

2.0 CHANGES TO THE PHASE 3 PROJECT AND MASTER RESPONSES TO COMMENTS ON THE DEIS/DEIR

2.1 CHANGES TO THE PHASE 3 PROJECT

CEQA requires recirculation of an EIR when the lead agency makes substantial changes to the project description or environmental setting. For a change to be considered substantial it must deprive the public of the opportunity to comment on significant new information, including a new significant impact in which no feasible mitigation is available to fully mitigate the impact (thus resulting in a significant and unavoidable impact), a substantial increase in the severity of a disclosed environmental impact, or development of a new feasible alternative or mitigation measures that would clearly lessen environmental impacts but which the project proponent declines to adopt (State CEQA Guidelines Section 15088.5[a]), or inclusion of a new mitigation measure which would create a new significant impact on the environment). Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR (State CEQA Guidelines Section 15088.5[b]).

Since release of the DEIS/DEIR, SAFCA has continued to refine the features of the Phase 3 Project. As a result of these efforts, the Phase 3 Project has undergone minor modifications that are identified in the following discussion. These modifications would not substantially increase the severity of an impact or create a new significant impact, as discussed further below.

2.1.1 FLOOD DAMAGE REDUCTION AND CANAL COMPONENTS

Proposed project modifications related to construction and operation of the flood damage reduction and canal components include the following:

- ▶ **Addition of New Potential Off-Road Haul Route East of Teal Bend Golf Club.** A new potential haul route would be established in the alignment of the proposed GGS/Drainage Canal to allow soil borrow material to be transported from the Airport north bufferlands to Reaches 8–9B of the Sacramento River east levee (**Plate 2**). The route, which would be decommissioned prior to construction of the GGS/Drainage Canal, would help support use of the Airport north bufferlands as the primary source of soil borrow material for the Phase 3 Project. The route would also provide an alternative to the haul route west of Teal Bend Golf Club for transporting material to Reaches 7–8, potentially reducing haul truck traffic in that area. This route would connect to the landside haul route in Reach 6A in the north and to the Elkhorn Boulevard on-road haul route in the south. Because this potential haul route would be established in the footprint of the proposed GGS/Drainage Canal, impacts from ground disturbance were analyzed and addressed in the Phase 3 DEIS/DEIR. The route would be slightly longer than the haul route west of the Teal Bend Golf Club but within the overall haul distance assumptions used for air quality modeling. Potential impacts resulting from the use of this new haul route would be similar to those already evaluated in the Phase 3 DEIS/DEIR for the other potential haul routes. These changes do not constitute significant new information that would require recirculation of the document because no new significant or substantially more severe environmental impacts have been identified.
- ▶ **Preliminary Selection of Borrow Sites within the Elkhorn Borrow Area.** SAFCA has narrowed the focus of its planning for the Elkhorn Borrow Area, identifying the area south of Elkhorn Boulevard, north of Interstate 5 (I-5), and west of Schoolhouse Road as the preferred source for borrow material needed for the Phase 3 Project that would not be supplied by the Airport north bufferlands (**Plate 2**). This area is preferred to the portion of the Elkhorn Borrow Area north of Elkhorn Boulevard because of its proximity to Reaches 9A and 9B of the Sacramento River east levee and because geotechnical investigations indicate that it could more easily be returned to agricultural production following borrow operations. This area would be graded upon

reclamation to drain to the east and west, and the reclaimed depth would be as shallow as possible to maintain maximum production potential for field crops. Borrow activities are expected to occur for 2 years. The Elkhorn Borrow Area was identified in Chapter 2.0, “Alternatives,” in the Phase 3 DEIS/DEIR as an area where borrow may be taken; however, specific parcels were still being evaluated at the time the Phase 3 DEIS/DEIR was released for public review. Environmental commitments were set forth, which would apply to the future selection and use of borrow sites and were incorporated into the mitigation measures applicable to borrow sites (see Section 2.3.8.4, “Borrow Site Program,” in the Phase 3 DEIS/DEIR). Impacts and mitigation measures associated with the use of borrow sites were described in Chapter 4.0, “Environmental Consequences and Mitigation Measures,” in the Phase 3 DEIS/DEIR and would apply to any parcels ultimately selected within the narrowed focus of the Elkhorn Borrow Area. These changes do not constitute significant new information that would require recirculation of the document because no new significant or substantially more severe environmental impacts have been identified.

- ▶ **Design Refinements in Reach 5A.** Estimates of impacts to waters of the United States (Impact 4.7-a, “Impacts on Jurisdictional Waters of the United States”) have been revised based on refinements in the levee design in Reach 5A of the Sacramento River east levee. The alignment of the approach ramp for the reconstructed intersection of Elverta Road at Garden Highway, which is required for construction of the proposed adjacent setback levee, would permanently disturb an additional 1.65 acres of waters of the United States. In addition, during elevated Sacramento River stages, a cutoff wall proposed for Reach 5A could potentially reduce the contribution of groundwater to up to 4.22 acres of jurisdictional wetlands north of the Elverta Road ramp, which may reduce the function of these wetlands. The estimate of 4.22 acres is worst case because the extent of this indirect impact would depend upon local soil conditions and how sensitive the wetland is to changes in groundwater levels. These changes would increase the total minimum estimated impact from 22.17 acres to approximately 28.04 acres and the total maximum estimated impact to waters of the United States from 27.17 acres to approximately 33.04 acres. Table 4.7-1 has been revised to reflect these changes (see Chapter 4.0, “Revisions to the DEIS/DEIR,” in this FEIR). These modifications to the estimate of impacts on jurisdictional waters (Impact 4.7-a) would not result in an impact not previously identified or a substantial increase in the severity of the previously identified impact. Mitigation Measure 4.7-a, “Minimize Effects on Jurisdictional Waters of the United States, Complete Detailed Design of Habitat Creation Components and Secure Management Agreements to Ensure Compensation of Waters Filled, and Comply with Section 404, Section 401, Section 10, and Section 1602, Permit Processes,” would be implemented to reduce this impact to a less-than-significant level. Thus, these changes do not constitute significant new information that would require recirculation of the document because no new significant or substantially more severe environmental impacts have been identified.
- ▶ **Acquisition of Additional Land in Reach 9B.** To prevent future land uses that could be incompatible with flood damage reduction improvements, SAFCA would acquire additional land in Reach 9B of the Sacramento River east levee to maintain a 450-foot-wide buffer area from the centerline of Garden Highway. These acquisitions are shown on Plate 3a as the areas in Reach 9B between the flood damage reduction footprint and the real estate acquisition limit. This additional acquisition would affect portions of Assessor Parcel Numbers (APNs) 201-0280-013, 201-0280-006, 201-0280-037, 201-0280-062, 201-0280-045, 201-0330-043, and 201-0330-042; the Phase 3 DEIS/DEIR identified these parcels as either within the footprint of the proposed levee improvements or as potential borrow sites. **Plate H-1b** has been revised to show the new real estate acquisition limit in relation to parcels (see Chapter 4.0, “Revisions to the DEIS/DEIR,” in this FEIR). No construction of project improvements would occur within this buffer area, which would remain in its current agricultural use. Therefore, no physical changes that would result in new or increased significant environmental impacts would occur from the land acquisition. These changes do not constitute significant new information that would require recirculation of the document because no new or substantially more severe significant environmental impacts have been identified.

- ▶ **Increase in PGCC West Levee Real Estate Acquisition Limit.** The real estate acquisition limit for the PGCC west levee has been extended landward by five feet between Stations 325+40 and 461+31 to provide additional space for the utility corridor. This additional area would be approximately 1.8 acres and would result in a slight increase in the conversion of Important Farmland to nonagricultural uses, with a small increase in impacts to giant garter snake habitat, Swainson’s hawk foraging habitat, and jurisdictional waters of the United States. These incremental changes would not result in a substantial increase in the severity of environmental impacts identified for these resources. The following previously identified mitigation measures would be implemented to reduce these impacts to a less-than-significant level: Mitigation Measures 4.1-a, “Conversion of Important Farmland to Nonagricultural Uses,” 4.7-a, “Impacts on Jurisdictional Waters of the United States,” 4.9-c, “Impacts on Giant Garter Snake Related to Construction Activities,” and 4.9-f, “Impacts on Swainson’s Hawk and Other Special-Status Birds.” Thus, these changes do not constitute significant new information that would require recirculation of the document because no new significant or substantially more severe environmental impacts have been identified.
- ▶ **Use of Existing O&M Road on the Waterside of NEMDC West Levee.** An existing dirt road currently used for levee maintenance purposes is located on the waterside of the NEMDC west levee. The road would be used for staging, stockpiling, and potentially for hauling materials for installation of the cutoff wall south of Elkhorn Boulevard. The route, which is shown on **Plate 2**, would not increase the number of haul trips required for construction along the NEMDC west levee. Mitigation Measure 4.13-a, “Implement Applicable District-Recommended Control Measures to Minimize Temporary Emissions of ROG, NO_x, and PM₁₀ during Construction,” would be applied to minimize emissions of PM₁₀ from truck traffic on the road. Mitigation Measure 4.5-a, “Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions,” would be applied to prevent the release of construction-related materials into the NEMDC. Thus, these changes do not constitute significant new information that would require recirculation of the document because no new significant or substantially more severe environmental impacts have been.

2.1.2 CLARIFICATIONS TO PROPOSED MANAGEMENT OF FISHERIES AND AQUATIC RESOURCES

The California Department of Fish and Game (DFG) expressed concern in its comment letter (S5) on the Phase 3 DEIS/DEIR that mitigation measures for fisheries and aquatic resources did not have adequate performance standards that ensure mitigation measures would be enforced and that impacts would be reduced to a less-than-significant level. As a result, SAFCA has provided the following clarifications to the Phase 3 Project.

- ▶ The National Marine Fisheries Service (NMFS) is now included with the U.S. Fish and Wildlife Service (USFWS) and DFG for consultation to develop performance standards to determine if the woodlands conservation component can be considered successful during a particular monitoring year and at the end of the established period.
- ▶ Additional detail has been added regarding the timing of cofferdam and dewatering activities for Reclamation District (RD) 1000 Pumping Plant No. 2 outfall reconstruction. Construction of the cofferdam and dewatering would occur during an in-water work window when sensitive fish species are least likely to be present. To protect fish habitat, sheet pile installation operational controls and a fish rescue plan shall be implemented during cofferdam construction.
- ▶ The demolition and removal of intake pipes associated with Prichard and Elkhorn Pumping Plants is part of the American Basin Fish Screen and Habitat Improvement Project (ABFS). Construction of the Phase 3 Project associated with the Prichard and Elkhorn Pumping Plant is dependent on the timing of the ABFS project implementation.

- If construction of the ABFS project is completed first, the demolition of the plants would be completed and the pipes through the levee would be removed as needed.
 - If the ABFS project is not completed first, the cutoff wall would be installed, the Sacramento River east levee would be raised, the pipes would be raised, and the pumps and motors modified so that that these plants could continue to operate. After the ABFS project is constructed and operational, the pipes and pumps would be removed.
- ▶ Construction-related disturbances to fish are now clarified in Impact 4.6-a, “Loss of Fish or Aquatic Habitat through Increased Sediment and Turbidity, Releases of Contaminants, or Other Construction-Related Disturbances,” (note that the final clause has been added since release of the Phase 3 DEIS/DEIR). As a result, Mitigation Measure 4.6-a, “Implement Mitigation Measure 4.5-a, ‘Implement Standard Best Management Practices, Prepare and Implement a Stormwater Pollution Prevention Plan, and Comply with National Pollutant Discharge Elimination System Permit Conditions’; and Mitigation Measure 4.5-c, ‘Implement Best Management Practices and Comply with NPDES Permit Conditions for a Point-Source Discharge’,” has been expanded, and now includes, “Implement a Feasible Construction Work Window that Minimizes Impacts to Special-Status Fish Species for Any In-Water Activities; and “Implement Operational Controls and a Fish Rescue Plan that Minimizes Impacts to Fish Associated with Cofferdam Construction and Dewatering,” has been modified to include this clarification.
 - ▶ Additions to Mitigation Measure 4.6-b, “Restore, Replace, or Rehabilitate Degraded SRA Habitat Function and Comply with Section 7 of the Federal Endangered Species Act, Section 1602 of the California Fish and Game Code, and Section 2081 of the California Endangered Species Act Permit Conditions,” have been made, including measures to reduce disturbance to SRA habitat during construction activities; details regarding restoration, monitoring, and performance criteria; and a discussion regarding long-term management goals.

Text changes are included in Chapter 4.0, “Revisions to the DEIS/DEIR,” of this FEIR to provide clarification to the project description and environmental consequences associated with implementation of the Phase 3 Project. There are no new significant environment impacts, no substantial increase in severity of a previously disclosed impacts, or additional project alternatives or new feasible mitigation measures that the project proponent declines to adopt. This information is provided to clarify and amplify details included in the Phase 3 DEIS/DEIR.

2.1.3 DESIGN REFINEMENTS OF THE NEW GGS/DRAINAGE CANAL

The southern end of the GGS/Drainage Canal alignment would be shifted eastward to flow directly south into the West Drainage Canal rather than bending southwest (**Plate 3a**). This realignment would not change the extent of ground disturbance and therefore would not increase impacts to Important Farmland, undiscovered cultural resources, or sensitive habitat that were identified in the Phase 3 DEIS/DEIR. The GGS/Drainage Canal alignment north of Jacobs Slough would be straightened, extending farther north from the previously identified alignment but within the proposed limit of real estate acquisition. The canal would cross Walnut Road in the same general location. The realignment would improve canal hydraulics and provide an upland habitat buffer area for giant garter snake on both sides of the canal. Although this realignment would not increase the footprint of the GGS/Drainage Canal, it could reduce the potential to farm a small area of land south of the modified alignment because it would split southern portion of the affected parcel further to the north rather than staying close to Jacobs Slough. This modification would not result in a substantial increase in the severity of environmental impacts identified in the Phase 3 DEIS/DEIR. These changes do not constitute significant new information that would require recirculation of the document because no new significant environmental impacts have been identified.

Since release of the Phase 3 DEIS/DEIR and as a result of ongoing consultation with the Federal Aviation Administration (FAA) and the Sacramento County Airport System (SCAS), SAFCA has determined that 10 acres of planned marsh habitat associated with the new GGS/Drainage Canal is not appropriate because the new GGS/Drainage Canal would be located within 10,000 feet of the runways of the Sacramento International Airport (Airport) (i.e., within the Airport Critical Zone) and marsh habitat would potentially attract wildlife considered hazardous to Airport operations. In addition, the marsh would conflict with a Memorandum of Agreement between the FAA, U.S. Air Force, U.S. Army, U.S. Environmental Protection Agency (EPA), USFWS, and the U.S. Department of Agriculture that addresses existing and future environmental conditions contributing to aircraft-wildlife collision (FAA 2003). Therefore, SAFCA determined that the planned 10 acres of marsh associated with the new GGS/Drainage Canal could result in a hazard to public safety.

The GGS/Drainage Canal design would remain largely the same as described in the Phase 3 DEIS/DEIR, except that bench areas associated with the canal would not contain a maintained water depth of 3–12 inches (i.e., marsh habitat), as described in Appendix H of the Phase 3 DEIS/DEIR. The bench would instead be graded to a slightly higher elevation and would be planted with perennial grasses, periodically irrigated with water, and maintained as giant garter snake upland habitat. This design refinement would not substantially alter Impact 4.9-c, “Impacts on Giant Garter Snake Related to Project Construction Activities,” because the new GGS/Drainage Canal would still remain a functional travel corridor between giant garter snake concentrations in the northwestern and southern portions of the Natomas Basin. The only change would be the elimination of 10 acres of marsh and the addition of 10 acres of uplands, bringing the total created uplands to 32 acres. The significance conclusion would remain potentially significant and Mitigation Measure 4.9-c, “Minimize the Potential for Direct Loss of Giant Garter Snake Individuals, Develop Detailed Design of Managed Marsh and New Canals and Management Agreements to Ensure Adequate Compensation for Loss of Habitat, Implement all Management Agreements, and Obtain Incidental Take Authorization,” would reduce this impact to a less-than-significant level, as stated in the Phase 3 DEIS/DEIR.

Impact 4.19-b, “Potential for Higher Frequency of Collisions between Aircraft and Wildlife at Sacramento International Airport,” in the Phase 3 DEIS/DEIR was determined to be less than significant because construction of the GGS/Drainage Canal would allow for dewatering of the Airport’s West Ditch, an aquatic habitat identified by FAA and SCAS as a hazardous wildlife attractant. However, marsh is considered to be a hazardous wildlife attractant and implementation of the 10-acre marsh habitat within the GGS/Drainage Canal would pose a public safety risk. Because the elimination of the 10 planned acres of marsh would further reduce potential hazardous wildlife attractants, this impact would remain less than significant, as stated in the Phase 3 DEIS/DEIR.

Text changes related to the GGS/Drainage Canal design refinements are presented in Chapter 4.0, “Revisions to the DEIS/DEIR,” of this FEIR. These changes clarify the project description and potential environmental impacts of the Phase 3 Project; they do not constitute significant new information. This design refinement would not result in a substantial increase in the severity of environmental impacts identified in the Phase 3 DEIS/DEIR; no new significant environmental impacts, or project alternatives or new mitigation measures that the project proponent declines to adopt.

2.2 MASTER RESPONSES TO COMMENTS ON THE DEIS/DEIR

The following discussion presents responses to environmental issues raised in multiple comments. These responses have been titled, “master responses,” because they address numerous comments concerning the same or very similar topics. These responses are organized by topic to provide a more comprehensive response than may be possible in responding to individual comments.

All individual comments on environmental issues along with individual responses to these comments are presented in Chapter 3.0, “Individual Responses to Comments on the DEIS/DEIR.” In that chapter, the reader is referred back to these master responses as appropriate.

2.2.1 MASTER RESPONSE: GROUNDWATER HYDROLOGY IN THE VICINITY OF THE NEMDC

In response to several comments received on the Phase 3 DEIS/DEIR, SAFCA has prepared the following response regarding groundwater hydrology. Commenters expressed concern that water levels and water quality of domestic wells, specifically near the Valley View Acres neighborhood, would be adversely affected as a result of cutoff wall construction.

The Evaluation of Potential Groundwater Impacts Due to Proposed Construction for Natomas Levee Improvement Program, prepared by Luhdorff & Scalmanini, Consulting Engineers (LSCE), has been updated to include additional information and analysis on the potential effects of cutoff walls along the NEMDC on domestic and agricultural wells in the VVA community. The updated report (**Appendix A**) also includes a revised version of Figure 8-1, “Wells In and Near the Natomas Basin,” which has been updated to show estimated locations of private wells in the VVA community. Because mapping of these wells is ongoing, and well numbers have not yet been assigned, these estimated locations are based on the locations of existing residential parcels.

The VVA community includes about 150 residences situated on about 300 acres of land west of the NEMDC. The community is primarily supplied by groundwater, and each residence is assumed to have a domestic well. In addition, several of the larger parcels are anticipated to have agricultural wells. Compilation of construction information for these wells is still in progress, but drillers’ logs were available for 27 VVA wells. These wells range in depth from 65 to 290 feet below ground surface (-35 to 260 feet NAVD88), with an average depth of 122 feet. Most of the drillers’ logs do not show the perforated interval (the level at which groundwater is drawn into the well), but the depth of the perforated interval for almost all wells is expected to be below the depth of the cutoff wall proposed for this portion of the NEMDC west levee, which is 40 feet below ground surface (-10 feet NAVD88).

Kleinfelder estimated the water level changes due to the cutoff walls along the Sacramento River east levee (**Appendix B**, “Evaluation of Cutoff Walls Impact on Groundwater Recharge Sacramento River East Levee Natomas Levee Improvement Project Sacramento and Sutter Counties, California”). These results were summarized in Impact 4.4-c, “Effects on Groundwater,” in the Phase 3 DEIS/DEIR. On the river side of the levee, the predicted effects of the cutoff walls are negligible at low stage, and there would be a slight increase in head (less than one foot) at high stage. These small effects are considered to be less than significant even for the shallowest domestic wells (less than 100 feet deep). No measurable decreases in well yields or increases in pumping costs are expected due to cutoff walls along the Sacramento River east levee.

Similar modeling has not been conducted for wells along the PGCC or NEMDC, but cutoff walls would be expected to have similarly small effects near the eastern edge of the Natomas Basin. Because the general direction of groundwater flow in this area is from west to east, static groundwater levels would increase slightly west of the levee and decrease slightly east of the levee. This effect would not reduce the ability of most wells to draw groundwater because the production zone for these wells is below the bottom of the proposed cutoff walls. Very shallow wells located near the cutoff wall on either side of the levee could experience slightly lower pumping water levels because the cutoff wall would act as a low permeability boundary that would reduce the aerial extent and increase the depth of the localized cone of depression. This effect would not be measurable for most wells, but wells less than 80 feet deep located within 500 feet of the NEMDC west levee could experience a small decrease in yield. This impact is considered less-than-significant; however, Mitigation Measure 4.4-c has been added in Chapter 4.0 of this FEIR, “Revisions to the DEIS/DEIR,” to ensure that the owners of any affected well are adequately compensated for replacing their shallow well with a deeper one, if necessary.

Regarding the concern that the materials used in cutoff wall construction could affect the water quality of domestic wells, the bentonite, and potentially cement, materials used in the installation of cutoff walls are

designed to be stable and resistant to erosion and extrusion into the sand and gravel layers adjacent to the cutoff wall. Therefore, no groundwater quality issues would be associated with construction of the cutoff walls.

2.2.2 MASTER RESPONSE: SACRAMENTO RIVER EAST LEVEE PRISM

Several comment letters stated that the Phase 3 DEIS/DEIR did not provide enough information to fully explain the levee prism concept, the adjacent setback levee footprint, and potential construction-related impacts to vegetation and improvements. SAFCA has prepared the following response regarding the levee prism.

Plate 4 shows a typical profile view of the existing levee along the east side of the Sacramento River in comparison to the adjacent setback levee proposed for the Phase 3 Project (Reaches 5A–9B). The prism for the existing levee consists of:

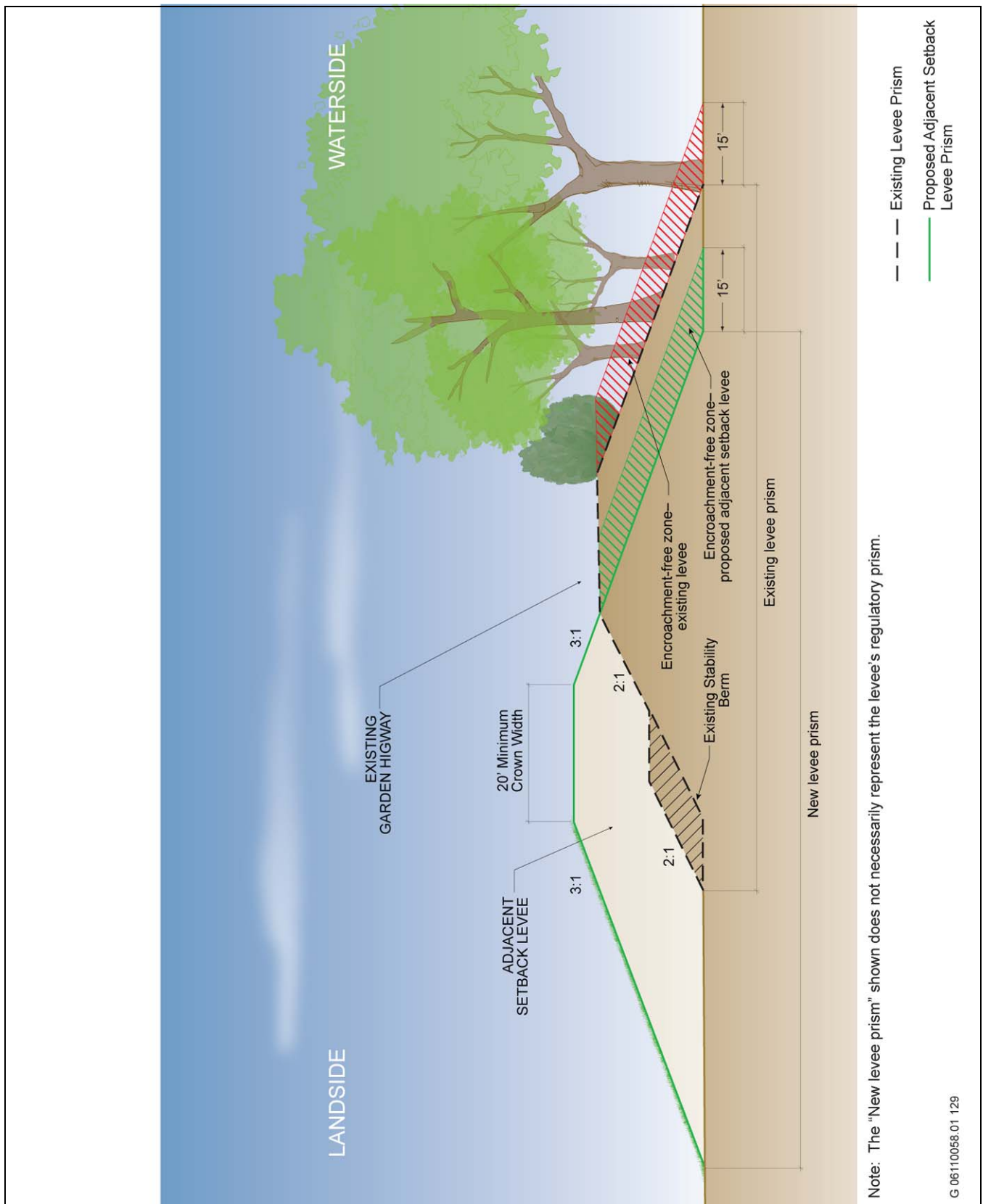
- ▶ the levee crown (a minimum of 20 feet wide), on which the Garden Highway currently sits;
- ▶ a landside levee slope, typically 2H:1V
- ▶ a landside stability berm; and
- ▶ a waterside slope that is defined by a projected 3H:1V slope from the waterside hinge point of the levee crown that may or may not be exposed depending upon natural ground surfaces and property improvements, such as construction fill for foundations and driveways.

The prism of the proposed adjacent setback levee would consist of:

- ▶ a minimum 20-foot crown,
- ▶ a 3H:1V landside slope from the hinge point of the levee crown,
- ▶ an exposed upper waterside slope from the hinge point of the adjacent levee crown to the landside of Garden Highway, and
- ▶ the continuation of a projected (non-exposed) minimum 3H:1V waterside slope through the existing levee to a point that would be set back a minimum of 15 feet from the existing waterside toe.

The setting back of the Sacramento River east levee under the Proposed Action would provide the USACE-required 15 feet of clearance of encroachments (including vegetation greater than 2 inches in diameter) from the theoretical waterside toe of the new adjacent setback levee. As shown on **Plate 4**, this approach would shift the encroachment-free zone landward, potentially reducing the extent to which USACE, the State, SAFCA, and RD 1000 would require the removal of existing encroachments to meet this requirement under the Levee Raise-in-Place Alternative. The impact of the removal of waterside vegetation greater than 2 inches that would potentially occur in the event of that the adjacent setback levee would not be constructed was analyzed in the Phase 3 DEIS/DEIR under Impact 4.8-a, “Loss of Woodland Habitats,” under the Levee Raise-in-Place Alternative. This loss was estimated to be up to 22 acres for Reaches 5A–9B.

As described in Section 2.3.5, “Additional Actions to Meet FEMA, USACE, and State Design Requirements: Encroachment Management,” of the Phase 3 DEIS/DEIR, the adjacent setback levee proposed as part of the Phase 3 Project would be designed to significantly reduce conflicts between waterside encroachments and applicable USACE levee operation and maintenance requirements. However, the full extent of this reduction cannot be known until the proposed levee improvements are completed, and USACE, the State, SAFCA, and RD 1000 have inspected and evaluated whether there are any encroachments that affect the integrity of the levee. Section 1.4.2.1,



Source: Adapted by EDAW in 2009 based on data provided by HDR in 2009

Levee Prism Concept for the Sacramento River East Levee

Plate 4

“Encroachment,” in the Phase 3 DEIS/DEIR has been revised to reflect the fact that removal of any encroachments that could be identified as threatening levee integrity would be subject to future environmental review. See Chapter 4.0, “Revisions to the DEIS/DEIR,” of this FEIR for the text revision.

2.2.5 MASTER RESPONSE: 24/7 CUTOFF WALL CONSTRUCTION

Numerous comment letters expressed concern about 24 hour-per-day, 7 days-per-week (24/7) construction activities associated with cutoff wall construction. Specifically, commenters requested a more detailed engineering explanation of why 24/7 cutoff wall construction work would be necessary, consideration of using multiple pieces of equipment at once to increase the productivity rate, resident relocation allowances, anticipated duration of potential relocation for residents within 500 feet of construction, and that SAFCA appears to be placing a higher priority on speed rather than environmental impacts. SAFCA has prepared the following response to these concerns.

Normal hours for construction would be from 6:00 a.m. to 8:00 p.m. as stated in the Phase 3 DEIS/DEIR. Installation of cutoff walls during night hours (from 8:00 p.m. to 6:00 a.m.) would be necessary to maintain the construction schedule and install a quality cutoff wall. The 24/7 construction is required due to regional and national demand for the long-stick excavators and deep soil mixing equipment that are needed for cutoff wall construction, the relatively short levee construction window (May 1 through November 1), the potential for wall imperfections that result from sand in the slurry trench settling to the bottom when work progress is interrupted, and the requirement that the cutoff wall be allowed to cure for at least 4 weeks before completing construction of the encapsulating adjacent levee.

It is anticipated that the 24/7 cutoff wall construction would occur Monday through Saturday, with Sunday reserved for equipment maintenance. However, if unanticipated events occur, cutoff wall construction could also be conducted on Sundays. Lights and power generators would be used during nighttime construction hours. Additional equipment would include cutoff wall rigs, excavators, generators, pumps, support vehicles, and other ancillary equipment. The cutoff wall would be installed in several headings. The number and locations of the headings would be dependent on the project schedule and contractor preference. Each cutoff wall rig would move continuously along the proposed alignment to ensure an uninterrupted cutoff wall and to reduce prolonged disturbance to adjacent residences. Each cutoff wall rig can move between 50 and 100 feet horizontally during a twelve-hour work shift.

As stated in the Phase 3 DEIS/DEIR, residents in or near the affected work area would be afforded the opportunity, at SAFCA’s expense, to temporarily relocate to a nearby hotel for as long as the 24/7 schedule persists within 500 feet of their residence (see Mitigation Measure 4.14-a, “Implement Noise-Reducing Construction Practices, Prepare a Noise Control Plan, and Monitor and Record Construction Noise Near Sensitive Receptors”). The 500-foot distance was determined to be the distance at which models indicate that noise levels from cutoff wall construction equipment (deep soil mixing equipment or long-stick excavators) would be at or below 60 dBA L_{dn} , which is the standard for exterior night time noise levels established by Sacramento County and the City of Sacramento, as stated in Section 4.14, “Noise,” of the Phase 3 DEIS/DEIR. Based on this distance of 500 feet from construction equipment, in the worst case, residents in the vicinity of cutoff wall construction could be affected by round-the-clock construction for approximately one week as the cutoff wall is installed along the levee.

The 500-foot distance is modeled based on the assumption that sensitive receptors are located in the line-of-sight from the noise source. Additional reductions in noise levels would come from natural sound barriers, such as existing levees or other structures, including dwellings. For example, cutoff walls along the Sacramento River east levee would be constructed on the land side of the levee at an elevation below the crown of the levee. Therefore, the existing levee would provide some shielding to residents on the water side of the Garden Highway, reducing exterior noise levels at 500 feet by an additional 10–12 dB below the predicted level of 60 dBA L_{dn} . This

estimate is based on the assumption that cutoff wall construction equipment would generate noise at the level of 10 feet above ground surface, and the height of the existing levee is 25 feet above ground surface. Waterside residences would be out of the line-of-sight of this equipment.

Residences located adjacent to the NEMDC west levee, where cutoff wall construction would also be conducted as part of the Phase 3 Project, would not be shielded by the existing levee because construction would take place on top of the degraded levee. However, for residents not located immediately adjacent to the levee, intervening building façades and ground absorption would significantly reduce noise levels, and residents located at or beyond 500 feet from construction would likely experience noise levels below the exterior noise standard of 60 dBA L_{dn} due to these obstructions and the increasing distance from the noise source.