Executive Summary

Introduction

This Draft Environmental Impact Report (Draft EIR) has been prepared to evaluate the significant environmental effects of the bank protection improvements proposed by the Sacramento Area Flood Control Agency (SAFCA) to provide improved flood protection for the Natomas Basin.

This Draft EIR has been prepared on behalf of SAFCA in accordance with the requirements of the California Environmental Quality Act (CEQA). The Draft EIR provides the public and responsible and trustee agencies with information about each project and its potentially significant direct, indirect, and cumulative environmental effects.

Summary Description of the Proposed Project

SAFCA is proposing to implement bank protection measures at nine sites along the east (left) bank of the Sacramento River to control erosion that threatens the integrity of the flood control system protecting the Natomas Basin area of Sacramento and Sutter Counties (Figure ES-1). SAFCA has determined that the bank protection project may have significant effects on the environment.

SAFCA's EIR on Local Funding Mechanisms (February 2007) broadly examined the significant environmental effects that could result from creating an assessment district and a development fee program. That report examined the physical effects associated with the program of flood control improvements and related environmental mitigation and habitat enhancements that the local funding mechanisms would be used to finance. These improvements include the Natomas Levee Improvement Program (NLIP). This Draft EIR analyzes the bank protection component of the NLIP, which is proposed for construction in 2008 through 2010. This EIR is tiered from the analysis in the EIR on Local Funding Mechanisms.

SAFCA is also proposing to implement improvements to the Natomas levee system to address freeboard deficiencies, underseepage, and encroachments. These components have been evaluated as a separate project in a separate EIR, *Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project* (Landside Project EIR), prepared concurrently

with this EIR. The cumulative impact analysis of this EIR considers the combined effects of the two projects.

In accordance with California Environmental Quality Act (CEQA) requirements, this Draft EIR is being distributed for public and agency review and comment for a 45-day period, which ends on October 29, 2007. SAFCA will hold a public meeting during the comment period to receive input from agencies and the public on the Draft EIR. The meeting will be held on October 18 at 3 p.m. in the City of Sacramento Council chambers, 915 I Street, Sacramento, California. In addition, written comments from the public and agencies will be accepted throughout the public comment period. Comments must be received by SAFCA by 5:00 p.m. on October 29, 2007, addressed to:

Attn: John Bassett / Draft EIR Bank Protection Comments
Sacramento Area Flood Control Agency
1007 7th Street, 7th Floor
Sacramento, CA 95814
Fax number: (916) 874-8289
Email address: BassettJ@SacCounty.net

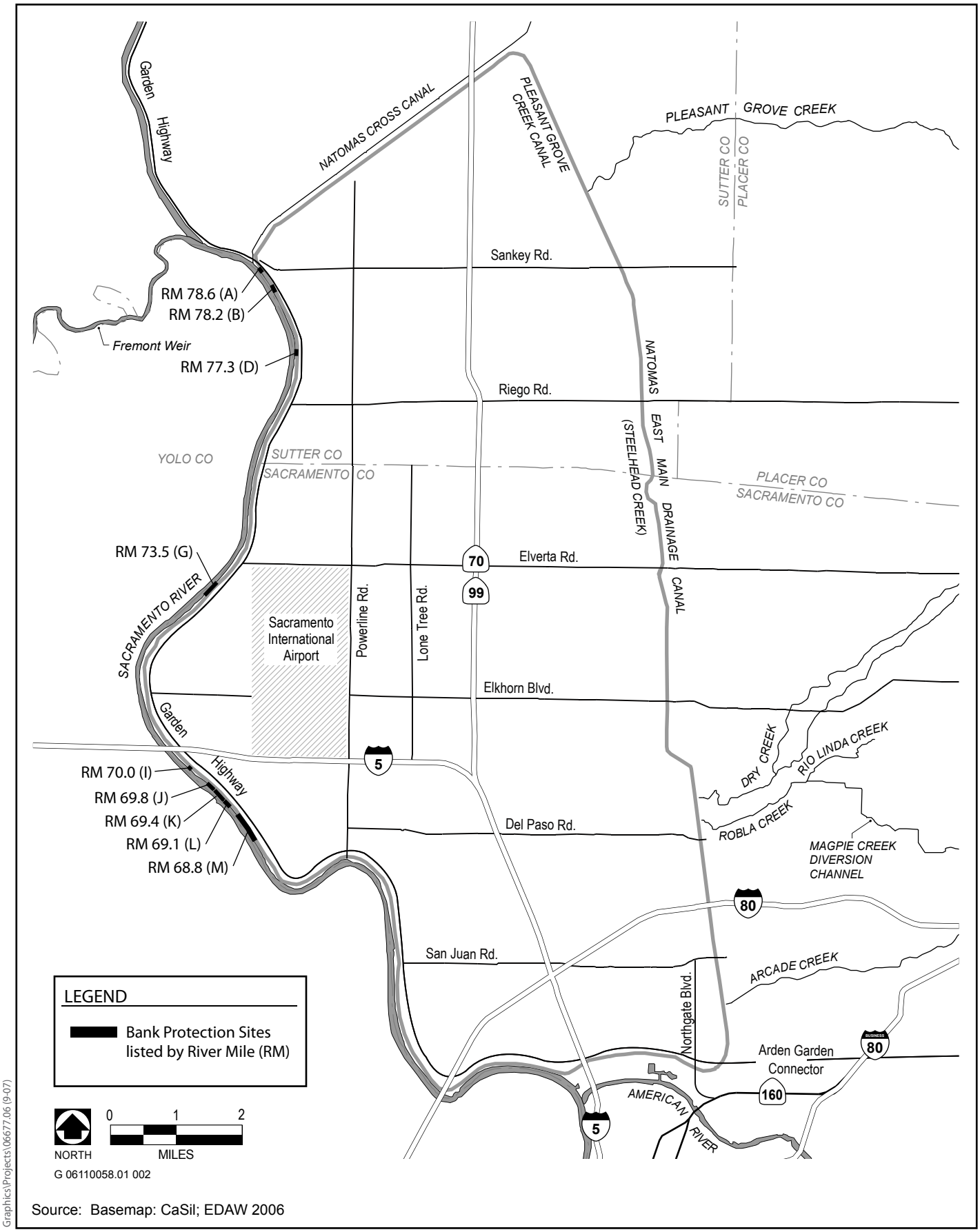
If comments are provided via e-mail, please *include the project title in the subject line, attach comments in MS Word format, and include the commenter's U.S. Postal Service mailing address.*

Following consideration of these comments, SAFCA will prepare written responses to comments on environmental issues, and prepare a Final EIR that will describe the disposition of any significant environmental issues raised in the comments on the Draft EIR. Following a 10-day review period, SAFCA may certify the Final EIR and approve the bank protection project.

This EIR will be used by SAFCA and other state agencies to fulfill the requirements of CEQA. It also may be used as an informational document by federal agencies that could have permitting or approval authority (including partial funding) for aspects of the project.

Need for Project

The Sacramento metropolitan area, including the Natomas Basin, is situated at the confluence of the American and Sacramento Rivers, and many portions, including Natomas, are low-lying former flood basins now protected by levees. The Natomas Basin is the northern growth area of the Sacramento metropolitan area and currently has both agricultural and, increasingly, urban uses. The Sacramento International Airport is in the Natomas Basin. A substantial number of residents and damageable property, as well as, significant regional infrastructure in the basin, are protected from flooding by an extensive system of levees jointly managed by federal, state, regional (SAFCA), and local agencies.



Source: Basemap: CaSil; EDAW 2006

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Jones & Stokes

Figure ES-1
NLIP Bank Protection Sites

These levees are of varying quality—typically constructed of erodible dredged river silts and sands, and built close to the riverbanks where they are subject to ongoing bank erosion. The levees have been improved and upgraded a number of times since the authorization of the federal-state Sacramento River Flood Control Project (SRFCP); however, reliability issues related to bank erosion, seepage, and overtopping have not been fully addressed.

SAFCA's most recent review of the Natomas levees indicated that the risk of levee failure during a minimally accepted 100-year flood (flood with 1% annual probability of occurrence) is greater than previously thought and that significant improvements are required to allow the Federal Emergency Management Agency (FEMA) to certify the levee and to meet SAFCA's higher "200-year" (0.5% annual probability) flood protection standard.

A critical factor for evaluating the risk of levee failure from erosion of the foundation is the degree of encroachment of the eroding bank/bed into the levee foundation, defined as a projection of the 3:1 waterside levee slope downward through the berm and under the channel). Slope failure at sites with encroachment can threaten levee integrity. Other significant bank erosion risk factors are the steepness of the bank slope near the low-flow waterline; the composition of the soils in the bank; potential scour depth during floodflow; and physical bank erosion processes (particularly wave erosion during the low-flow season). The two most important erosional processes observed in the Natomas reach are:

- bed or toe scour at the base of steep banks as a result of floodflows, particularly where the scour has progressed near, or into, the levee foundation; and
- wave erosion, particularly from waves generated by recreational boat traffic.

A detailed erosion hazard assessment commissioned by SAFCA assigned risk priorities to candidate sites. *High priorities* were assigned to those sites where:

- the toe of the bank lies inside or very near to the levee template and the slope below the waterline is reasonably steep, scour depths are below bed elevations at the toe, or the local bed has been observed to be lowering; or
- the toe of the bank lies outside the levee template but there is risk of cantilever failure based on the estimated stratigraphy of the bank; or
- the bank at the low water elevation lies near the levee template, and there is potential for a failure originating at the contact point to intersect the levee prism.

Moderate priorities were assigned to sites where:

- the toe of the bank lies reasonably close to the levee template, but the slope below the waterline is moderate and general scour elevations are not very far beneath the local bed level; or
- the bank at the low water elevation (the contact between the floodbasin deposits and the alluvial deposits) lies inside the levee template, but an individual failure is unlikely to intersect the levee prism; or
- the toe of the bank lies from 20 to 50 feet from the levee template and the risk of slope failure is low to moderate, but erosion appears to be very active or specific site factors, such as lack of vegetation, structures, or fallen trees, suggest that erosion might proceed very quickly during a large flood.

In addition, an indirect erosion risk factor is shortening of seepage paths under the levee as bank retreat occurs, increasing underseepage and potential for failure of the overlying levee. Where seepage was identified as a concern by SAFCA's geotechnical engineer, the erosion risk priority was increased.

While the *moderate* sites are likely to pass the design flood if it occurred in the next few years, continued erosion at these sites will result in *high* priority status within the next 25–50 years.

SAFCA has determined that repair of both *moderate* and *high* risk sites is needed to ensure FEMA levee certification and meet SAFCA's 0.5% annual probability goal. Ten sites meeting these criteria have been identified.

The California Department of Water Resources (DWR) and the U.S. Army Corps of Engineers (USACE) have designed and partly constructed bank protection at one of these sites (and a portion of another). As a result, SAFCA has identified a continuing need to implement bank protection at nine sites totaling approximately 8,500 linear feet of bankline.

Project Objectives

As described in the Local Funding EIR, from which this EIR is tiered, the project objectives of the NLIP are to (1) complete the projects necessary to provide 100-year flood protection for developed areas in Sacramento's major floodplains as quickly as possible, (2) provide urban-standard ("200-year") flood protection for developed areas in Sacramento's major floodplains over time, and (3) ensure that new development in the undeveloped areas of Sacramento's major floodplains does not substantially increase the expected damage of an uncontrolled flood.

Consistent with those objectives, the objectives of the proposed bank protection project are to:

- prevent erosion that could undermine or increase seepage through the existing levees by installing hardscape and vegetation to prevent further

retreat of the existing riverbank as a result of floodflow scour and wave erosion;

- allow as much of the existing vegetation as possible to remain in areas where work is performed;
- re-create riparian habitat and shaded riverine aquatic (SRA) cover in areas where bank protection work takes place;
- mitigate any loss of riparian habitat and SRA cover associated with the project at the project sites; and
- provide net increases in riparian habitat that can offset future levee-tree removals for various sites throughout the project reach or adjacent reaches.

Proposed Project

The nine proposed bank protection sites are located on the east (left) bank of the Sacramento River between RM 69 (upstream of the confluence with the American River and 2 miles downstream the Interstate 5 [I-5] river crossing) and RM 79 (the confluence with the Natomas Cross Canal). More than half of the sites and about two-thirds of the total project length are downstream of I-5.

Project construction is anticipated to take place between April 1 and October 15 during one or all of the 2008, 2009, and 2010 construction seasons. Work outside of this period during the winter months may be pursued during low-flow periods with the appropriate agency approvals. The contractor selected to construct the projects would decide when each particular site would be constructed during the 3-year allowable construction period.

The proposed improvements at the nine sites would stabilize the banks to ensure that the levees are not eroded during a large flood event. The primary focus of riprap employed for this purpose would be the submerged toe of the eroding bank (where it meets the channel bottom). Toe stabilization would arrest retreat of the emergent upper bank and stop the reduction in berm width, thereby reducing the potential for loss of extensive mature riparian vegetation, destabilization of the levee foundation, and shortening of seepage pathways.

The proposed improvements would minimize impacts on high-value SRA cover and riparian habitats that are present at all of these sites, replace values lost, and increase the extent of riparian forest. The typical design specifies riprap from the submerged toe of the bank as high as the average summer water level. Between the average summer and average winter water surface elevations, sloping (3:1 to 10:1) riparian benches would be installed, comprising soil bodies suitable for planting, covered with cobbles to ensure stability, planted with a diverse palette of native riparian species, and underlain by buried riprap to protect the levee in the unlikely event that extreme scour removes the planting medium. These benches would dissipate boat wake and wind wave energies over a cobble-armored, vegetated surface much broader than the existing steep wave-cut, unvegetated zone above the low-flow water surface. A limited amount of woody

riparian vegetation would need to be removed, although trees would be retained where the soil-cobble fill is less than 2 feet deep. Typical designs would be adjusted to accommodate site-specific conditions.

In addition to riparian vegetation planted on the benches, instream woody material (IWM) would be installed, consisting of whole-tree and/or rootwad clusters anchored into the revetment on the lower portion of the cobble-covered soil slope such that portions of the IWM typically would be submerged even during the low-flow season. The extent of IWM at each site was selected to result in full on-site mitigation of SRA cover, as measured by the USACE's Standard Assessment Methodology (SAM).

Two construction access options are under consideration—water-based construction and land-based construction. Either option, or a combination of both, may be used at any of the sites, depending on feasibility and cost of the option and availability of equipment and access corridors that can minimize removal of riparian vegetation on the berm and on the bank above the sites. Water-based construction would be conducted by using a boat or barge on the Sacramento River, whereas land-based construction would be conducted by using trucks accessing the berm above sites via temporary ramps from the Garden Highway (which runs along the top of the adjacent levee). Water-based construction would involve minor additional vegetation removal to place the construction materials, whereas land-based construction could involve extensive removal of vegetation on the berm and bank above the sites. Evaluation of innovative methods of land-based construction that minimize vegetation removal is ongoing, and land-based construction would not be employed unless substantial avoidance of vegetation removal can be achieved.

Issues and Areas of Controversy

On June 4, 2007, SAFCA issued a notice of preparation of this EIR and initiated a public/agency scoping period. A scoping meeting was held 2 weeks later. This process identified the following issues:

- species and habitat issues, including mitigation and growth-inducing effects of the project;
- levee certification, long-term levee stability, growth-inducement, and construction processes and effects;
- air quality effects in relation to maximum allowable thresholds during construction; and
- issues relating to drainage, eminent domain, rights of way, land use, and tribal matters.

No areas of substantial controversy were identified during the scoping process.

Impacts of Proposed Project and Mitigation Measures

The baseline for characterizing impacts and determining mitigation requirements is existing conditions. Future-without-project conditions may be different from existing conditions (e.g., the river will continue to erode its banks, increasingly eliminating existing riparian vegetation and compromising the integrity of the levee).

Impacts are adverse (unintended) consequences of the proposed project. The proposed project is intended to result in flood-safety benefits. Another benefit is long-term increase in the acreage of riparian habitat at the project sites.

The project has been designed in the context of the hydrologic regime of the past 50 years and the current base level for river discharge (i.e., sea level). Climate change from global warming, including more frequent and larger floods, would not be expected to compromise the reliability of the bank protection. Moreover, the mitigation design would allow successional elevational changes in vegetation on the sloping planting bench, as well as succession to warmer-climate-adapted species, in response to rising sea level and warmer growing seasons during the project performance period (an estimated 50 years).

Direct and Indirect Impacts

Direct and indirect impacts of the proposed project are summarized in Table ES-1. The table also identifies impact significance before mitigation, available mitigation measures, and the effectiveness of these measures in reducing impact significance.

Cumulative Impacts

This EIR discusses impacts of the project that may be cumulatively considerable. *Cumulatively considerable* means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The project will result in several cumulatively considerable impacts as presented in Section 10.

Planning and Regulatory Consistency

The proposed project is consistent with relevant plans and regulations, as discussed in Sections 7 and 8.

Impact Conclusions

Significant and Unavoidable Environmental Impacts

If a potentially significant impact cannot be reduced to a less-than-significant level through adoption of a mitigation measure, it is considered to be a *significant and unavoidable impact*.

The proposed project would result in the following significant and unavoidable impacts:

- temporary reduction in riparian vegetation/habitat and gaps in riparian corridor as a result of land-based construction (direct and cumulative);
- effects on air quality with respect to short-term construction emissions (temporary emissions of ROG, NO_x, and PM10 [direct and cumulative], and incremental contributions to GHG emissions [cumulative]);
- generation of short-term construction noise (direct and cumulative);
- damage or destruction of previously unidentified cultural resources during construction (cumulative); and
- long-term changes in scenic vistas, scenic resources, and existing visual character (cumulative).

Where feasible mitigation exists, it has been included to reduce these impacts; however, the mitigation would not be sufficient to reduce the impacts to a less-than-significant level.

Significant Irreversible Environmental Impacts

The irreversible and irretrievable commitment of resources is the permanent loss of resources for future or alternative purposes. The proposed project would result in the following irreversible and irretrievable commitment of resources:

- construction materials, including soil suitable for agricultural and riparian-habitat restoration use, naturally-rounded river cobble, and angular (crushed) rock; and
- energy expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project construction.

This irreversible and irretrievable commitment of these resources is not significant. The use of the nonrenewable resources—soil and natural cobble—would not account for more than a small portion of the region's resources and would not affect the availability of these resources for other needs in the region. Moreover, angular rock is renewable. To the extent feasible, the acquisition of soil for levee improvements would be coordinated with other construction and habitat enhancement activities that result in excess soil that must be disposed of.

Energy resources used to construct the project, while irreversibly lost, are an insignificant part of energy resources used daily in the Sacramento region.

Alternatives

Under CEQA, alternatives to a proposed project are courses of action that can feasibly attain most of the project objectives and would avoid or substantially lessen any of the significant effects of the project. However, the alternative of taking no action also must be addressed. Action alternatives can be considered in detail or, if they appear infeasible or would not attain most of the project objectives or lessen impacts of the proposed project, can be eliminated from detailed consideration.

In this case, two potential action alternatives were initially identified, but both of them have been eliminated from detailed consideration for reasons described below.

Setback Levee

One of several objectives of a setback levee is to allow increased natural channel migration and reduce the need for bank protection to protect the levee against scour and erosion. Feasible locations of a setback levee behind the east levee of the Sacramento River in the Natomas area are limited for several reasons, including design effectiveness and land use issues (e.g., location of the Sacramento International Airport). The only reach of the Sacramento River east levee in the Natomas area considered feasible for a setback levee is the upper 5 miles (approximately RM 79 to RM 74).

A setback levee would need to be designed so it did not alter the flow split between the Sacramento River and the Yolo Bypass at the nearby upstream Fremont Weir, and therefore one of the requirements of the project would be to prevent the river channel from widening. As a result, any setback levee alternative still would require bank protection to maintain the existing river channel width. Given the inability of a setback levee to eliminate the need for bank protection in the locations where a setback levee is being considered, it has been eliminated from further consideration as an alternative to bank protection.

Submerged Toe Protection

Under this alternative, the bank protection would extend up the streambank only to the mean summer or fall water surface. A smaller project structure such as this, if water-based construction was used, could eliminate impacts on riparian vegetation and visual quality and minimize impacts on aquatic shoreline habitats, relative to the proposed action. However, this alternative would not achieve the project objective of controlling wave erosion of the bank, which extends about 3–

6 feet above the mean summer water surface. Continuing bank erosion from boat wakes and wind waves could continue to threaten levee integrity.

No-Project Alternative

The result of no action is likely to be the continued gradual and episodic loss of remnant floodplain (berm) and the riparian vegetation it supports, and ultimately encroachment into the levee foundation. Within a few years, no action would substantially increase the risk of flooding of the Natomas area.

With no SAFCA action, federal or state flood control agencies eventually would implement bank protection at the nine sites through the Sacramento River Bank Protection Project federal authority or through emergency federal and/or state action. Continued erosion prior to the federal/state action would result in ongoing losses of riparian habitat that could not be fully replaced through bank protection measures. Emergency action would eliminate additional riparian habitat. SRA cover values also likely would be severely diminished.

Issues to Be Resolved

SAFCA will need to determine whether to approve the proposed project for implementation. The decision will be based on numerous factors besides potential environmental impacts, including permitting requirements and implementation schedule. Additionally, a key design issue to be resolved is the choice of water-based or land-based construction; see the Impact Conclusions section above.

Table ES-1. Summary of Impacts and Mitigation Measures for the Natomas Bank Protection, Natomas Levee Improvement Program

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
AGRICULTURE AND LAND USE			
Refer to the Local Funding EIR. Impacts are not discussed further in this EIR.			
GEOLOGY AND SOILS			
Refer to the Local Funding EIR. Impacts are not discussed further in this EIR.			
HYDRAULICS AND FLOOD SAFETY			
FS-1: Change in Water Surface Elevations and Flood Safety Attributable to Project Design	Less than significant	No mitigation is required	
FS-2: Increased Berm Flow Velocities and Scour from Land-Based Construction Option	Less than significant	No mitigation is required	
WATER QUALITY			
WQ-1: Decrease in Surface Erosion and Sedimentation from the Project Site	No impact; beneficial	No mitigation is required	
WQ-2: Temporary Increase in Stream Turbidity Levels during Construction	Less than significant	No additional mitigation is required beyond planned monitoring and temporary work stoppage or slowdown when determined by monitoring	
WQ-3: Potential Inadvertent Release of Petroleum Products into the River Channel during Water-Based Construction	Significant	**WQ-MM-1:** Prepare and Implement a Stormwater Pollution Prevention Plan **WQ-MM-2:** Prepare and Implement a Spill Prevention, Response, and Cleanup Plan	Less than significant
WQ-4: Accelerated Erosion and Sedimentation from Land-Based Construction	Significant	**WQ-MM-1:** Prepare and Implement a Stormwater Pollution Prevention Plan	Less than significant
WQ-5: Potential Inadvertent Release of Petroleum Products into the Channel during Land-Based Construction	Significant	**WQ-MM-2:** Prepare and Implement a Spill Prevention, Response, and Cleanup Plan	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
FISH AND AQUATIC RESOURCES			
AQUA-1: Potential for Construction-Related Water Pollution	Significant	**WQ-MM-1:** Prepare and Implement a Stormwater Pollution Prevention Plan	Less than significant
AQUA-2: Adverse Effects on Habitat Suitability for Chinook Salmon	Less than significant	No adverse habitat change; no mitigation required	
AQUA-3: Adverse Effects on Habitat Suitability for Central Valley Steelhead	Less than significant	No adverse habitat change; no mitigation required	
AQUA-4: Adverse Effects on Habitat Suitability for Delta Smelt	Less than significant	No adverse habitat change; no mitigation required	
AQUA-5: Adverse Effects on Habitat Suitability for Green Sturgeon	Less than significant	No adverse habitat change; no mitigation required	
AQUA-6: Adverse Effects on Habitat Suitability for Sacramento Splittail	Less than significant	No adverse habitat change; no mitigation required	
TERRESTRIAL BIOLOGICAL RESOURCES			
TERR-1: Temporary Decrease and Long-Term Increase in Lower Bank Riparian Vegetation	Less than significant	On-site minimization and compensation of impact; no mitigation is required	
TERR-2: Temporary Reduction in Overhead Shaded Riverine Aquatic Cover	Less than significant; addressed in *Aquatic Ecosystems* section	No mitigation is required	
TERR-3: Removal of Native Oaks/Heritage Trees in Sacramento County	Significant	**TERR-MM-1:** Avoid and Minimize Construction Related Loss of Riparian Vegetation/Habitat **TERR-MM-2:** Compensate for Loss of Native Oaks/heritage Trees in Sacramento County According to Sacramento County Ordinance.	Less than significant
TERR-4: Potential Temporary Loss of Breeding and Roosting Habitat for Swainson's Hawk	Significant	**TERR-MM-3:** Perform Preconstruction Surveys for Nesting Swainson's Hawks prior to Construction **TERR-MM-4:** Avoid Construction-Related Disturbances within ½ Mile of Active Swainson's Hawk Nest Sites	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
TERR-5: Potential Temporary Loss of Breeding and Roosting Habitat for Other Raptors, Including White-Tailed Kite and Cooper's Hawk, and Migratory Songbirds	Significant	**TERR-MM-5:** Avoid and Minimize Effects on Nesting Birds during Construction	Less than significant
TERR-6: Construction-Period Disturbance of Habitat for Western Pond Turtle	Significant	**TERR-MM-6:** Survey for and Relocate Western Pond Turtle	Less than significant
TERR-7: Potential Temporary Reduction in Habitat and Populations of Valley Elderberry Longhorn Beetle	Significant	**TERR-MM-7 and -8:** Avoidance measures and compensation required would be provided per USFWS guidelines.	Less than significant
TERR-8: Temporary Reduction in Riparian Vegetation/Habitat and Gaps in Riparian Corridor as a Result of Land-Based Construction	Significant	**TERR-MM-1:** Avoid and Minimize Construction Related Loss of Riparian Vegetation/Habitat **TERR-MM-9**: Minimize Effects on Sensitive Habitats, Develop a Management Plan to Ensure Adequate Compensation for Unavoidable Adverse Effects, and Comply with Section 1602 Permit Process	Potentially significant and unavoidable
CULTURAL RESOURCES			
CR-1: Adverse Change to the Historical Integrity of the River Levee, a Contributor to the RD 1000 Rural Historic Landscape, as a Result of Altering the Waterside of the Levee	Significant	**CR-MM-1:** Comply with National Historic Preservation Act of 1966, Historic and Archeological Resources Protection Act, and Protection of Historic Properties **CR-MM-2:** Document Alterations Made to the River Levee and Distribute the Information to the Appropriate Repositories	Less than significant
CR-2: Disturb Cultural, Historic, or Prehistoric Resources, as well as Human Remains, during Construction	Significant	**CR-MM-3:** Stop Work If Archaeological Materials Are Discovered during Construction **CR-MM-4:** Stop Work If Human Remains Are Discovered during Construction	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
PALEONTOLOGICAL RESOURCES			
Refer to the Local Funding EIR. Impacts are not discussed further in this EIR.			
TRANSPORTATION AND CIRCULATION			
TR-1: Increase in Traffic on Haul Routes during Water-Based Construction	Less than significant	No mitigation is required.	
TR-2: Increase in Boat Traffic on the Sacramento River during Water-Based Construction	Less than significant	No mitigation is required	
TR-3: Increase in Traffic on Haul Routes during Land-Based Construction	Significant	**TR-MM-1:** Prepare and Implement a Traffic Management and Control Plan **TR-MM-2**: Prepare and Implement an Emergency Vehicle Access Plan	Less than significant
TR-4: Interference with Highway Traffic at Bridge Crossings as a Result of Barge Traffic during Water-Based Construction	Less than significant	No mitigation is required	
AIR QUALITY			
AQ-1: Increase in Construction Emission Compared to Regulatory Thresholds	Sutter County: Significant	**AQ-MM-1:** Reduce Exhaust Emissions of NO_x and ROG, and Purchase NO_x Emissions Credits	Significant and unavoidable
	Sacramento County: Significant	**AQ-MM-1:** Reduce Exhaust Emissions of NO_x and ROG, and Purchase NO_x Emissions Credits	Less than significant
AQ-2: Create Objectionable Odors or Substantially Increase Pollutant Concentrations	Less than significant	No mitigation is required	
AQ-3: Additional Increase in Fugitive Dust Emissions for Land-Based Construction Option	Significant	**AQ-MM-2:** Fugitive Dust Control Plan for Land-Based Construction Option	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
NOISE			
N-1: Exposure of Residences to Construction Noise Exceeding County Noise Limits	**Daytime Construction:**		
	Sutter County: Significant	**N-MM-1**. Notify Community of Impending Construction **N-MM-2:** Implement Noise-Reducing Construction Practices, Prepare a Noise Control Plan, and Monitor and Record Construction Noise near Sensitive Receptors	Significant and unavoidable
	Sacramento County: Less than Significant	No mitigation required.	
	Nighttime Construction: **Sutter County:** Significant **Sacramento County:** Significant	**N-MM-1**. Notify Community of Impending Construction **N-MM-2:** Implement Noise-Reducing Construction Practices, Prepare a Noise Control Plan, and Monitor and Record Construction Noise near Sensitive Receptors	Significant and unavoidable
N-2. Exposure of Residences to Ground Vibration during Construction	Less than significant	No mitigation required	
RECREATION			
REC-1: Displacement of Recreation during Construction	Less than significant	No mitigation is required	
REC-2: Change in Recreational Environment and Opportunities as a Result of Water-Based Construction	Less than significant	No mitigation is required	
REC-3: Change in Safety Hazards to Recreationists from Implementing Bank Protection	Less than significant	No mitigation is required	

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
REC-4: Change in Recreational Environment and Opportunities as a Result of Land-Based Construction	Less than significant	No mitigation is required	
VISUAL RESOURCES			
VIS-1: Adverse Effects on Scenic Vistas from River, Levee Crown, and Adjacent Roadways during Water-Based Construction Activities	Less than significant	No mitigation is required	
VIS-2: Long-Term Adverse Effects on Scenic Vistas from Levee Crown and River	Less than significant	No mitigation is required	
VIS-3: Adverse Effects on Scenic Vistas from River, Levee Crown, and Adjacent Roadways from Land-Based Construction Activities	Significant	**VIS-1**: Minimize Degradation of Scenic Resources, Consistent with Levee Integrity Requirements	Less than significant
UTILITIES AND SERVICE SYSTEMS			
Refer to the Local Funding EIR. Impacts are not discussed further in this EIR.			
HAZARDS AND HAZARDOUS MATERIALS			
Refer to the Local Funding EIR. Impacts are not discussed further in this EIR.			

Notes: