

# American River Watershed Common Features 2016 - Sacramento East Levee Contract 2 Consistency Certification Narrative

## Covered Action Summary

The American River Watershed Common Features General Reevaluation Report (USACE 2015) identified levees along the Sacramento River between the confluence with the American River and the town of Freeport that require improvements to address potential seepage and slope stability during flood events. To address these issues along a portion of the levee, the U.S. Army Corps of Engineers, Sacramento District (USACE), Sacramento Area Flood Control Agency (SAFCA), and the Central Valley Flood Protection Board (CVFPB) propose to construct, as a part of the American River Watershed Common Features 2016, Sacramento East Levee Contract 2 Project (proposed action). The proposed action is a levee improvement consisting of an approximately 9,540 cumulative feet (1.8 miles) of cut off wall along three discrete sections of the Sacramento River's east levee (SREL) in Sacramento, California. Construction is planned to start in April 2021 and conclude in October 2021. The Proposed Action is the second of four contracts on the Sacramento River being constructed from 2020 to 2024 to address seepage, stability, and overtopping concerns along the SREL.

The three sections of the proposed action are located in the City of Sacramento. One section includes approximately 1,300 feet of levee improvements to the North and South of the Pioneer Bridge. Another section includes approximately 920 feet of levee improvement southwest of the Little Pocket neighborhood. The final section includes approximately 7,150 feet of levee improvements along the Sacramento River to the north of the Pocket Neighborhood. Of these three sections, only the last (and largest) section is located within the Legal Delta as identified in the Delta Plan (Delta Stewardship Council 2013). The three sections of levee improvements are not materially distinct in terms of the proposed action, resources present, or potential environmental impacts. Though only one section of the proposed action requires certification of consistency with the Delta Plan, the proposed action will be discussed as whole.

The levee improvement measures are described in detail in the subsections below. Further information is available in the American River Watershed Common Features General Reevaluation Report Final Environmental Impact Statement/Environmental Impact Report (GRR Final EIS/EIR, USACE 2020).

## Seepage and Stability Improvements

To address seepage concerns, a cutoff wall will be constructed through the levee crown. The cutoff wall would be installed by one of two methods: (1) conventional open trench cutoff walls, or (2) deep soil mixing (DSM) cutoff walls. The method of cutoff wall selected for each reach would depend on the depth of the cutoff wall needed to address the seepage. The open trench method can be used to install a cutoff wall to a depth of approximately 80 feet. For cutoff walls of greater depth, the DSM method would be used.

Prior to construction of either method of cutoff wall, the construction site and any staging areas would be cleared, grubbed, and stripped. The levee crown would be degraded up to half the levee height to create a large enough working platform (approximately 30 feet) and to reduce the risk of hydraulically fracturing the levee embankment from the insertion of slurry fluids.

### Conventional Open Trench Cutoff Wall

Under the open trench method, a trench approximately 3 feet wide would be excavated with a long boom excavator at the top of levee centerline and into the subsurface materials up to 80 feet deep. As the trench is excavated, it will be filled with low density temporary bentonite water slurry to prevent cave in. The soil from the excavated trench is mixed nearby with hydrated bentonite, and in some applications cement. The soil bentonite mixture is backfilled into the trench, displacing the temporary slurry. Once the slurry has hardened, it would be capped and the levee embankment would be reconstructed with impervious or semi-impervious soil.

### DSM Cutoff Wall

The DSM method involves a crane supported set of two to four mixing augers used to drill through the levee crown and subsurface to a maximum depth of approximately 140 feet. As the augers are inserted and withdrawn, a cement bentonite grout would be injected through the augers and mixed with the native soils. An overlapping series of mixed columns would be drilled to create a continuous seepage cutoff barrier. Once the slurry has hardened, it would be capped and the levee embankment would be reconstructed with impervious or semi-impervious soil.

### Riparian Habitat Mitigation

Riparian mitigation would be constructed at a 2:1 ratio for each impacted acre of riparian canopy at the 24.2-acre Beach Stone Lakes mitigation site. This riparian mitigation would be used for impacted habitat associated with the proposed action and other American River Common Features 2016 (ARCF 2016) projects. Riparian plantings, genetically sourced from local populations, were installed in January and with irrigation in May of 2020, and native grasses would be planted in fall 2021. The mitigation site would also have the incidental benefit of preserving approximately 6 acres of preexisting mature riparian habitat adjacent the site, which are within the parcel to be acquired for the mitigation. Details for the mitigation site are discussed in more detail in the American River Watershed Common Features 2016 Project Beach Stone Lakes Mitigation Site Supplemental Environmental Assessment/Initial Study (BSL SEA/IS, USACE 2019).

## Mitigation Measures

The proposed action was subject to the California Environmental Quality Act (CEQA) review as described in the ARCF 2016 GRR Final EIS/EIR (USACE 2016), the SREL C2 Supplemental Environmental Assessment/Environmental Impact Report (SREL C2 SEA/EIR, USACE 2020), and BSL SEA/IS (USACE 2019). In the GRR Final EIS/EIR and again in the SREL C2 SEA/EIR, mitigation measures were identified for significant impacts, including those referenced in the “Mitigation Measure Comparison” table, attached separately. Mitigation measures required for each significant project impact are consistent with and at least as effective as relevant mitigation measures included in the Mitigation, Monitoring, and Reporting Program (MMRP) for the Delta Plan (Delta Stewardship Council 2019).

## Best Available Science

The proposed action was designed in accordance with current USACE engineering standards and based on an alternatives evaluation, as documented in the attached “Sacramento River East Levee Improvement Project (SRELIP) Alternatives Evaluation - Summary Memorandum” (SAFCA 2019). Impact analyses were conducted and mitigation measures were developed in accordance with CEQA and

National Environmental Policy Act (NEPA) requirements. As a result of comments received during the public review process for the GRR Final EIS/EIR, some analyses and mitigation measures were adjusted or modified.

## Expand Floodplains and Riparian Habitats in Levee Projects

The proposed action is located in an urban area, with residences immediately behind the levee in most of the improvement locations. As described in the Alternatives chapter of the GRR Final EIS/EIR, setback levees were considered and rejected during the development of the project description due to the presence of these residences and developed land uses. On-site riparian habitat creation is not considered as part of the proposed action ; the broader ARCF 2016 project includes two additional seepage and stability contracts and up to two additional seasons of levee improvements which will be constructed along the SREL, along with erosion protection improvements. These improvements will undergo separate CEQA and NEPA review as designs advance, but construction of these improvements is estimated to occur from 2022 through 2024. Riparian habitat restoration along the SREL in the proposed action area may be considered during these later work phases that are being separately designed and planned. However, these habitat expansions would need to be constructed following the completion of seepage and stability and erosion protection improvements.

## Avoid Introductions of and Habitat for Invasive Nonnative Species

The Proposed Action would not include in-water work or effects on aquatic environments. Ground disturbance associated with levee improvements would primarily disturb existing grassland habitat that is currently dominated by nonnative species, including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oat (*Avena sp.*), and Italian ryegrass (*Festuca perennis*) (Please refer to the SREL C2 SEA/EIR [p. 66] and GRR Final EIS/EIR [p. 112] for summaries of existing conditions and the prevalence of nonnative species). Areas disturbed by proposed action construction would be re-seeded using native grasses and forbs. Based on the setting and analysis provided in the GRR Final EIS/EIR and the SREL C2 SEA/EIR, the proposed action would potentially reduce the prevalence of nonnative species by removing existing habitat dominated by these species and reseeding with native grasses and forbs. See also the Mitigation Measure comparison.

## Respect Local Land Use when Siting Water or Flood Facilities or Restoring Habitats

The proposed action includes improvements to existing levee infrastructure and does not include expansions or changes to the footprint of these facilities or acquisition of private property beyond the existing flood control infrastructure. Landside berms are proposed as remediations at several locations, but these berms would not require acquisition of private property or increase the footprint of existing flood control infrastructure.

## Prioritization of State Investments in Delta Levees and Risk Reduction

The proposed action would improve levees in an area defined as a “very high priority” (the highest priority category) for risk reduction improvements in Chapter 7 of the Delta Plan. The proposed action was authorized and funded by Congress for implementation by USACE, with State investments being part of the local match required.



## Referenced Documents:

USACE. 2015. American River Watershed Common Features General Reevaluation Report. Available: [https://www.spk.usace.army.mil/Portals/12/documents/civil\\_works/CommonFeatures/Final\\_ARCF\\_GRR\\_Jan2016.pdf](https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/Final_ARCF_GRR_Jan2016.pdf)

USACE. 2016. American River Watershed Common Features General Reevaluation Report Final Environmental Impact Statement/Environmental Impact Report. Available: [https://www.spk.usace.army.mil/Portals/12/documents/civil\\_works/CommonFeatures/ARCF\\_GRR\\_Final\\_EIS-EIR\\_Jan2016.pdf](https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/ARCF_GRR_Final_EIS-EIR_Jan2016.pdf)

USACE. 2019. American River Watershed Common Features 2016 Project Beach Stone Lakes Mitigation Site Supplemental Environmental Assessment Supplemental Initial Study. Available: [https://www.spk.usace.army.mil/Portals/12/documents/civil\\_works/CommonFeatures/WRDA16/ARCF-2016-BSLMS\\_FinalSEA-IS\\_Jun2019.pdf?ver=2019-07-26-114134-363](https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/ARCF-2016-BSLMS_FinalSEA-IS_Jun2019.pdf?ver=2019-07-26-114134-363)

USACE. 2020. American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River East Levee Contract 2 Supplemental Environmental Assessment/Environmental Impact Report Available: [https://www.spk.usace.army.mil/Portals/12/documents/civil\\_works/CommonFeatures/WRDA16/SREL-C2/ARCF\\_SREL-C2\\_Draft-SEA-SEIR\\_JUL2020.pdf?ver=2020-07-08-163745-213](https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/SREL-C2/ARCF_SREL-C2_Draft-SEA-SEIR_JUL2020.pdf?ver=2020-07-08-163745-213)

SAFCA. 2019. Sacramento River East Levee Improvement Project (SRELIP) Alternatives Evaluation - Summary Memorandum

Delta Stewardship Council. 2019. The Delta Plan- Appendix O. Amended 2019 Available: <https://deltacouncil.ca.gov/delta-plan/>