS PORTFOLIO 2	3190 CLEARVIEW WAY #200	SAN MATEO, CA	94402
014-690-044	WONG PAUL & LINDA LE	(Not available)	ELK GROVE, CA	95624
014-690-045	LAMBRECHT MICHAEL	980 FOUNTAIN DR	WEST SACRAMENTO, CA	95605
014-690-072	RIVERS COMMUNITY ASSN INC THE	101 PARKSHORE DR #100	FOLSOM, CA	95630
014-690-088	OWENS MORTGAGE INVESTMT FUND	(Not available)	WALNUT CREEK, CA	94595
014-690-089	COPACIU SIMONA	(Not available)	SACRAMENTO, CA	95828
014-690-090	CAMPORA GLEN A & DEBORAH J	(Not available)	ELK GROVE, CA	95624
014-690-091	RIVERS COMMUNITY ASSN INC THE	101 PARKSHORE DR #100	FOLSOM, CA	95630
014-720-002	RIVERS COMMUNITY ASSN INC THE	101 PARKSHORE DR #100	FOLSOM, CA	95630
014-720-057	RIVERS COMMUNITY ASSN INC THE	101 PARKSHORE DR #100	FOLSOM, CA	95630
014-720-064	NELSON JAMES E & BRAME MARGARET ANN	1002 FOUNTAIN DR	WEST SACRAMENTO, CA	95605
014-720-065	DUNBAR HARVEY & LARA DIAZ	4660 NATOMAS BLVD, #120-58	SACRAMENTO, CA	95835
014-760-001	STATE OF CALIFORNIA	(Not available)	SACRAMENTO, CA	95814
014-760-002	STATE OF CALIFORNIA	(Not available)	SACRAMENTO, CA	95814