

**Initial Study
Yuba River Levee Repair Project**

Prepared for:

Three Rivers Levee Improvement Authority
1594 Broadway
Marysville, CA 95901
Contact: Richard Webb

Prepared by:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914
Contact: Chris Elliott
916/737-3000

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Jones & Stokes. 2004. Initial Study, Yuba River Levee Repair Project. August.
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Mitigation Monitoring Plan

The Three Rivers Levee Improvement Authority (the Authority), as the lead agency under the California Environmental Quality Act (CEQA), has developed this mitigation monitoring plan (MMP) for the Yuba River Levee Repair Project Initial Study. This MMP is designed to ensure that the mitigation measures identified in the environmental impact report for the project are implemented. The MMP addresses the mitigation measures that the Authority is responsible for implementing.

The following table represents the MMP. For each mitigation measure, Table 1 identifies:

- the description of the measure,
- the type of action,
- the implementation schedule,
- the implementing party, and
- the phase applicabilty.

Table 1. Mitigation and Monitoring Plan - Yuba River Levee Repair Project

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
AESTHETICS				
None				
AGRICULTURAL RESOURCES				
None				
AIR QUALITY				
Implement feasible control measures for construction emissions of fugitive dust.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
BIOLOGICAL RESOURCES				
Valley Elderberry Longhorn Beetle				
Perform preconstruction and postconstruction surveys for elderberry shrubs.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment."	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
Train construction personnel to recognize elderberry shrubss and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS-approved environmental awareness training before beginning work at construction sites.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
Compensate for the loss and potential take by transplanting the elderberry shrubss that cannot be avoided to a USFWS-approved conservation area. Transplanting must comply with USFWS-approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle.	CEQA-triggered mitigation measure	During construction	Contractor/Authority	Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
<p>Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle. Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.</p>	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase II
Swainson's Hawk				
<p>Preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations.</p>	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
<p>To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season.</p>	CEQA-triggered mitigation measure	During construction, only if construction would affect protected tree resources	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Removal of all woody and herbaceous vegetation from the proposed construction areas would occur during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds.	CEQA-triggered mitigation measure	Prior to construction	Contractor	Phase II
In the event nesting or roosting raptors are identified, the Authority will coordinate with the DFG to identify measures to ensure raptors are not adversely affected.	Environmental commitment	Prior to and during construction	Contractor/Authority	Phase I and Phase II
CULTURAL RESOURCES				
Stop work and assess significance in the event cultural resources are unearthed during construction	Environmental commitment	During construction	Contractor/Authority	Phase I and Phase II
GEOLOGY AND SOILS				
Prepare and implement a Storm Water Pollution Prevention Plan.	Environmental commitment	Prior to and during construction	Contractor/Authority	Phase I and Phase II
HAZARDOUS MATERIALS				
Contractor will maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
Contractor will equip any construction equipment that normally includes a spark arrester with an arrester in good working order.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
HYDROLOGY AND WATER QUALITY				
None				
LAND USE AND PLANNING				
None				
MINERAL RESOURCES				
None				
NOISE				
The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction Contractor will employ noise-reducing construction practices.	Environmental commitment	During construction	Contractor/Authority	Phase I and Phase II
POPULATION AND HOUSING				
None				
PUBLIC SERVICES				
None				

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
RECREATION				
The Authority shall ensure that the Contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure.	Environmental commitment	Prior to construction	Contractor/Authority	Phase I and Phase II
TRANSPORTATION/TRAFFIC				
The Contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase I and Phase II
The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
UTILITIES AND SERVICE SYSTEMS				
None				

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Acronyms and Abbreviations

Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ARB	Air Resources Board
Authority	Three Rivers Levee Improvements Authority
BMPs	best management practices
CAA	Clean Air Act
CAAQS and NAAQS	State of California and the federal government ambient air quality standards
CCAA	California Clean Air Act of
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
DFG	California Department of Fish and Game
DWR	California Department of Water Resources
EIR	environmental impact report
EPA's	Environmental Protection Agency's
ESA	federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FRAQMD	Feather River Air Quality Management District
HCP	habitat conservation plan
IS	initial study
ITE	Institute of Traffic Engineers
LOS	level of service
MBTA	Migratory Bird Treaty Act
msl	mean sea level
NAHC	Native American Heritage Commission
NO	nitrogen dioxide
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O	ozone
ONC	Office of Noise Control
PIR	Problem Identification Report
PM	particulate matter microns in diameter or less
ppm	parts per million

PRC	Public Resources Code
RD	Reclamation District
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Officer
SO	sulfur dioxide
SR	State Route
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
YCWA	Yuba County Water Agency
µg/m	cubic meter

Chapter 1

Introduction

Document and Project Purpose

The Three River Levee Improvement Authority (Authority) is a joint powers authority with the mission of advancing the flood safety of Yuba County, California. The county is subject to seasonal flood threat from many rivers and creeks, including the Yuba River, Feather River, Bear River, and tributary drainages. Because of this flood risk, many local rivers have been confined by constructed levees.

The Authority is proposing to enhance flood protection of properties within the Reclamation District (RD) Number 784 service area by repairing the levee on segments of the south levee of the Yuba River, just upstream of its confluence with the Feather River (Figure 1-1).

This initial study (IS) discloses the environmental impacts of constructing proposed flood control impacts and identifies measures to reduce significant impacts. The IS is being prepared in compliance with the California Environmental Quality Act (CEQA), which applies to a discretionary activity proposed by a California public agency.

Project Location

The proposed project is located in the southern portion of Yuba County along the Yuba River south levee, upstream of its confluence with the Feather River, just south of Marysville. The project repairs would be located entirely within the boundaries of RD 784. Materials for the project would be transported from off-site sources.

Project Background

Yuba County has a flood-ravaged history since European settlement, evidenced especially over the last 20 years by two catastrophic floods and subsequent flood management efforts, summarized below.

In 1986, Yuba County suffered a flood that inundated 10,700 acres, killed one person, and damaged or destroyed more than 4,000 homes and businesses when the Yuba River levee upstream of State Route 70 (SR 70) failed.

Two major flood protection efforts resulted from the 1986 floods in the Central Valley. First, the U.S. Army Corps of Engineers (Corps) and California Department of Water Resources (DWR) initiated the Systems Evaluation Project. Second, in 1988, the Yuba County Water Agency (YCWA) initiated the Yuba Basin Project, which led to a Corps project designed to achieve a 200-year level of protection for area levees, which are maintained and operated by RD 784. These levee projects were expected to provide a 200-year level of protection once they were completed in approximately 2000.

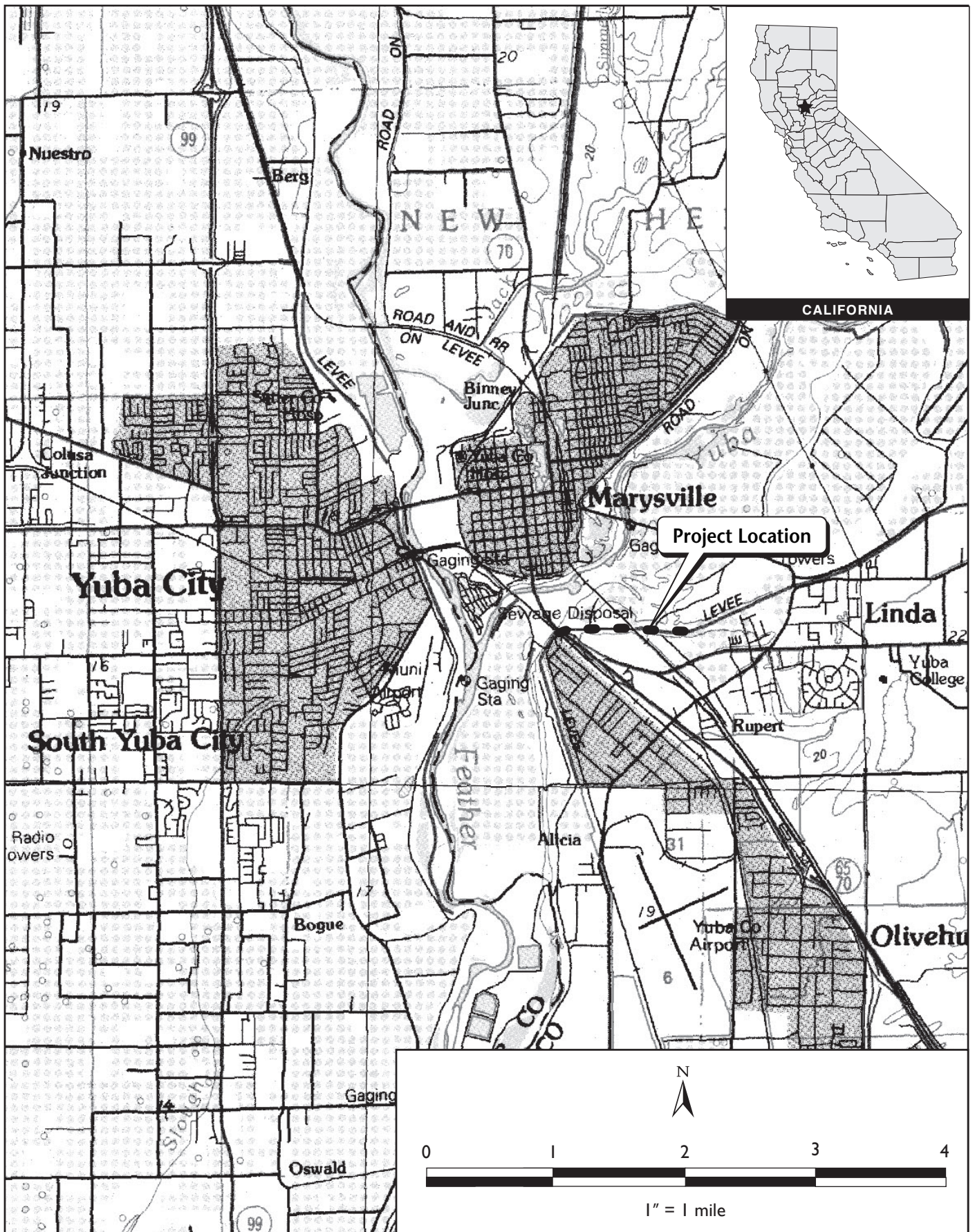
In 1997, Yuba County suffered another devastating flood that inundated 16,000 acres, killed three people, and damaged or destroyed more than 850 homes and businesses. More than 100,000 people were evacuated from the region, the largest evacuation in California history.

The 1997 flood resulted in YCWA initiating a Supplemental Flood Control Study. The goal of this effort was to substantially improve the flood protection provided by the Systems Evaluation Project and the Yuba Basin Project.

The Yuba Basin Project was approved by Congress in 1998, and a construction start was authorized in 2002. However, in 2003, new levee criteria from the Corps caused reevaluation of the project design, which substantially increased the cost, necessitating project reauthorization by Congress. Actions are currently underway to obtain project authorization and appropriation to initiate construction.

As part of a separate study, in May 2003, DWR informed RD 784, Yuba County, and YCWA that their draft Federal Emergency Management Agency (FEMA) Flood Mapping Study identified deficient levee sections in the flood protection system for the county. The draft report, which was being prepared by the Corps, contained preliminary findings that sections of the Western Pacific Interceptor Canal levee and Bear River north levee did not meet standards for the 100-year FEMA flood event, including levee height standards. Once the DWR study was completed, it would be provided to FEMA, which would then map the area protected by these levees as a flood hazard zone (i.e., within the 100-year floodplain), unless corrective measures were implemented.

In light of these various flood studies, RD 784, YCWA, and Yuba County have initiated a fast-paced program to evaluate potential options for achieving certifiable 100-year or better flood protection for the county. To accelerate achievement of this goal in advance of DWR and Corps efforts, RD 784 and Yuba County have strengthened their partnership in the formation of the Authority to facilitate cooperation and sharing of resources.



Problem Definition

A geotechnical report concluded that there are significant problems relating to seepage with the levee foundations along the project reach (Kleinfelder 2004). As a result, the Authority has decided to act quickly to implement portions of the repairs this year.

Levee Stability

Levee stability in this area is compromised by seepage. Seepage is a phenomenon wherein water moves outward and downward away from the river channel, either through the levee cross section (i.e., through-seepage) or below the levee and surrounding land surface (i.e., under-seepage) (Figure 1-2). The key problem associated with seepage is levee breach or collapse, which occurs when the earth material within or underlying the levee becomes undermined by the pressure of the seeping water. A subform of seepage is the phenomenon of soil piping, which occurs when a void in the earth material becomes exploited by moving water, causing the void to rapidly increase and threaten the levee integrity. Several factors contribute to seepage, including high water pressure within the water course (such as during periods of high river stage, which are common based on local hydrology) and pervious earth material within or underlying the levee (which is an inherent relict condition from upstream hydraulic mining in the nineteenth century).

Project Objectives and Repairs

The detailed engineering study by the HDR team for the Authority is nearing completion. This study will determine the magnitude of the repair effort necessary to achieve FEMA certification and a higher level of flood protection provided by the Yuba River south levee. The Authority is evaluating the study results for a plan that will meet the following objectives:

- the proposed project provides the greatest level of flood protection possible;
- the cost will not exceed available funding;
- the proposed project will not create an increased flood risk problem for surrounding levee districts;
- the proposed project will be constructed as soon as possible to reduce flood risk; and
- the proposed project is politically, socially, and environmentally acceptable.

Regulatory Compliance

California Environmental Quality Act Compliance

CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. CEQA requires that the lead agency (Authority) prepare an IS to determine whether an environmental impact report (EIR) is needed, or a negative declaration or mitigated negative declaration may be adopted. An EIR would be required if any “potentially significant impacts” were identified that could not be mitigated to a less-than-significant level. A negative declaration may be adopted if impacts are considered “less than significant,” and a mitigated negative declaration may be adopted if the project would result in less-than-significant impacts with mitigation measures incorporated into the project.

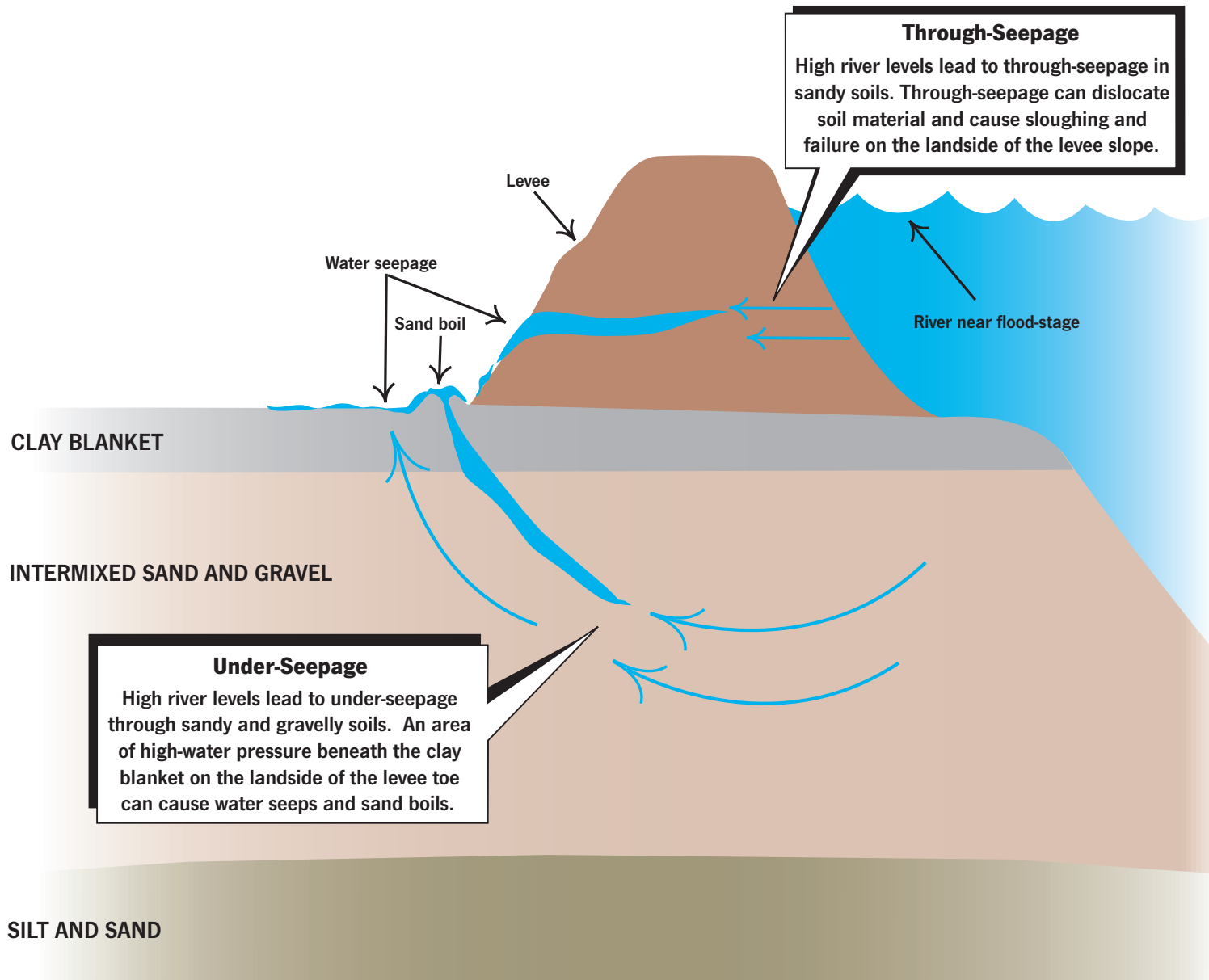
As an IS, this document evaluates the impacts of the proposed project and incorporates mitigation measures to eliminate or reduce impacts to a less-than-significant level. Based on the results of the IS, the Authority will either adopt a mitigated negative declaration for the proposed project or prepare an EIR. The State CEQA Checklist (Appendix G of the CEQA Guidelines) is the template for Chapter 3 of this document, and the impact analysis is provided under the respective questions in the checklist.

Other Permits and Approvals

In addition to CEQA compliance, the project is also being reviewed for the need to obtain permits and approvals under other federal, state, and local laws that may be applicable to the project. While these other permits and approvals are independent of the CEQA document, they are being coordinated as closely as possible. This process includes review of the permits and approvals shown in Table 1-1.

Table 1-1. Regulatory Compliance Permits and Approvals

Authority/Agency	Permit/Approval	Trigger
California Reclamation Board	Encroachment Permit	Modifications to a federal or state project levee
Central Valley Regional Water Quality Control Board	National Pollutant Discharge Elimination System	Earth disturbance greater than 1 acre
	Section 401 Certification or Waiver	



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Document Organization

This document is organized as follows:

- Chapter 1, “Introduction,” describes the project background, purpose, and regulatory compliance.
- Chapter 2, “Project Description,” describes the project area, construction methods that will be employed, and the project features (i.e., environmental commitments) that have been incorporated into the project to avoid or reduce potential project effects.
- Chapter 3, “Environmental Setting and Impacts,” includes the Initial Study Checklist. Components of the study include a setting discussion, impact analysis criteria, project effects and significance, and applicable mitigation measures.
- Chapter 4, “References,” provides information on all printed references and personal communications used to prepare the IS.
- Chapter 5, “List of Preparers,” presents an inventory of all those who assisted in the preparation of this document.

Chapter 2

Project Description

Chapter 2

Project Description

Introduction

This chapter describes the construction and design of components of the proposed project. The project proposes the construction of levee repairs along the Yuba River south levee, from the former Western Pacific Railroad (located just downstream of SR 70) to approximately 2,000 feet upstream of the former Southern Pacific Railroad, for a total of approximately 5,000 feet, to reduce the risk of flooding within the Authority's planning area (Figure 2-1).

Proposed Project

To address under- and through-seepage concerns on this stretch of the levee, a combination of treatments is being proposed (Figure 2-1). These treatments include the construction of a slurry cutoff wall, construction of relief wells, and the construction of a landside seepage berm. As shown in Figure 2-1, the total treatment area has been divided into five reaches for purposes of this analysis: Reaches A, B, C, D, and E. Construction would occur in two phases. Phase I would occur September through October 2004, and Phase II would occur in summer 2005.

Reach A

Reach A is the area along the levee between the former Western Pacific Railroad and the downstream end of the project approximately 50 feet downstream (Photograph 2-1). Treatments for Reach A would be the construction of either relief wells or a seepage berm located in the area immediately downstream of the railroad embankment. These treatments would reduce the under-seepage potential in this reach. Construction and design of these treatments are described below. As shown in Table 2-1, construction would occur during Phase II in 2005.

Option 1: Relief Wells

To mitigate under-seepage beneath the Yuba River levee in Reach A, relief wells could be constructed. Relief wells are passive systems that would be constructed near the landside toe of the levee. The wells are designed to alleviate excess seepage pressures at depth to reduce the potential for high exit gradients and boiling of material near the levee toe during high river stage (Figure 2-2). The wells would be spaced 25 feet apart and may extend to depths of about 120 feet. It is anticipated that the relief well system would generate approximately 70 gallons of water per minute.

During relief well construction, a typical well-drilling rig would be used to drill to the required depth and construct the well (including well casing, gravel pack material, and well seal) beneath the ground surface. The drill rig would likely be an all-terrain, track-mounted rig that could access the well locations from the levee crest. A concrete-lined V-shaped ditch would be constructed to collect well discharge and transfer flows from the well to the storm drain system to the south. Restoration of the disturbed work area would be required.

Construction of each well and the lateral drainage system would take approximately 5–10 days. Additional time (about 2 weeks) may be required for site restoration.

Equipment needed to construct the wells would include the drill rig, an equipment support vehicle, and a water supply truck. A trench excavator or backhoe would be required to install the lateral drain line.

Materials imported to the site would include well casing, sand and gravel, concrete, drainpipe, and other materials needed for construction. Areas along the levee crest may be used to store equipment and supplies during construction of each well.

For the relief wells, permanent facilities would include the wells themselves, associated lateral drains, and the pump station. Inspection of the relief wells would be required at least on an annual basis, and observation of flow from the wells would be required during high river stages. The wells would be test-pumped every 2 years, and the discharge water from those tests would be trucked off site to a central disposal, as appropriate.

Option 2: Seepage Berm

The Authority may choose to construct a seepage berm to alleviate under-seepage in Reach A. The seepage berm would be approximately 80 feet wide (extending away from the levee landside toe) and would extend laterally along the levee approximately 50 feet downstream from the railroad embankment (Figure 2-3). It is anticipated that the berm would be constructed within the railroad right of way and would not extend into adjacent residential and private properties.



Figure 2-1
Project Reach Map

Legend

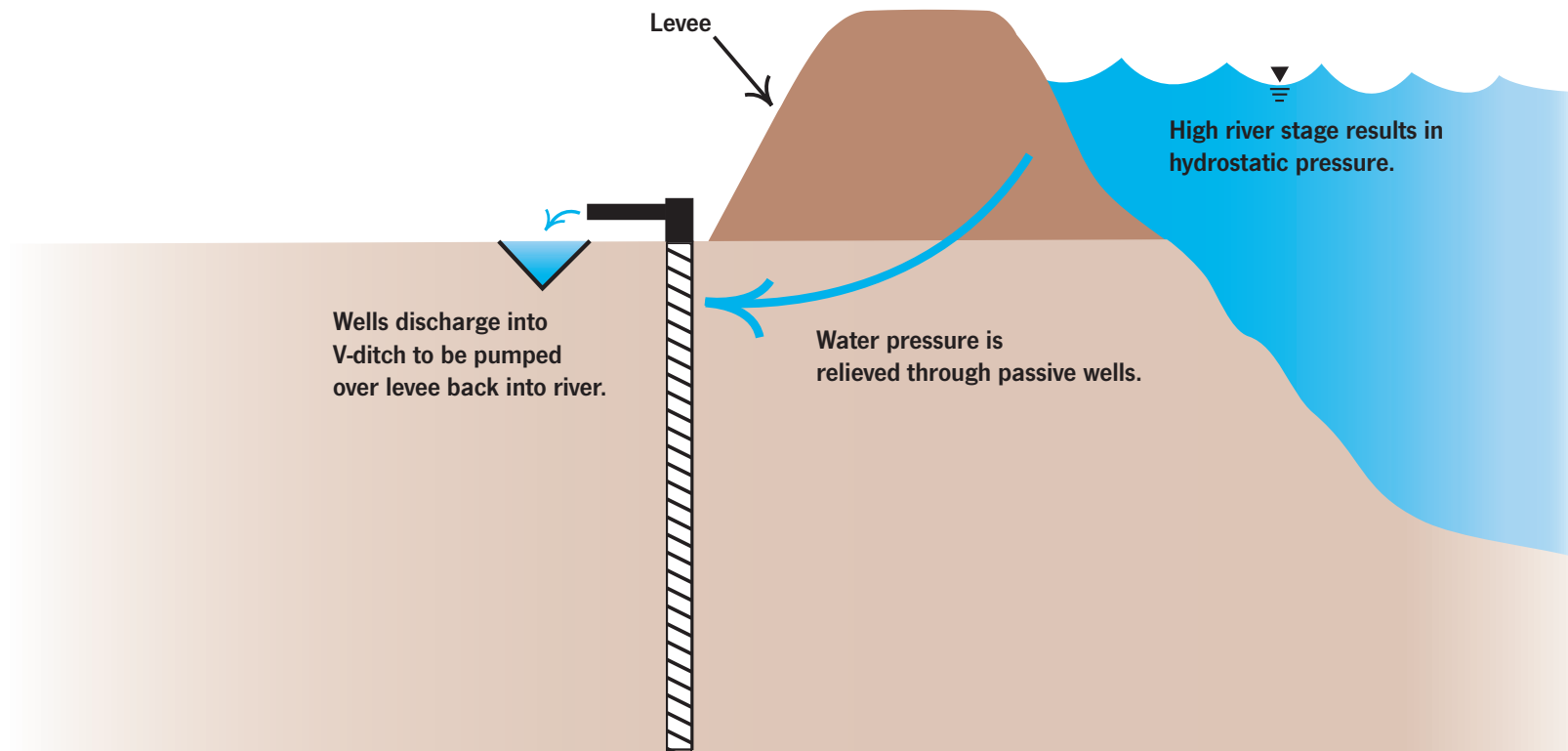
- | | |
|---------|--|
| Reach A | Old WPRR to 50' Downstream |
| Reach B | SR 70 to Shad Pad Road |
| Reach C | Shad Pad Road to Downstream
Limit of 1986 Break |
| Reach D | Downstream Limit of 1986
Break to Old SPRR |
| Reach E | Old SPRR to 2000' Upstream |



0 250' 500'
1" = 500'

RELIEF WELLS

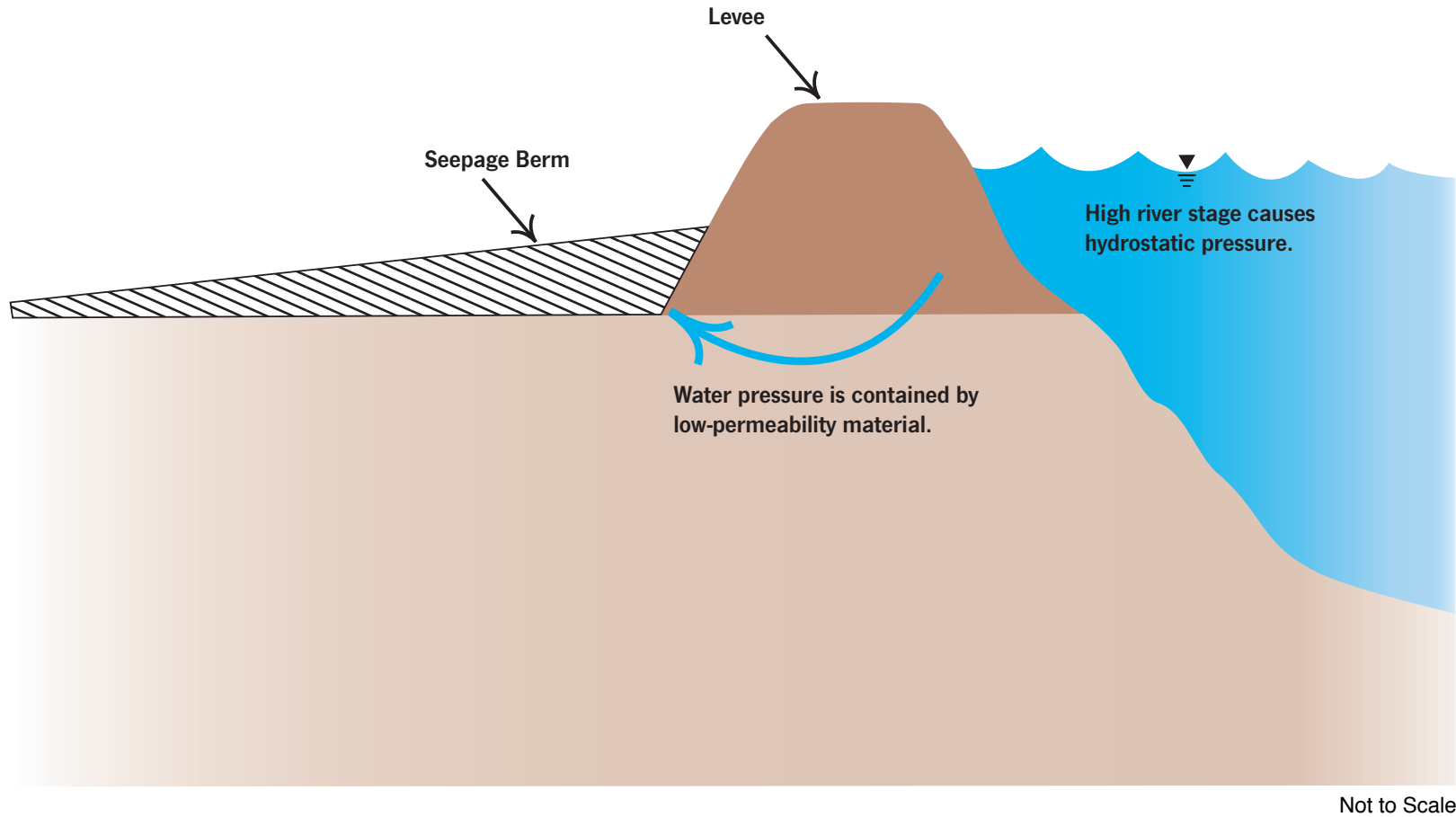
Concept: Relief wells passively control water pressure by discharging water into a collection system. The water is then pumped back into the river.



Not to Scale

SEEPAGE BERM

Concept: Water pressure is contained and dispersed by a thickened soil layer.



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The seepage berm would require approximately 1,000 cubic yards of material, 100 haul truck trips, one compactor, and a bulldozer. Construction of the berm at this site would occur in Phase II and would take approximately 30 days. Construction would consist of stripping the existing ground surface, placing a 1-foot-thick layer of drain rock across the ground surface, and then placing 3 to 5 feet of random fill over the drain rock. The seepage berm would extend approximately 15 feet vertically up the landside slope of the existing levee.

The permanent footprint of the berm would extend for approximately 80 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 80 feet wide and 50 feet long. The berm would be seeded upon completion of construction. Staging areas would be located just south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach B

Reach B includes the area from SR 70 to Shad Pad Road, a total distance of approximately 600 feet (Photograph 2-2). It has been determined that this portion of the levee is composed of sand and has both under- and through-seepage problems. To mitigate these concerns, the Authority is proposing to construct a 50-foot-deep slurry wall using the conventional slot trench method and relief wells. Construction of the slurry wall would occur in Phase I, and construction of the relief wells would occur in Phase II (Table 2-1). Construction and design of these treatments are described below.

Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. This work would occur in two phases, with slurry wall construction occurring in Phase I and relief well construction occurring in Phase II (Table 2-1). This option, as a result of the installation of relief wells, would require the removal or relocation of the existing mobile homes adjacent to the landside toe of the levee before the start of construction. Utilities located near the levee toe also would need to be relocated.

Slurry Wall

The construction of a slurry cutoff wall would use conventional slot trench methods: a trench would be excavated through the levee and subsurface materials and would then be backfilled with low-permeability materials (Figure 2-4). During construction, the trench, which would be approximately 3 feet wide and extend to depths of up to 50 feet, would be kept open using a bentonite-water slurry mix. The soil excavated from the trench would be hauled to a mixing location on the landside of the levee, where it would be mixed with hydrated bentonite and cement to reduce permeability and increase strength. The soil-cement-bentonite mixture then would be hauled to the levee crown and backfilled into the trench. This mixture would create an impermeable barrier in the levee.

During slurry cutoff wall construction, one crew would be able to construct approximately 50 linear feet of slurry wall (for wall depths of approximately 50 feet) in an 8-hour shift. It is anticipated that one crew would be working on Reach B. Equipment needed for the crew would include a long-stick excavator (80-foot reach), three or four dump trucks (10-cubic yard capacity each), and two loaders at the mixing location. Approximately 600 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench for Reach B. The mixing area would be located at a staging area just east of Shad Pad Road and adjacent to the existing levee. The site would be used to prepare the soil-bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 6,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 600 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 600 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.

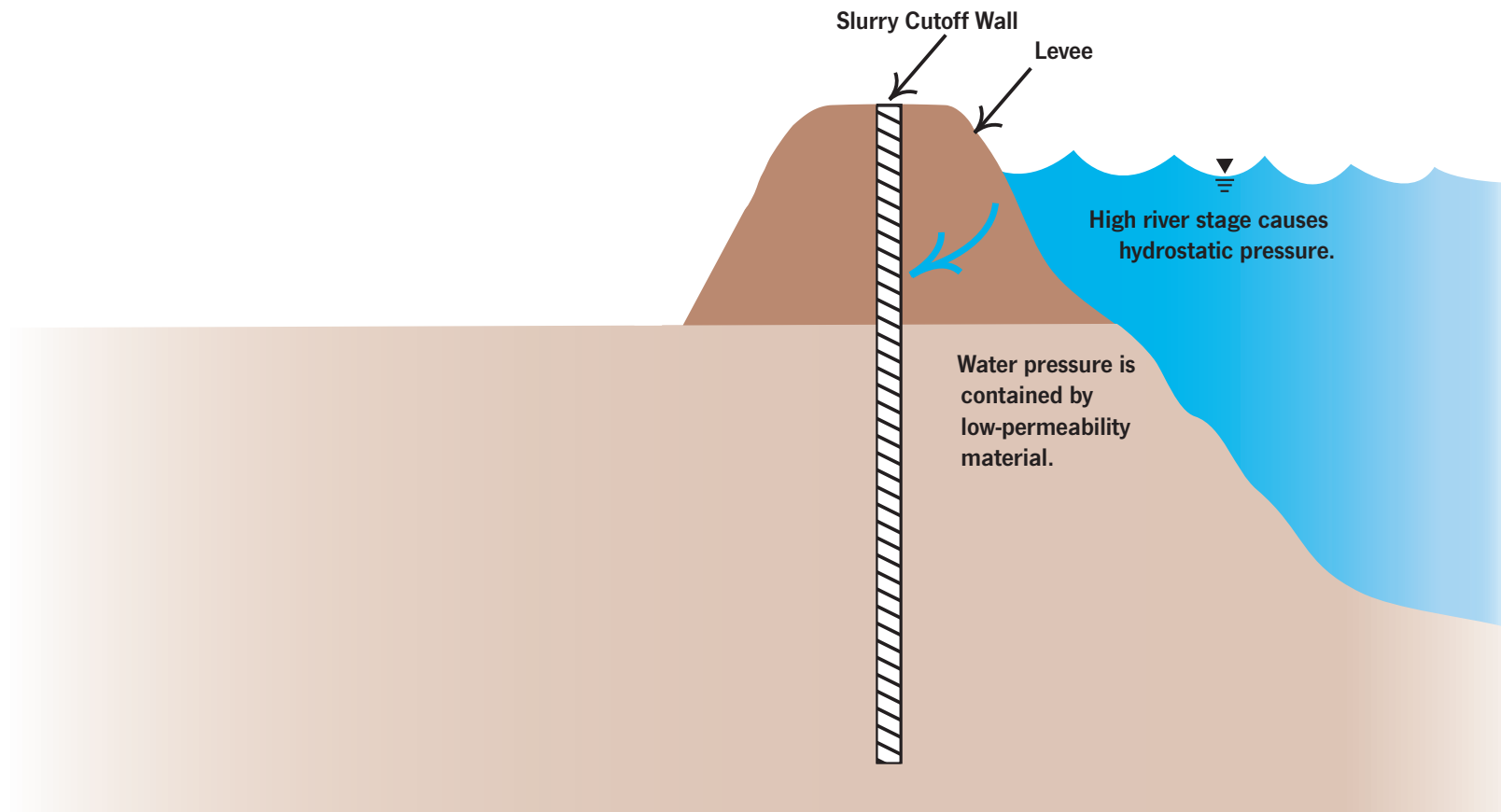
Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 600 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

SLURRY CUTOFF WALL

Concept: Potential seepage paths are blocked and dispersed by a low-permeability wall constructed in the levee cross section.



Not to Scale



Photo 2-1. Reach A, looking southeast from levee. Note elevated SR 70 at left and railroad (old WPRR) berm sloping down to land surface at right.



Photo 2-2. Reach B, looking upstream east with mobile home park on landside of levee. Note treeline at levee toe.

Relief Wells

The construction methods for relief wells in this reach would be the same as that described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road adjacent to the existing levee.

Reach C

Reach C is located in the area between Shad Pad Road and the 1986 levee breach. On the landside of this area and approximately 400 feet upstream and 1,400 feet downstream of it, a cobble trench, approximately 5 feet wide and 20 feet deep, was constructed to alleviate seepage issues (Photographs 2-3 and 2-4). However, based on changes in design practices since 1986, Kleinfelder has determined that this cobble trench has not been effective (Kleinfelder 2004). It has been determined that this portion of the levee is composed of sand and has both under- and through-seepage problems. To alleviate these concerns, the Authority is proposing two options: (1) construct a 50-foot-deep slurry wall using the conventional slot trench method and relief wells; or (2) construct a 50-foot-deep slurry wall using the slot trench method and a seepage berm. Construction of the slurry wall would occur in Phase I, and construction of either the relief wells or the seepage berm would occur in Phase II (Table 2-1). Construction and design of these treatments are described below.

Option 1: Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. This work would occur in two phases, with slurry wall construction occurring in Phase I and relief well construction occurring in Phase II (Table 2-1). The total length of slurry wall would be 1,600 feet, and the total length of relief well area would also be 1,600 feet. The slurry wall would be constructed using the conventional slot trench method, and relief wells would be constructed as described for Reach A. As shown in Table 2-1, construction would occur in two phases.

Slurry Wall

It is anticipated that two crews, one crew per section of levee, would be working on this reach of the levee. This crew would begin work on Reach C upon completion of slurry wall construction in Reach B. Approximately 1,800 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench at Reach C. The mixing area would be located at the staging area just east of Shad Pad Road and adjacent to the existing levee. The site would be used to prepare the soil-

bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 17,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 1,700 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 1,700 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.

Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 1,600 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

Relief Wells

Construction of relief wells would be the same as described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road at a location adjacent to the existing levee.

Option 2: Construct Slurry Wall and Seepage Berm

Option 2 would involve the construction of a slurry wall as described under Option 1 and an 80-foot-wide seepage berm. This work would occur in two phases, with slurry wall construction occurring in Phase I and seepage berm construction occurring in Phase II (Table 2-1). This option would require the relocation of existing utilities located near the landside levee toe within the seepage berm footprint.



Photo 2-3. Reach C, looking downstream (west) at western end of reach toward Reach B. Note rental residences and rock toe trench on landside of levee (at left).



Photo 2-4. Reach C, looking upstream (east) near western end of reach. Note Caltrans yard, vegetation, and rock toe trench on landside of the levee.

Seepage Berm

Construction methods and equipment for the seepage berm in this reach would be the same as described under Reach A. The berm would require approximately 40,000 cubic yards of material, 4,000 haul truck trips, one compactor, and a bulldozer.

The permanent footprint of the berm would extend for approximately 80 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 80 feet wide and 1,600 feet long. The berm would be seeded upon completion of construction. Staging areas would be located east of Shad Pad Road and south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach D

Reach D includes the area of levee failure during the 1986 flood event (Photograph 2-5). On the landside of this area, a cobble trench, approximately 5 feet wide and 20 feet deep, was constructed to alleviate seepage issues. Because of the placement of large boulder-sized rock during that emergency, a slurry wall is not feasible at the site of failure. A seepage berm is being proposed to reduce the under-seepage potential at the location of the 1986 break. The berm would be approximately 300 feet wide and 600 feet long. Portions of the berm and slurry wall in Reach C would overlap to ensure maximum levee stability near the break site. The footprint of the berm would extend along the fence of the Caltrans yard at an angle until it reached a width of 300 feet. It would require relocating utilities located on the landside of the levee and importing 65,000 cubic yards of soil materials. Sixty-five hundred haul truck trips, two compactors, and two bulldozers would be used during construction. Construction of the berm at this site would occur in Phase II and would take approximately 60 days. The construction methods would be the same as those described under Reach A.

The permanent footprint of the berm would extend for approximately 300 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 300 feet wide and 600 feet long. The berm would be seeded upon completion of construction. Staging

areas would be located east of Shad Pad Road and south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach E

Reach E includes the area from the former Southern Pacific Railroad to approximately 2,000 feet upstream along the levee (Photograph 2-6). This area would be treated with a slurry wall and either relief wells or a seepage berm for the entire length. The construction of the relief wells would be the same as described above, and the conventional slot trench method would be used for construction of the slurry wall. As shown in Table 2-1, construction would occur in Phase II.

Option 1: Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. The total length of slurry wall and relief wells would be 2,000 feet. The slurry wall would be constructed using the conventional slot trench method, and relief wells would be constructed as described for Reach A. As shown in Table 2-1, all construction would occur during Phase II.

Slurry Wall

It is anticipated that two crews, one crew per section of levee, would be working on this reach of the levee concurrently. Approximately 2,200 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench at Reach E. The mixing area would be located at the staging area just east of the former Southern Pacific Railroad and adjacent to the existing levee. The site would be used to prepare the soil-bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 22,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 2,200 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 2,200 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.



Photo 2-5. Reach D, looking downstream (west) from the railroad (old SPRR). The levee and track intersect at the floodgate headwalls at right. Note the rock toe trench at the base of the levee. Also note elderberry shrubs in the foreground and Sutter Buttes in the background.



Photo 2-6. Reach E, looking downstream from eastern end of reach. Note concrete processing batch plant on landside of the levee at left, as well as railroad tracks evident in vegetation on levee slope.

Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 2,000 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

Relief Wells

Construction of relief wells would be the same as described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road at a location adjacent to the existing levee.

Option 2: Construct Slurry Wall and Seepage Berm

Option 2 would involve the construction of a slurry wall as described under Option 1 and a 200-foot-wide berm. This work would occur in Phase II (Table 2-1). The berm would require approximately 85,000 cubic yards of material. Eighty-five hundred haul truck trips, two compactors, and two bulldozers would be used during construction. Construction of the seepage berm may require relocating the existing concrete batch plant.

Seepage Berm

Construction methods and equipment for the seepage berm in this reach would be the same as described under Reach B. The permanent footprint of the berm would extend for approximately 200 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 200 feet wide and 2,000 feet long. The berm would be seeded upon completion of construction. Staging areas would be located east of the former Southern Pacific Railroad and south of the proposed seepage berm. Staging areas and other areas disturbed by

construction would be returned to preproject conditions after the berm is constructed.

Construction Phases

Construction of the treatments would occur in two phases. Phase I would occur in September through October 2004. Phase II would occur in summer 2005. Table 2-1 shows the specific treatments that would be completed under each phase.

Table 2-1. Construction Phases

	Reach A	Reach B	Reach C		Reach D	Reach E	
			Option 1	Option 2		Option 1	Option 2
Phase I (2004)	No work	Construction of a 50' slurry wall using the conventional slot trench method	Construction of a 50' slurry wall using the conventional slot trench method	Construction of a 50' slurry wall using the conventional slot trench method	No work	No work	No work
Phase II (2005)	Relief wells seepage berm	Construction of relief wells	Construction of relief wells	Construction of 80'-wide seepage berm	Construction of 300'-wide seepage berm	Construction of a 50' slurry wall using the conventional slot trench method Construction of relief wells	Construction of a 50' slurry wall using the conventional slot trench method Construction of 200'-wide seepage berm

Environmental Commitments

To reduce or eliminate construction-related impacts and enhance the environmental quality of the project area, the Authority will implement the following environmental commitments. These measures would be implemented at a site-specific level, as appropriate, and are separate from CEQA-triggered mitigation described in Chapter 3. The identified measures include:

- conduct preconstruction surveys to determine the presence of nesting or roosting raptors (specifically, Swainson's hawk and white-tailed kite);
- install construction fencing to exclude construction access to sensitive areas;
- prepare and implement a stormwater pollution prevention plan (SWPPP) before construction activities that will cause ground disturbance;
- implement noise-reduction construction practices; and

- stop construction if any paleontological resources or human remains are discovered.

Raptors

Raptors are expected to have migrated before the start of construction. However, in the event nesting or roosting raptors are identified, the Authority will coordinate with the California Department of Fish and Game (DFG) to identify measures to ensure raptors are not adversely affected. These measures may include implementation of suitable buffers and phasing of construction.

Stormwater Pollution Prevention Plan

The Authority will obtain coverage under the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) general construction activity stormwater permit. The Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES stormwater permit program in Yuba County. Obtaining coverage under the NPDES general construction activity permit generally requires that the project applicant prepare a SWPPP that describes the best management practices (BMPs) that will be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction. The specific BMPs that will be incorporated into the erosion and sediment control plan and SWPPP will be determined during the final design phase of the selected alternative and will be prepared by the construction contractor in accordance with the RWQCB Field Manual. More detail regarding the contents of the SWPPP is provided in Chapter 3 in the Geology and Soils section.

Noise-Reducing Construction Practices

The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction contractor will employ noise-reducing construction practices. Measures that can be used to limit noise may include, but are not limited to:

- locating equipment as far as practical from noise-sensitive uses,
- using sound control devices such as mufflers on equipment,
- using equipment that is quieter than standard equipment,
- using noise-reducing enclosures around noise-generating equipment, and
- working within periods of lower reception sensitivity.

The Authority will notify residences within 500 feet of the construction areas of the construction schedule in writing before construction. The Authority will also

designate a noise-disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise-disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents in the identified range.

Cultural Resources

If paleontological resources are inadvertently discovered during ground-disturbing activities, the construction contractor will stop work in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Significant fossils will be properly recovered and curated at an appropriate museum. In the event that fossils are encountered with regularity during construction, the applicant will retain a qualified paleontologist to conduct a paleontological resource sensitivity evaluation and mitigation plan that will more formally outline construction monitoring, recovery, and curation procedures. The plan will be implemented through the excavation phase of the project, as required.

If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, the construction contractor and lead contractor compliance inspector will verify that work is halted until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the State Historic Preservation Officer (SHPO), the Authority, and other appropriate agencies.

If human remains of Native American origin are discovered during ground-disturbing activities, it is necessary for the Authority to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (NAHC (California Public Resources Code [PRC 5097]). If human remains are discovered or recognized in any location other than a dedicated cemetery, the Authority will not allow further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the Yuba County Coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin,
- the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or

- the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

Recreation Area Access Closure Notification

The Authority shall ensure that the contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure. Notice should be posted adjacent to access road, and signs shall be at least 3 square feet in size. The sign shall also indicate a contact regarding recreational area access closure.

Environmental Setting and Impacts

Chapter 3

Environmental Setting and Impacts

Introduction

This chapter provides an overview of the existing physical environment and regulatory requirements for each resource that may be affected by the project. The environmental setting is followed by an evaluation of the environmental impacts for each resource. The chapter is organized by resource topic and corresponds to the Environmental Checklist Form of the State CEQA Guidelines. A complete environmental checklist is included in Appendix A.

Implementing the mitigation measures specified in the impact analysis will either avoid adverse impacts completely or reduce the impacts to a less-than-significant level. Some impacts have been avoided by incorporating environmental commitments into the project description. The Authority will adopt a mitigation and monitoring program at the time it adopts the mitigated negative declaration. The purpose of the plan is to ensure that the mitigation measures adopted as part of project approval will be implemented when the project is constructed. The Mitigation Monitoring Plan checklist is included in this document as Appendix B.

The following terminology is used to describe the level of significance of impacts:

- A finding of *no impact* is appropriate if the analysis concludes that the project would not affect the particular topic area in any way.
- An impact is considered *less than significant* if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered *less than significant with mitigation* incorporated if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of mitigation measures that have been agreed to by the applicant.
- An impact is considered *potentially significant* if the analysis concludes that it could have a substantial adverse effect on the environment, and mitigation is not possible.

Aesthetics

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

The term *aesthetics* typically refers to the perceived visual character of an area, such as of a scenic view, open space, or architectural facade. The aesthetic value of an area is a measure of its *visual character* and *visual quality* combined with *viewer response* (Federal Highway Administration 1983). This combination may be affected by the components of a project (e.g., buildings constructed at a height that obstructs views, hillsides cut and graded, open space changed to an urban setting), as well as changing elements, such as light, weather, and the length and frequency of viewer exposure to the setting. Aesthetic impacts are changes in viewer response as a result of project construction and operation.

Visual Character

Visual character is the appearance of the physical form of the landscape, composed of natural and human-made elements, including topography, water, vegetation, structures, roads, infrastructure, and utilities; and the relationships of these elements in terms of form, line, color, and texture.

Visual Quality

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity as modified by its visual sensitivity.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape. (Federal Highway Administration 1983.)

High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Response

Viewer response is the psychological reaction of a person to visible changes in the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., roadway or trail) (Federal Highway Administration 1983). The measure of the quality of a view must be tempered with the overall sensitivity of the viewer and viewer response. Viewer sensitivity is dependent on the number and type of viewers and the frequency (e.g., daily or seasonally) and duration of views (i.e., how long a scene is viewed). Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and the viewing duration.

Aesthetic Assessment Process

The concepts presented above are combined in a visual impact assessment process that involves identification of the following:

- visual character and quality of the project area,
- relevant policies and concerns for protection of visual resources,
- general visibility of the project area and site using descriptions and photographs, and
- viewer response and potential impacts.

Setting

The project area is rural/rural residential and has little topographic variation. The project has been divided into Reaches A through E, which are described separately below.

Reach A

Reach A consists of the area just downstream of the former Western Pacific Railroad and between SR 70 and the downstream end of the project. This area contains mainly grasses, exposed dirt, and areas covered with concrete associated with the SR 70 overpass.

Reach B

Reach B consists of the area between SR 70 and Shad Pad Road, a total distance of approximately 600 feet. A mobile home park is located on the landside of the levee. Trees and a chainlink fence separate the toe of the levee from the homes. On the waterside, the western end consists of a beach area that is used for recreational purposes, especially for use by off-road vehicles such as dirt bikes and quads. This beach area is generally barren but does contain some trees and bushes. In addition, the area directly adjacent to the levee is vegetated with native riparian species (Photograph 2-2). The waterside toe of the levee is approximately 100 feet from the low-flow channel of the Yuba River.

Reach C

Reach C is located in the area between Shad Pad Road and the 1986 levee breach. The waterside of this reach supports grasses and orchards. The landside consists of grasses and some dispersed mature vegetation. A chainlink fence separates the landside of the levee and the adjacent Caltrans storage yard. The eastern end of this reach contains the area of the levee that broke during the 1986 floods. (Photographs 2-3 and 2-4).

Reach D

Reach D consists of the area between the 1986 break and the former Southern Pacific Railroad. This area is aesthetically similar to Reach C, as there are orchards and grasslands on the waterside, and grasslands on the landside. (Photograph 2-5)

Reach E

Reach E is approximately 2,000 feet long, starting at the Southern Pacific Railroad and moving upstream along the levee. The landside of the levee is mostly grasses. Portions of an abandoned railroad exist along a berm on the landside of the levee. A residential area is located at the extreme eastern end of this reach. (Photograph 2-6)

Impacts and Mitigation Measures

- a. Would the proposed project have a substantial adverse effect on a scenic vista, or*
- c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

Impact VIS-1: Construction-Related Impacts on Views

The presence of construction equipment on the levee crown and on the landside of the levee would temporarily degrade the existing views at the project site. Construction equipment would be present up to 60 days during Phase I (2004) and up to 120 days during Phase II (2005). People at the beach area, along the river, traveling along adjacent roads, including SR 70, and residents and guests of nearby residential structures would be able to see construction workers and crews. No equipment would be located at the project site between phases or upon completion of project construction. Therefore, this impact would be less than significant and no mitigation is required.

Impact VIS-2: Impacts on Scenic Vistas from Levee Crown and River

Upon completion of construction of Phase II, relief wells and the seepage berms would be the only aboveground physical changes to the viewshed. The seepage berms would be seeded. Relief wells would not be higher than 3 feet above the existing ground level and would not be seen from the waterside of the levee or from great distances on the landside. Because of the existing low aesthetic quality of these areas, and the minor changes in aesthetics associated with the proposed project's permanent aboveground features, this impact is less than significant. No mitigation is required.

- b. Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?*

The proposed project is not located near, nor is it visible from, a scenic highway. There would be no impact (California Department of Transportation 1996).

d. Would the proposed project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project would not create any sources of light or glare. There would be no impact.

Agricultural Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
II. AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Although orchards and other types of agricultural land exist on the waterside of the levee, no levee repairs, staging areas, or other disturbance would occur on the waterside of the levee as a result of the proposed project. Therefore, there would be no impact on agricultural land.

Air Quality

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
III. AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Physical Setting

Regional Climate and Atmospheric Conditions

The proposed project is located in Yuba County, which is in the Sacramento Valley Air Basin (SVAB). The SVAB comprises Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, Yolo, and parts of Solano and Placer Counties. The SVAB is bounded on the west by the Coast Ranges and on the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin is to the south. The proposed project is within the jurisdiction of the Feather River Air Quality Management District (FRAQMD), part of the SVAB.

Summer conditions are typically characterized by high temperatures and low humidity, with prevailing winds from the south. Summer temperatures average approximately 90°F during the day and 50°F at night.

Winter conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. Winter daytime temperatures average in the low 50s (°F) and nighttime temperatures average in the upper 30s (°F). During winter, north winds become more frequent, but winds from the south predominate. Rainfall occurs mainly from late October to early May, averaging 17.2 inches per year, but varies significantly each year.

In addition to prevailing wind patterns that control the rate of dispersion of local pollutant emissions, Yuba and Sutter Counties experience two types of inversions that affect air quality. The first type of inversion contributes to photochemical smog problems by confining pollution to a shallow layer near the ground. This occurs in the summer, when sinking air forms a “lid” over the region. The second type of inversion occurs when the air near the ground cools while the air aloft remains warm. These inversions occur during winter nights and can cause localized air pollution “hot spots” near emission sources because of poor dispersion. (Feather River Air Quality Management District 1998.)

Air Pollutants and Ambient Air Quality Standards

Both the State of California and the federal government have established ambient air quality standards (CAAQS and NAAQS, respectively) for several different pollutants. For some pollutants, separate standards have been set for different periods of the year. Most standards have been set to protect public health, although some standards have been based on other values, such as protection of crops, protection of materials, and avoidance of nuisance conditions. The pollutants of greatest concern in the project area are carbon monoxide (CO), ozone, and inhalable particulate matter of a specified size. A summary of state and federal ambient air quality standards is shown in Table 3-1.

Carbon Monoxide

Health Effects. CO levels are a public health concern because when CO combines with hemoglobin, the rate at which oxygen is transported in the bloodstream is reduced. Even low concentrations of CO can significantly affect the blood oxygen concentration because CO binds to hemoglobin 220–245 times more strongly than oxygen. Both the cardiovascular system and the central nervous system can be affected when 25–40% of the hemoglobin in the bloodstream is bound to CO rather than to oxygen. State and federal ambient air quality standards for CO have been set at levels intended to keep CO from combining with more than 15% of the body’s hemoglobin.

State and Federal Standards. State and federal CO standards have been set for 1-hour and 8-hour averaging times. The state 1-hour CO standard is 20 parts per million (ppm) and the federal 1-hour CO standard is 35 ppm. State and federal standards are both 9 ppm for an 8-hour averaging period. State CO standards are values not to be exceeded; federal CO standards are established as values not to be exceeded more than once per year.

Ozone

Health Effects. Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and oxides of nitrogen (NO_x), react in the presence of sunlight in the atmosphere to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a public health concern because it is a respiratory irritant that increases susceptibility to respiratory infections. Ozone also causes substantial damage to the leaf tissues of crops and natural vegetation and damages many materials by acting as a chemical oxidizing agent.

State and Federal Standards. State and federal standards for ozone have been set for 1-hour and 8-hour averaging times. The state 1-hour ozone standard is 0.09 ppm, not to be exceeded at any time. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than three times in any 3-year period. The federal 8-hour ozone standard of 0.08 ppm is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard.

Table 3-1. State and Federal Ambient Air Quality Standards

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone	O ₃	1 hour	0.09	0.12	180	235	If exceeded	If exceeded on more than 3 days in 3 years
		8 hours	NA	0.08	NA	157	NA	If exceeded on more than 3 days in 3 years
Carbon monoxide (Lake Tahoe only)	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO ₂	Annual average	NA	0.053	NA	100	NA	If exceeded
		1 hour	0.25	NA	470	NA	If exceeded	If exceeded
Sulfur dioxide	SO ₂	Annual average	NA	0.03	NA	80	NA	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	NA	655	NA	NA	NA
Hydrogen sulfide	H ₂ S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C ₂ H ₃ Cl	24 hours	0.010	NA	26	NA	If equaled or exceeded	NA
Sulfate particles	SO ₄	24 hours	NA	NA	25	NA	If equaled or exceeded	NA

Table 3-1. Continued

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Inhalable particulate matter	PM10	Annual geometric mean	NA	NA	20	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	50	NA	If exceeded
		24 hours	NA	NA	50	150	If exceeded	If average 1% over 3 years is exceeded
	PM2.5	Annual geometric mean	NA	NA	12	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	15	NA	If exceeded
		24 hours	NA	NA	NA	65	NA	If average 2% over 3 years is exceeded
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30 days	NA	NA	1.5	NA	If equaled or exceeded	NA

Notes:

All standards are based on measurements at 25°C and 1 atmosphere pressure.

National standards shown are the primary (health effects) standards.

NA = not applicable.

Particulate Matter

Health Effects. Health concerns associated with suspended particulate matter focus on particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs. Suspended particulate matter 10 microns in diameter or less (PM₁₀) can lodge in the lungs and contribute to respiratory problems. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and dust carried by windstorms. It is also formed in the atmosphere from reactions of nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) with ammonia. Fine particles pose a serious health hazard, alone or in combination with other pollutants. The smallest particles inhaled are deposited in the lungs and can cause permanent lung damage. Fine particles can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of absorbed toxic substances.

State and Federal Standards. Both the federal and state air quality standards for particulate matter have been revised to apply only to PM₁₀. State and federal PM₁₀ standards have been set for 24-hour and annual averaging times. The state 24-hour PM₁₀ standard is 50 micrograms per cubic meter (µg/m³) and the federal 24-hour standard is 150 µg/m³. The state annual PM₁₀ standard is 20 µg/m³ as an annual geometric mean, whereas the federal annual PM₁₀ standard is 50 µg/m³ as an annual arithmetic mean. Air Resources Board (ARB) and the EPA have recently established air quality standards for particles 2.5 microns in diameter or less (PM_{2.5}). This was done to address the health risks associated with breathing these smaller particles, which lodge deeper in the lungs and typically are not exhaled. ARB has established an annual geometric mean of 12 µg/m³, whereas EPA has established a 24-hour standard of 65 µg/m³ and annual arithmetic mean of 15 µg/m³. Federal and state 24-hour PM₁₀ and PM_{2.5} standards may not be exceeded more than 1 day per year, and annual standards are not to be exceeded.

Existing Air Quality Conditions

The pollutants of greatest concern in the project area are carbon monoxide (CO), ozone (O₃), and PM₁₀, which is inhalable.

The State of California has designated the Yuba County portion of the SVAB as being in moderate nonattainment for ozone and in nonattainment for PM₁₀. The county is designated as unclassified for CO. The EPA has designated the county portion of the SVAB as being an unclassified/attainment area for CO and an unclassified area for PM₁₀. For ozone, EPA classifies the county as being a transitional area; it was previously in nonattainment, but has now met the 1-hour federal O₃ standard. The redesignation request to attainment is pending with EPA. On April 15, 2004, the EPA designated the county as a nonattainment area for the federal 8-hour ozone standard. The county's attainment status for each of these pollutants relative to NAAQS and CAAQS is shown in Table 3-2.

Table 3-2. State and Federal Attainment Designations

Pollutant		State Standards	Federal Standards
Ozone (O ₃)	1-hour	Moderate nonattainment	Transitional
	8-hour	Not Applicable	Basic Nonattainment
Inhalable particulate matter (PM ₁₀)		Nonattainment	Unclassified
Carbon monoxide (CO)		Unclassified	Unclassified/attainment

The existing air quality conditions in the project area can be characterized by monitoring data collected in the region. Air quality monitoring data for the last 3 years (2000–2002) are presented in Table 3-3. The nearest monitoring stations to the project area are the Yuba City monitoring station, which monitors for O₃ and CO, and the Gibson Road monitoring station in Yuba City, which monitors for PM₁₀ and PM_{2.5}. As indicated in Table 3-3, the Yuba City monitoring station has experienced occasional violations of CAAQS for O₃ during the 3-year monitoring period, and the 24-hour PM₁₀ CAAQS was violated more frequently. Each pollutant is discussed below.

Table 3-3. Ambient Air Quality Monitoring Data from the Yuba City (733 Almond Street) Monitoring Station

Pollutant Standards	2000	2001	2002
Ozone (O₃)			
Maximum 1-hour concentration (parts per million [ppm])	0.108	0.104	0.108
Number of days standard exceeded ^a			
CAAQS 1-hour (>0.09 ppm)	3.0	4.0	3.0
NAAQS 1-hour (>0.12 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	3.6	3.9	3.5
Maximum 1-hour concentration (ppm)	6.1	17.2	6.4
Number of days standard exceeded ^a			
CAAQS 8-hour (>9.0 ppm)	0	0	0
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
NAAQS 1-hour (>35 ppm)	0	0	0
Particulate Matter (PM₁₀)			
Maximum 24-hour concentration (micrograms per cubic meter [µg/m ³])	70.0	80.0	74.0
Second highest 24-hour concentration (µg/m ³)	66.0	67.0	63.0
Average geometric mean concentration (µg/m ³)	24.0	26.0	27.0
Average arithmetic mean concentration (µg/m ³)	28.0	30.0	32.0
Number of days standard exceeded ^a			
CAAQS 24-hour (>50 µg/m ³) ^b	18.0	48.0	30.0
NAAQS 24-hour (>150 µg/m ³) ^b	0	0	0
Particulate Matter (PM_{2.5})			
Maximum 24-hour concentration (µg/m ³)	44.0	56.0	62.0
Second highest 24-hour concentration (µg/m ³)	38.0	54.0	34.0
Average arithmetic mean concentration (µg/m ³)	10.6	11.9	13.0
Number of days standard exceeded ^a			
NAAQS 24-hour (>65 µg/m ³) ^c	0	0	0

CAAQS = California ambient air quality standards.

NAAQS = national ambient air quality standards.

^a The number of days above the standard is not necessarily the number of violations of the standard for the year. Calculated exceedances are based on measurements taken every 3 or 6 days, depending on the time of year and the site's monitoring schedule.

Sources: California Air Resources Board 2003b, U.S. Environmental Protection Agency 2003.

Regulatory Setting

Air quality management responsibilities exist at local, state, and federal levels of government. Air quality management planning programs were developed during the past decade generally in response to requirements established by the federal Clean Air Act (CAA). The enactment of the California Clean Air Act of 1988 (CCAA) produced additional changes in the structure and administration of air quality management programs in California.

Air Quality Management at the Federal Level

The CAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of CAA. Basic elements of the act include national ambient air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

CAA requires that EPA establish NAAQS and reassess, at least every 5 years, whether adopted standards are adequate to protect public health based on current scientific evidence. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the nation's citizens. NAAQS are shown in Table 3-3.

In November 1990, Congress enacted a series of amendments to the CAA intended to intensify air pollution control efforts across the nation. One of the primary goals of the 1990 amendments to the CAA was an overhaul of the planning provisions for those areas not currently meeting NAAQS. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

Air Quality Management at the State Level

The CCAA substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA established an air quality management process that generally parallels the federal process. The CCAA process, however, focuses on attainment of the state ambient air quality standards, which for certain pollutants and averaging periods are more stringent than the comparable federal standards.

The CCAA requires that an air district prepare an air quality attainment plan if the district violates state air quality standards for CO, SO₂, NO_x, or ozone. No locally prepared attainment plans are required for areas that violate the state PM₁₀ standards. The CCAA requires that the CAAQS be met as expeditiously

as practicable, but it does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards. The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

Air Quality Management in Yuba County

The project area is within the jurisdiction of FRAQMD. ARB and FRAQMD have primary responsibility for implementing NAAQS and ensuring that CAAQS are met. FRAQMD is also responsible for implementing strategies for air quality improvement and recommending mitigation measures for potential effects on air quality from new construction and development. The FRAQMD does not require that construction-related emissions be quantified. Instead, FRAQMD requires that specific construction-related mitigation measures be implemented to minimize dust generation.

Significance Criteria

State CEQA Guidelines (Appendix G) state that a project would normally have a significant effect on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality management plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O₃ precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

The guidelines further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the determinations above. FRAQMD's thresholds of significance for construction- and operation-related emissions are presented in Table 3-4.

Table 3-4. Feather River County Air Quality Management District's Thresholds of Significance

Pollutant	Thresholds of Significance	
	Construction (pounds per day)	Operation (pounds per day)
ROG ^a	—	25
NO _x ^a	—	25
CO ^b	—	—
PM10 ^a	—	80

^a FRAQMD has not set any threshold level for construction because it does not require quantification of construction emissions. Instead, it recommends implementation of effective and comprehensive feasible control measures indicated in Table 3-5 to reduce fugitive dust, as well as the submittal of a fugitive dust control plan to the District for approval.

^b Emissions of CO are not considered an issue of concern within the FRAQMD because the region is in attainment for CO, and air quality within the FRAQMD is not negatively affected by CO.

Source: Feather River Air Quality Management District 1998.

Impacts and Mitigation Measures

Assumptions and Methodology

Construction emissions impacts have been assessed based on guidance from the FRAQMD requirements. FRAQMD assumes that unmitigated construction emissions are significant but that with appropriate mitigation, those impacts can be reduced to a less-than-significant level (Table 3-5).

Table 3-5. Feather River Air Quality Management District Control Measures for Construction Emissions of Fugitive Dust

The following mitigation measures are required for all construction sites.
<ul style="list-style-type: none"> ▪ All grading operations on a project should be suspended when winds exceed 20 miles per hour (mph) or when winds carry dust beyond the property line despite implementation of all feasible dust control measures. ▪ Construction sites shall be watered as directed by the public works department or air quality management district (AQMD), and as necessary to prevent fugitive dust violations. ▪ An operational water truck should be on site at all times. Water shall be applied to control dust as needed to prevent visible emissions violations and offsite dust impacts. ▪ Onsite dirt piles or other stockpiled particulate matter should be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind-blown dust emissions. Use of approved non-toxic soil stabilizers according to manufacturers' specifications shall be incorporated into all inactive construction areas. ▪ All transfer processes involving a freefall of soil or other particulate matter shall be operated in a manner that minimizes the freefall distance and fugitive dust emissions. ▪ Apply approved chemical soil stabilizers according to the manufacturers' specifications to all inactive construction areas (previously graded areas that remain inactive for 96 hours), including unpaved roads and employee/equipment parking areas. ▪ To prevent track-out, wheel washers should be installed where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed before each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out. ▪ Paved streets shall be swept frequently (water sweeper with reclaimed water recommended, or wet broom) if soil material has been carried from the project site onto adjacent paved public thoroughfares. ▪ Traffic control shall be provided as needed during all phases of construction to improve traffic flow, as deemed appropriate by the public works department and/or California Department of Transportation, and to reduce vehicle dust emissions. An effective measure is to enforce vehicle traffic speeds at or below 15 mph. ▪ Traffic speeds shall be reduced on all unpaved surfaces to 15 mph or less, and unnecessary vehicle traffic will be reduced by restricting access. Appropriate training, onsite enforcement, and signage shall be provided. ▪ Groundcover shall be reestablished on the construction site as soon as possible and before final occupancy through seeding and watering. ▪ Open burning is a source of fugitive gas and particulate emissions and shall be prohibited at the project site. No open burning of vegetative waste (natural plant growth wastes) or other legal or illegal burn materials (trash, demolition debris, etc.) may be conducted at the project site. Vegetative wastes should be chipped or delivered to waste to energy facilities (permitted biomass facilities), mulched, composted, or used for firewood. It is unlawful to haul waste materials off site for disposal by open burning. ▪ Construction activities shall minimize disruption to traffic flow during peak hours to the greatest extent feasible. ▪ A truck hauling dirt, sand, soil, or other loose material should be covered or maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision shall be enforced by local enforcement agencies.

The following mitigation measures are recommended for all construction sites.

Reducing emissions of oxides of nitrogen (NO_x) from off-road diesel-powered equipment:

- The project representative shall provide a plan for approval by the Feather River AQMD (FRAQMD) demonstrating that the heavy-duty (equal to or greater than 50 horsepower) off-road equipment to be used in construction, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20% NO_x reduction and 45% particulate reduction^a compared to the most recent California Air Resources Board fleet average at time of construction.
- The project representative shall submit to FRAQMD a comprehensive inventory of all off-road construction equipment equal to or greater than 50 horsepower that will be used an aggregate of 40 or more hours during any portion of construction. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period during which no construction activity occurs. At least 48 hours before the use of subject heavy-duty off-road equipment, the project representative shall provide FRAQMD with the anticipated construction timeline, including start date, and names and phone numbers of the project manager and onsite foreman.

Controlling visible emissions from off-road diesel-powered equipment:

- The project shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (or Ringelmann 2.0) shall be repaired immediately, and FRAQMD shall be notified within 48 hours of identification of noncompliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period during which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed and the dates of each survey. FRAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other FRAQMD or state rules or regulations.

^a Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. FRAQMD should be contacted to discuss alternative measures.

Sources: Feather River Air Quality Management District 1998; Sacramento Metropolitan Air Quality Management District 2002; Matlock pers. comm.

- a. Would the project conflict with or obstruct implementation of applicable air quality plan, or*
- b. Would the project violate any air quality standard or contribute substantially to an existing projected air quality violation, or*
- c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?*

Impact AQ-1: Increases in Emissions Associated with Construction Activity

Construction of the project would result in the temporary increase in emissions of ROG, CO, NO_x, and PM10. Emissions would be generated by a variety of sources, including criteria pollutant emissions produced by construction equipment and fugitive dust created by wind and operation of construction equipment over exposed earth. Construction-related emissions were not estimated for the proposed project because, as stated, FRAQMD does not require that emissions be quantified for construction activities. Instead, FRAQMD requires specific construction-related mitigation measures to be implemented to minimize dust generation. Because FRAQMD assumes that unmitigated construction activities could result in a significant increase in PM10 and construction vehicle exhaust emissions, this impact is considered significant. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-MM-1: Implement Feasible Control Measures for Construction Emissions of Fugitive Dust.

The Authority will implement all feasible control measures indicated in Table 3-5.

Mitigation Measure AQ-MM-2: Prepare a Fugitive Dust Control Plan.

The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval. Fugitive dust control measures will be implemented in accordance with the approved plan during construction.

Impact AQ-2: Increased Construction-Related Diesel Health Risk

Construction activities will use diesel-fueled equipment. ARB has identified diesel exhaust particulate matter as a toxic air contaminant (TAC). However, the assessment of diesel-related cancer risks is typically based on a 70-year exposure period. Because construction activities are short-term, once construction activities have ceased, the potential exposure to construction-related diesel emissions will also cease. Therefore, it is not expected that the diesel-related emissions will occur very often. Because exposure to diesel exhaust will be well below the 70-year exposure period, construction and operation of the proposed project are not anticipated to result in an elevated health risk. Consequently, the

estimation of diesel risks associated with construction activities is considered to be less than significant. No mitigation is required.

Impact AQ-3: Generation of Significant Levels of Operational Emissions

As previously mentioned, the proposed project would not use any equipment or machinery after completion of construction that is expected to generate significant emissions. The relief wells and associated pump are not anticipated to create emissions exceeding any threshold indicated in Table 3-5. Consequently, the potential impact associated with such limited operation is considered less than significant. No mitigation is required.

- b. Would the project create objectionable odors affecting substantial number of people or*
- c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

Impact AQ-4: Create Objectionable Odors or Substantially Increase Pollutant Concentrations

The project is not expected to create objectionable odors that would affect a large number of people or expose sensitive receptors to substantial pollutant concentrations. Changes in air quality would occur only during the construction period and over a short period of time. Although the project is adjacent to a residential area, it is not expected to create objectionable odors because diesel exhaust would be readily dispersed. As indicated above, the project would not result in a substantial increase in pollutants when mitigation is applied.

Therefore the project would result in a less-than-significant impact on air quality associated with increasing objectionable odors and pollutant concentrations. No mitigation is required.

Biological Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section presents information on vegetation and wildlife resources in the project study area. Information on biological resources is based on field surveys performed in May, June, and July 2004, review of the DFG's California Natural Diversity Database, and a USFWS species list for the project area. The CNDDB search was conducted for the Yuba City and Olivehurst 7.5-minute U.S.

Geological Survey (USGS) quadrangle maps (California Natural Diversity Database 2004). The USFWS species list included special-status species that occur or may occur in Yuba County.

During the field surveys, the levee and adjacent areas were surveyed by walking the project area. A Jones & Stokes biologist identified and characterized the biological resources. The project area includes all of the area in which construction or construction staging may occur.

The general objectives of the field surveys were to:

- gather descriptive information on habitat types, including plant and wildlife species associated with each habitat type;
- identify wetlands and other waters of the United States that would be subject to U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act;
- identify suitable habitat for special-status plant and wildlife species that could occur in the project study area; and
- identify special-status species present in the study area.

Physical Setting

The project area includes an existing levee and lands that were previously cultivated. Current adjacent land uses include residential, commercial, agricultural, and open space areas. The land cover types occurring in or adjacent to the project study area include ruderal herbaceous, orchards, ornamental landscape trees, developed areas, disturbed areas, and open space areas. Each of these land cover types is described briefly below.

Sensitive natural communities are land cover types that are especially diverse, regionally uncommon, or of special concern to local, state and federal agencies. Removal or degradation of these communities constitutes a significant impact under CEQA. There are no sensitive natural communities in the project area; however, elderberry shrubs do occur on the levee slopes adjacent to the project area.

Vegetation

No wetlands or other waters of the U.S. occur in the project area. The Yuba River is on the north side of the levee; however, there is a wide floodplain between the toe of the levee and the river. Because no in-channel construction activities will occur, wetlands and other waters of the U.S. will not be affected by the project.

The ruderal herbaceous land cover type occurs on the waterside and landside levee slopes. The ruderal herbaceous land cover type is dominated by annual and

perennial grasses such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Bermuda grass (*Cynodon dactylon*), and forbs, including mugwort (*Artemisia douglasiana*) and mustard (*Brassica* spp.). Ruderal herbaceous vegetation provides cover and foraging areas for resident and migratory songbirds and small mammals.

Orchards occur on the north side of Reaches B and C. The orchards are outside the project area and would not be affected by the project. The orchard trees provide cover and foraging areas for resident and migratory songbirds and small mammals. Songbirds may nest in some of the orchard trees.

Developed areas include residential and commercial land uses. Residential areas are located on the south side of the levee in Reaches A and B. Commercial areas are located on the south side of the levee and include a hotel, a Caltrans maintenance yard, and a concrete processing plant. An abandoned rail track is present in Reach E.

Disturbed areas include several disked fields and an area adjacent to but outside of the Caltrans maintenance yard. Prior to disking, the fields were dominated by annual grasses and forbs. The area outside the Caltrans maintenance yard consists of mounds of soil and other materials that are overgrown with herbaceous vegetation.

Ornamental trees occur in or adjacent to the proposed construction areas. Ornamental trees include eucalyptus (*Eucalyptus* spp.), incense cedar (*Calocedrus decurrens*), walnut (*Juglans regia*), and mulberry (*Morus alba*). These trees provide potential nesting habitat for migratory birds. It is unlikely that raptors would nest in these trees because they are relatively small and close to disturbance factors. In addition to the ornamental trees, there is a mature cottonwood (*Populus fremontii*) on the south side of the levee in Reach C. This tree provides potential nesting and roosting habitat for raptors.

Fifteen elderberry shrubs or shrub clusters with at least one stem greater than 1 inch in diameter were identified within 100 feet of the proposed construction areas. Seven of these shrubs occur in the construction footprint of the setback levees. Slurry wall construction is expected to occur within 20 feet of the drip line of four additional shrubs, but no direct impacts are anticipated from slurry wall construction.

Special-Status Plant Species

Special-status plants are species that are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (ESA) or other regulations or are species considered sufficiently rare by the scientific community to qualify for such listing. The CNDDDB and USFWS special-status plant species list for the Olivehurst and Yuba City 7.5-minute quadrangles were used to identify any potential special-status plant species in the project area. The USFWS lists identified three special-status plant species that have the potential to

occur in the Olivehurst and Yuba City 7.5-minute quadrangles, Ferris's milk-vetch (*Astragalus tener* var. *ferrisiae*), veiny monardella (*Monardella douglassi*), and Hartweg's golden sunburst (*Pseudobahia bahiifolia*). However, the project site does not provide suitable habitat for any of the species.

There are no occurrences of special-status plant species listed on the CNDDB (California Natural Diversity Database 2004) for the project area of impact. Hartweg's golden sunburst have been documented over a mile away from the project area at the confluence of the Feather and Yuba Rivers. However, there is no suitable habitat for Hartweg's golden sunburst in the project area. No state- or federally listed plant species were observed during the field survey.

Special Status Wildlife Species

Special-status wildlife that could occur in the proposed project's geographic area were identified using the CNDDB (2003) and USFWS lists. The USFWS lists identified 49 special-status wildlife species that have the potential to occur in the Olivehurst and Yuba City 7.5-minute quadrangle. However, 46 of these species would not occur at the project site because suitable habitat is absent or lacks nesting or roosting habitat. Special-status wildlife species identified as potentially occurring in the project vicinity are valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*).

There are no occurrences of special-status wildlife species listed on the CNDDB (California Natural Diversity Database 2004) for the project area of impact. Three species were identified by the CNDDB search as occurring within the vicinity of the project site. The three species identified by the CNDDB search as occurring over 1 mile from the vicinity of the project site at the confluence of the Yuba and Feather Rivers are bank swallow (*Riparia riparia*), tricolored blackbird (*Agelaius tricolor*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). However, no suitable habitat for these species at the project site.

The special-status wildlife species that are federally or state-listed with a potential to occur at the site are discussed below.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle is federally listed as threatened. The project area is not located within critical habitat or essential habitat for VELB. Final ruling on critical habitat for the beetle was established by USFWS on August 8, 1980. Essential habitat was identified in the Valley Elderberry Longhorn Beetle Recovery Plan (U.S. Fish and Wildlife Service 1984).

A California endemic species, the valley elderberry longhorn beetle is found in scattered populations throughout its range. The species range includes most of the California Central Valley (Barr 1991). The adults feed exclusively on

elderberry (*Sambucus mexicanus*) foliage and are active from early March through early June. During this time they mate and females lay eggs on living elderberry stems. Larvae bore through the stems of the shrubs to create an opening in the stem within which they pupate. After metamorphosing into an adult, the beetle chews a circular exit hole through which it emerges (Barr 1991). Surveys for evidence of valley elderberry longhorn beetle and to measure stem diameters of elderberry shrubs were not conducted.

Swainson's Hawk

Swainson's hawk is a state-listed threatened species. The Central Valley and the far northwestern corner of California define the limits of the current Swainson's hawk breeding range in the state. Historically, this migratory species nested in woodland habitats and foraged in native grasslands. Conversion of native grassland and woodland habitats into agricultural uses has contributed to the estimated 90% decline in the species' statewide population (Bloom 1980). Today, Swainson's hawks in the Central Valley forage in large, open agricultural habitats. Typical nesting habitat includes riparian forests, lone trees in open grasslands, and open oak groves. Loss and fragmentation of these nesting and foraging habitats are resulting in further losses of historic nesting territories (Estep 1989).

Although no Swainson's hawks were observed during the field surveys, Swainson's hawk could use the cottonwood on the landside of Reach C as well as the mature cottonwood trees on the waterside of the levee. Most of the cottonwoods on the north side of the levee are in an off-road vehicle use area so these trees may not be used for nesting because of consistent disturbance. No foraging habitat exists in the project area.

White-Tailed Kite

The white-tailed kite is a federal species of concern and is fully protected under the California Fish and Game Code. White-tailed kites have steadily decreased throughout much of California since the late 1970s. Declines have been especially evident in southern California (Garrett and Dunn 1981), along the south coast (Marantz 1986), and in the San Joaquin Valley (Small 1994). Local populations appear to be relatively healthy along the north and east San Francisco Bay and in the Sacramento–San Joaquin Delta.

White-tailed kites inhabit open lowland grassland, riparian woodland, marshes, and scrub areas. Some large shrubs or trees are required for nesting. They are dependent on small rodents with highly cyclical populations. Communal night roosting is common during the non-breeding season. The most important threat facing this species is loss of habitat. Although kites appear able to withstand some habitat alteration from grazing and farming, large stretches of agricultural areas devoid of natural vegetation and urbanized areas are not suitable habitat.

No white-tailed kites were observed during field surveys however, the cottonwood on the landside of Reach C and the trees on the north side of the levee provide suitable nesting and roosting habitat for the species.

Special-Status Fish Species

Although special status fish species are found in the Yuba River, neither these species nor their habitat will be affected by the project because all construction will occur on the landside of the levee and the levee surface.

Federal Regulations

Federal regulations that apply to biological resources present at the project site include the federal ESA and Section 404 of the CWA. These regulations are briefly described below.

Federal Endangered Species Act

The federal ESA prohibits the take of endangered or threatened wildlife species. *Take* is defined to include harassing, harming (includes significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Actions that result in take can result in civil or criminal penalties.

The federal ESA and EPA Section 404 Guidelines prohibit the issuance of wetland permits for projects that would jeopardize the existence of a threatened or endangered wildlife or plant species. The Corps must consult with the USFWS when threatened or endangered species may be affected by a proposed project to determine whether issuance of a Section 404 Permit would jeopardize the species. In the context of the project site, the federal ESA would be triggered if the project would result in the take of a threatened or endangered species or if issuance of a Section 404 Permit or other federal agency action could adversely affect or jeopardize a threatened or endangered species.

Section 404 of the Clean Water Act

The Corps and EPA regulate the discharge of dredged and fill material into “waters of the United States” under Section 404 of the CWA. Corps jurisdiction over nontidal waters of the United States extends to the ordinary high-water mark, provided the jurisdiction is not extended by the presence of wetlands (33 CFR Part 328 Section 328.4). The ordinary high-water mark is defined in the federal regulations to mean

[T]hat line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. —(33 CFR Part 328 Section 328.3[e]).

The Corps typically will exert jurisdiction over that portion of the project site that contains waters of the United States and adjacent or isolated wetlands. This jurisdiction equals approximately the bank-to-bank portion of a creek along its entire length up to the ordinary high-water mark and adjacent wetlands areas that will either be directly or indirectly adversely affected by a proposed project.

Migratory Bird Treat Act

The Migratory Bird Treaty Act (MBTA) was established in 1918 to protect migratory birds. The MBTA protects species or families of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The MBTA prohibits, unless permitted by regulations, the take of migratory birds. Take includes the harassment, hunt, capture, killing, possession, purchase or transport of migratory birds. This act also prohibits the take of any part, nest, or egg of any such bird. (16 U.S.C. 703)

State Regulations

California regulations that apply to resources at the proposed project site include the CESA and Section 1601 of the California Fish and Game Code. These regulations are briefly described below.

California Endangered Species Act

CESA is similar to the federal ESA but pertains only to state-listed endangered and threatened species. CESA requires state agencies to consult with DFG when preparing documents under CEQA to ensure that the actions of the state lead agency do not jeopardize the continued existence of listed species. CESA directs agencies to consult with DFG on projects or actions that could affect listed species, directs DFG to determine whether there would be jeopardy to listed species, and allows DFG to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if the agency determines that there are “overriding considerations”; however, the agencies are prohibited from approving projects that would cause the extinction of a listed species.

Mitigating impacts on state-listed species involves avoidance, minimization, and compensation (listed in order of preference). Unavoidable impacts on state-listed species are typically addressed in a detailed mitigation plan prepared in accordance with DFG guidelines. DFG exercises authority over mitigation

projects involving state-listed species, including those resulting from CEQA mitigation requirements.

CESA prohibits the take of plant and wildlife species that are state listed as endangered or threatened. DFG may authorize take if there is an approved habitat management plan or management agreement that avoids or compensates for impacts on listed species.

California Department of Fish and Game Codes

DFG has regulations to prohibit take of birds, including migratory birds and raptors. DFG code 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. DFG code 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code.

Local Regulations

The Yuba County General Plan (Yuba County 1996) provides guidance for overall resource conservation in Yuba County and states several conservation goals that aim to protect significant biological resources. Specific habitats identified for special consideration for preservation and protection include the Yuba River, Yuba River watershed, wetlands, and oak riparian woodlands.

Criteria for Determining Significance

The following criteria for determining significance of impacts were taken from Appendix G of the State CEQA Guidelines. The project would result in a significant impact on biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the DFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impacts and Mitigation

- a. Would the proposed project adversely impact, either directly or through habitat modification, any endangered, rare, or threatened species as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (sections 17.11 or 17.12)?*

Impact BIO-1: Impacts on the Valley Elderberry Longhorn Beetle or Its Habitat

Complete avoidance of adult beetles and elderberry shrubs is assumed when a 100-foot buffer is established and maintained around elderberry shrubs that have stems of 1 inch or more in diameter (U.S. Fish and Wildlife Service 1999). Fifteen elderberry shrubs or shrub clusters with at least one stem greater than 1 inch in diameter were identified within 100 feet of the proposed construction areas. Slurry wall construction is expected to occur within 20 feet of the drip line of four shrubs during Phase 1. Seven shrubs occur in the construction footprint of the potential landside levee improvements (i.e., relief wells and seepage berms) that are proposed for Phase II.

Construction activities and vehicle access roads associated with slurry wall construction (Phase I and II) would be restricted to the top of the levee. During construction, a minimum 20-foot buffer from the drip line of each shrub will be maintained to the greatest extent possible. For the four elderberry shrubs occurring within 20 feet of the levee crown, complete avoidance within the required 20-foot buffer may not be possible. Although vehicle access would potentially occur within 20 feet of these shrubs, and within 100 feet of other shrubs, the impact on valley elderberry longhorn beetle is considered less than significant because:

- the construction areas are located on the levee crown and the shrubs are located on the levee slopes, outside the construction footprint;
- there is not anticipated to be direct physical contact;
- root damage is not expected to occur because excavation will occur only on the compacted levee surface, and roots are not expected to occur in this area; and

- construction would occur at a time when adult beetles are not present (the possible impact of dust will be minimized with the implementation of a dust control plan).

Overall, the impact on valley elderberry longhorn beetle associated with Phase I (i.e., slurry wall construction) is considered less than significant because of the timing of construction and because no direct impacts will occur on the shrubs. Impacts on valley elderberry longhorn beetle would be minimized through the use of fenced buffer areas, education of contractors and crews about avoiding damage to shrubs, and implementation of measures to control dust.

Construction activities associated with other levee improvement features (i.e., relief wells and seepage berms) would be located on the landside of the levee slope and adjacent upland habitat. Up to seven elderberry shrubs may occur in the construction footprint of the landside levee improvements. The number of shrubs will be dependent on the final levee improvement features.

The impact on valley elderberry longhorn beetle associated other levee improvement features (i.e., relief wells and seepage berms) is considered significant during Phase II because these activities would result in the direct loss of elderberry shrubs. The project will be designed to minimize impacts on valley elderberry longhorn beetle to the greatest extent possible. Implementation of the following mitigation measures would reduce the impact to a less-than-significant level.

Mitigation Measure BIO-MM-1: Perform Preconstruction and Postconstruction Surveys for Elderberry Shrubs.

To ensure that any additional elderberry shrubs, besides those recorded during the 2004 surveys, are identified, a qualified biologist will perform an elderberry shrub survey before implementation of Phase II of the proposed project. The biologist will field stake the locations of elderberry shrubs and shrub clusters, if present, before construction begins.

Following completion of levee improvement activities, the Authority will perform a postconstruction evaluation of the elderberry shrubs to determine whether any shrubs were damaged by construction activities. If unanticipated damage occurs to elderberry shrubs, the Authority will consult with USFWS on appropriate additional mitigation.

All surveys will be performed according the USFWS valley elderberry longhorn beetle compensation guidelines (U.S. Fish and Wildlife Service 1999). During the preconstruction and postconstruction surveys, the following information will be recorded for each shrub or shrub cluster:

- the number of stems greater than 1 inch in diameter,
- the number of stems less than 1 inch in diameter,
- the approximate height and width of the elderberry shrub or shrub cluster;
- the presence of valley elderberry longhorn beetle exit holes, and

- the dominant vegetation that is associated with the elderberry shrub or shrub cluster.

The location of each elderberry shrub will be mapped using GPS, and a site map will be prepared that identifies the location and size of each shrub and shrub cluster. The Authority will use this site map to determine vehicle and equipment haul routes and work areas.

Mitigation Measure BIO-MM-2: Implement Minimization and Avoidance Measures for Elderberry Shrubs.

For Phases I and II, the Authority will implement the following measures to minimize and avoid impacts on elderberry shrubs that provide suitable habitat for valley elderberry longhorn beetle. These measures include:

- Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.
- Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: “This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment.”
- Train construction personnel to recognize elderberry plants and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS–approved environmental awareness training before beginning work at construction sites.

For Phase II, the Authority will consult with USFWS to determine the appropriate avoidance and minimization compensation measures for elderberry shrubs found in the levee improvement areas.

Mitigation Measure BIO-MM-3: Compensate for Unavoidable Impacts on Elderberry Shrubs.

The Authority will consult with USFWS to determine the appropriate compensation measures for elderberry that will be directly affected by the project. It is anticipated that a low-effect habitat conservation plan (HCP) will be required to compensate for impacts on valley elderberry longhorn beetle habitat.

If avoidance and minimization of effects on valley elderberry longhorn beetle habitat are not possible, the Authority will implement the measures following:

- Compensate for the loss and potential take by transplanting the elderberry plants that cannot be avoided to a USFWS–approved conservation area. Transplanting must comply with USFWS–approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999).

- Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999). Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.

Impact BIO-2: Impacts on the Breeding and Roosting Habitat for Swainson's Hawk

No Swainson's hawks were observed during the field survey on June 25 and July 23, 2004 and no impacts would occur during Phase I. Construction activities and vehicle access roads associated with Phase I activities would be restricted to the top of the levee and would not affect the Swainson's hawk. No trees would be removed for this phase of construction and work would occur at a time when Swainson's hawks will not be in the region.

In the event nesting or roosting Swainson's hawks are identified prior to constructing Phase II, the Authority will coordinate with the DFG to identify measures to ensure raptors are not adversely affected.

Construction activities associated with Phase II repairs (i.e., relief wells and seepage berms) would be located on the landside of the levee slope and adjacent upland habitat. Noise and visual disturbances associated with operation of equipment and other construction- and maintenance-related activities within up to ½ mile of occupied nest sites could adversely affect nesting Swainson's hawks. Noise and visual disturbances of sufficient magnitude could result in nest abandonment, a reduction in the level of care provided by adults (e.g., duration of brooding, frequency of feeding), or forced fledging. If these situations occur, the likelihood of successful production of young during the year of disturbance could be reduced. The number of nests or young that could be affected will be determined during the Phase II preconstruction surveys and active construction period surveys, as described below.

Nest-site removal or disturbance will occur only if Swainson's hawks are nesting at the time the trees are removed or the area around the nest is disturbed by these activities. Because Swainson's hawk nest sites may vary from year to year, the number of nest sites that could be affected by the project may vary annually. Preconstruction surveys will be performed throughout the spring months to determine whether nest sites are located within ½ mile of proposed project activities.

The impact on the Swainson's hawk associated with constructing Phase II repairs is considered potentially significant because these activities could result in the loss or disturbance of Swainson's hawk nests. The project will be designed to minimize impacts to the greatest extent possible. Implementation of the following mitigation measures would reduce the impact to a less-than-significant level.

Mitigation Measure BIO-MM-4: Perform Preconstruction Surveys for Nesting Swainson's Hawks Prior to Construction and Maintenance.

Phase II preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations. Surveys will be performed in spring and summer 2005. Preconstruction surveys will consist of surveying all potential nest sites within ½ mile of proposed construction features, borrow sites, and mitigation sites. Surveys will be performed several times during the breeding season to avoid and minimize effects on late-nesting birds. Nest sites will be marked on an aerial photograph, and the position will be recorded using GPS.

Mitigation Measure BIO-MM-5: Avoid and Minimize Construction-Related Disturbances within ½ Mile of Active Swainson's Hawk Nest Sites.

To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season. If practicable, levee improvements that would result in the greatest disturbance to an active nest site will be deferred until after, or as late in, the breeding season as possible. The Authority will provide DFG with the locations of active nest sites identified during the preconstruction surveys and will coordinate with DFG on appropriate avoidance and minimization measures on a case-by-case basis.

DFG requires that a ½-mile buffer be established around all active Swainson's hawk nests between March 1 and August 15 (California Department of Fish and Game 1994). Potential nesting trees within the proposed project footprint will be removed before construction. Potential nest trees outside the proposed construction areas will be retained. Vegetation slated for removal as part of the proposed project will be removed before the nesting season for migratory birds and Swainson's hawk (i.e., removal will occur between September 1 and February 1).

Because of the relatively narrow width of the project area and the location and dimensions of the proposed work areas and access roads to riparian vegetation that could provide nesting habitat for Swainson's hawk, a ½-mile buffer may not be feasible in all areas. The Authority will maximize the buffer width around active nest sites on a site-by-site basis and will consult with DFG on the buffer widths before commencing construction activities. If possible, the Authority will delay construction and maintenance around individual nests until after the young have fledged. The Authority will immediately cease work and contact DFG if a young bird has prematurely fledged the nest as a result of construction or maintenance activities.

Impact BIO-3: Impacts on the Breeding and Roosting Habitat for White-Tailed Kite and other Raptors

Impacts on breeding and roosting habitat for the white-tailed kite associated with construction activities would be the same as discussed for Swainson's hawk. If an active raptor nest is found outside the construction areas, a buffer zone will be created around the nest tree. The recommended buffer, as identified by DFG, is 250 feet (Sections 3503 and 3503.5 of the California Fish and Game Code).

In the event nesting or roosting raptors are identified, the Authority will coordinate with DFG to identify measures to ensure raptors are not adversely affected. Implementation of Mitigation Measures identified above for the Swainson's hawk would reduce this impact to a less-than-significant level.

Impact BIO-4: Impacts on the Breeding and Roosting Habitat for Migratory Birds

The project area is located in and adjacent to habitat that supports nesting birds protected under the Migratory Bird Treaty Act (MBTA). The project will be designed to minimize impacts to the greatest extent possible. Implementation of the following mitigation measures would reduce the potential effects on nesting birds.

Mitigation Measure BIO-MM-6: Avoid and Minimize Effects on Migratory Birds.

Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas. The Authority will perform preconstruction surveys to determine whether nesting birds are present in or immediately adjacent to the proposed project area and associated staging and storage areas.

The Authority will remove all woody and herbaceous vegetation from the proposed construction areas during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds. During the breeding season, all vegetation will be maintained to a height of approximately 6 inches to minimize the potential for nesting. If construction occurs during the breeding season and not all affected vegetation has been removed, a qualified biologist will survey the construction areas for active nests and young migratory birds immediately before construction. If active nests or migratory birds are found within the boundaries of a construction area, the Authority will develop appropriate measures and will inform DFG of its actions. Inactive migratory bird nests (excluding raptors) located outside the construction areas will be preserved. If an inactive migratory bird nest is located in these areas, it will be removed before the start of the breeding season (approximately February 1).

- b. Would the proposed project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No riparian habitat occurs in the project area; consequently, there would be no impacts on riparian habitat

- c. Would the proposed project have an adverse impact on federally protected wetlands (including, but not limited to, marsh, vernal pools, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?***

No wetlands occur in the project area. The Yuba River is located on the north side the levee. There is a floodplain surface, of varying width, between the river and the toe of the levee. No in-channel construction activities will occur in the river. Therefore, wetlands and other waters of the U.S. will not be affected by the project. Thus, construction activities associated with the conventional trench method, deep soil mixing method, and relief and monitoring wells would result in no impacts on wetlands.

- d. Would the proposed project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?***

Although special status fish species are found in the Yuba River, adjacent to the project area, these species will not be affected by the project because all construction will occur on the levee surface. Project activities will occur on top of existing levee and the landside of the levee. Because of the location of the project, no effect on resident or migratory wildlife corridors or wildlife nursery sites will occur. Thus, construction activities associated deep soil mixing, relief wells, and monitoring wells would result in no impacts wildlife corridors or use of nursery site. Construction activities could temporarily impede wildlife movement, however the completed project would not obstruct the movement of any wildlife

- e. Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

The project would not conflict with any local policies or ordinances protecting biological resources.

- f. Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

The project would not conflict with the provisions of an HCP, NCCP, or other conservation plan.

Cultural Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Introduction and Methods

Cultural Setting

Prehistoric Context

This section provides a brief overview of the changing adaptive strategies used by prehistoric inhabitants of the Central Valley and the archaeological evidence of these strategies. A more comprehensive discussion of the prehistory of this area is presented in the confidential cultural resources inventory and evaluation report (Jones & Stokes 2004a).

There is little archaeological evidence that humans used the Central Valley during the late Pleistocene and early Holocene (12,000 to 6000 B.C.). The most likely explanation for the lack of evidence is a deficiency in the archaeological record, rather than an absence of human use; most Pleistocene- and Holocene-era sites are deeply buried in accumulated gravels and silts, or have eroded away.

The earliest archaeological evidence of human use of the Central Valley dates to approximately 3000 B.C., in the Early Horizon period (from 6000 to 2000 B.C.). During this period, a generalized subsistence strategy is thought to have been replaced by a more specialized strategy. This intensification is exhibited in what Fredrickson (1973) has identified as the Windmiller Pattern. Artifact

assemblages and faunal remains at Windmill sites indicate that a diverse range of resources was exploited, including seeds, small game, and fish.

The Middle Horizon period dates from approximately 2000 B.C. to A.D. 500. Sites from this period have also been found in the Central Valley. The adaptive pattern most frequently apparent during this period is called the Berkeley Pattern (Fredrickson 1973), although sites displaying Windmill Pattern assemblages have also been dated to the Middle Horizon. The Berkeley Pattern differs from the Windmill Pattern primarily in an increased emphasis on the exploitation of acorns as a staple. In the archaeological record, acorn exploitation is evidenced by more numerous and varied mortars and pestles. The Berkeley Pattern also is noted for its especially well-developed bone-tool industry and such technological innovations as ribbon flaking of chipped stone artifacts. During the Middle Horizon period, flexed burials replaced extended burials and the use of grave goods generally declined (Moratto 1984).

The period between A.D. 500 and the arrival of the Spanish in central California has been named the Late Horizon. The predominant pattern during this period is called the Augustine Pattern (Fredrickson 1973). This pattern is characterized by large village sites, increased acorn and nut processing, the introduction and use of bows and arrows, and the use of clam shell disc beads as the primary medium of exchange. During the last part of the Late Horizon period, cremation became a common mortuary practice.

Ethnographic Context

The project area was inhabited ethnographically by the Nisenan, or Southern Maidu, during the period recorded ethnographically by early Euro-American arrivals. Nisenan territory comprised the drainages of the Yuba, Bear, and American Rivers, as well as the lower drainages of the Feather River. The Nisenan, together with the Maidu and Konkow, their northern neighbors, form the Maiduan language family of the Penutian linguistic stock (Shipley 1978).

Nisenan settlements were located based primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Villages ranged in size from three houses to up to 40 or 50. Houses were domed structures covered with earth and tule or grass and measured 10 to 15 feet in diameter. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. Larger villages often had semisubterranean dance houses, which were covered in earth and tule or brush and had a central smokehole at the top and an east-facing entrance. Another common village structure was a granary, used for storing acorns. (Wilson and Towne 1978.)

The Nisenan occupied permanent settlements from which specific task groups set out to harvest the Central Valley's seasonal bounty of flora and fauna. The Valley Nisenan economy involved riverine resources, in contrast to the Hill Nisenan, whose resource base consisted primarily of acorns and game. The only domestic plant was native tobacco, but many wild species were closely

husbanded. The acorn crop from the blue oaks and black oaks was so carefully managed that it served as the equivalent of agriculture and could be stored against winter shortfalls in resources. Deer, rabbit, and salmon were the chief sources of animal protein in the aboriginal diet, but many other insect and animal species were taken when available.

Historical Context

Europeans first explored the area that is now Yuba County in 1808, when Spanish explorer Gabriel Moraga led an expedition from Mission San Jose to the northern Sacramento Valley (Gordon 1988; Hoover et al. 1990). The earliest Euro-American settlement in present-day Yuba County was made possible by the land grants being established by the Mexican government. John A. Sutter obtained the first such grant, the New Helvetia Rancho, in 1841. The project area is located within this land grant.

Originally known as Nye's Ranch, Marysville was incorporated in 1851. It became the head of navigation on the Feather River and the point of debarkation for riverboats from San Francisco and Sacramento filled with miners on their way to northern mines (Historical Commission 1976; Laney n.d.; Napoli 1998). The town prospered during the gold rush era, becoming one of the largest cities in California.

During the remainder of the nineteenth century, as gold production declined, Marysville's economic base shifted to agriculture. As was true in most regions of the state, wheat became the most profitable and therefore most popular crop during the 1860s and 1870s. The arrival of the Southern Pacific Railroad in the mid-1860s diverted traffic from the river and made transportation of goods to market easier and more reliable. The Western Pacific Railroad was constructed along the western side of Marysville in 1910, taking over maintenance of the Feather River levee. (Historical Commission 1976; Laney n.d.; Napoli 1998).

Flooding, always a problem in the area, became a central issue when hydraulic mining raised the riverbeds of the Feather and Yuba Rivers, adding to the problem. Initial flood control efforts were usually uncoordinated, consisting of the construction of small levees and drains by individual landowners. These measures proved insufficient to protect the town and surrounding cultivated land.

In 1908, residents of Yuba County had formed RD 784, which includes land in the proposed project area. The district was formed partially in response to the flood of 1907. RD 784 built substantial levee and drainage systems to restrain floodwaters from the Bear and Feather Rivers and incorporated levees built by the Farm Land Investment Company and other landowners. In 1911, the newly established State Reclamation Board took jurisdiction over RDs, including RD 784. That year, with approval from the state, the Sacramento Flood Control Plan was implemented. The plan proposed an ambitious program of construction of levees, weirs, and bypasses along the river. In 1920, RD 784 voters approved a plan to improve levees along the Yuba, Bear, and Feather Rivers among other

improvements. The levee along the Yuba River was constructed at this time. (JRP Historical Consulting Services 1994.)

Regulatory Setting

CEQA requires that public agencies that finance or approve public or private projects assess the impacts of the project on cultural resources. Cultural resources are defined as buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance. Cultural resources that possess significance in one of these areas are termed *historical resources* for the purposes of CEQA. If a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, CEQA requires that alternative plans or mitigation measures be considered. Therefore, before developing mitigation measures, the significance of cultural resources must be determined. The steps normally taken in a cultural resources investigation for CEQA compliance are:

- identify cultural resources;
- evaluate the significance of resources;
- evaluate the effects of a project on *all* resources; and
- develop and implement measures to mitigate the effects of the project only on significant cultural resources, or historical resources.

The State CEQA Guidelines define a historical resource as one that is listed or eligible for listing on the California Register of Historical Resources (CRHR) (PRC 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

In addition, CEQA distinguishes between two classes of archaeological resource: archaeological sites that meet the definition of a historical resource as above, and "unique archaeological resources." An archaeological resource is considered unique if it:

- is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory;

- can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
- has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- is at least 100 years old and possesses substantial stratigraphic integrity; or
- involves important research questions that historical research has shown can be answered only with archaeological methods (PRC 21083.2).

The State CEQA Guidelines (14 California Code of Regulations [CCR] 15064.5[c]) state that the lead agency must treat an archaeological resource that meets the definition of a historical resource according to the provisions of PRC 21084.1, 14 CCR 15064.5, and 14 CCR 15126.4. If an archaeological resource does not meet the definition of a historical resource, but does meet the definition of a unique archaeological resource, the lead agency is obligated to treat the resource according to the provisions of PRC 21083.2 (14 CCR 15064.5[c][3]).

According to CEQA, a project may have a significant impact on the environment if it could cause a substantial adverse change in the significance of historical resources (14 CCR 15064.5[b]). CEQA further states that a substantial adverse change in the significance of historical resources means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of historical resources are any actions that would demolish or significantly alter the physical characteristics of historical resources that convey their historical significance and qualify it for inclusion in the CRHR or in a local register that meet the requirements of PRC 5020.01(k) and 5024.1(g).

Methods and Results

Efforts to located cultural resources within the project area consisted of conducting a records search, contacting the Native American Heritage Commission (NAHC) and Native American representatives and conducting a pedestrian survey of the project area. Five cultural resource sites were located within the project area: the levee itself, the Western Pacific Railroad, the Southern Pacific Railroad, an abandoned spur of the Southern Pacific Railroad, and a concentration of concrete blocks that may be historic.

Records Search

On June 28, 2004, a records search was conducted at the North Central Information Center of the California Historical Resources Information System at California State University, Sacramento. The records search covered the project area and a ½-mile radius around the project area. It consulted the state's database

of previously studies and recorded cultural resources sites, as well as pertinent historical inventories and historic maps.

The records search indicated that three previous studies had been conducted within or immediately adjacent to the project area (Bouey 1990; Gilreath et al. 1990; Offerman 2001). These studies resulted in the pedestrian survey of approximately 15% of the project area. Another nine studies have been conducted within a ½-mile radius of the project area (Caltrans 1993; Jackson 1977; Peak & Associates, Inc. 1998, 2002; Pacific Legacy 1997; Pritchard 1967; Storm n.d.; U.S. Army Corps of Engineers 1976; William Self Associates 2000). The records search also indicated that no known cultural resources are located within the project area, and three cultural resources are located within a ½-mile radius of the project area. These resources consist of:

- a bridge that was constructed in 1935 and is listed on the Caltrans Bridge Inventory as not eligible for listing in the National Register of Historic Places (Caltrans 1980);
- an abandoned railroad spur recorded in 1988 (Peak & Associates 1988), and;
- CA-YUB-164 (the Lindhurst Site) a prehistoric occupation site discovered during road construction in 1966 and the subject of a salvage archaeology project in 1967 (Pritchard 1967).

Native American Contacts

On June 25, 2004, Jones & Stokes cultural resources staff contacted the NAHC and requested that they consult their sacred lands database and provide a list of potentially interested Native American representatives for the project area. On June 30, 2004, the NAHC responded, stating that the search of their sacred lands database did not indicate any Native American resources in the immediate vicinity of the project area. The NAHC also provided a list of six Native American representatives that may have information regarding resources within the project area. On July 2, 2004, letters describing the project with maps illustrating the project area were sent to all six representatives. As of July 6, 2004, no responses have been received.

Pedestrian Survey

On July 1, 2004, two Jones & Stokes archaeologists conducted a pedestrian survey of the project area. All portions of the project area that were not developed, paved, or landscaped were surveyed in systematic transects spaced 25 to 35 meters apart. Visibility was poor because of high grasses.

Cultural Resources within the Project Area

Five cultural resources were located: the levee itself; the Western Pacific Railroad, the Southern Pacific Railroad, an abandoned spur of the Southern Pacific Railroad, and a concentration of concrete blocks that may be historic. These resources are evaluated in the technical report (Jones & Stokes 2004). The levee is a part of RD 784, which has been determined not eligible for listing (JRP Historical Consulting Services 1994). Only the Western Pacific Railroad and the Southern Pacific Railroad were recommended eligible for listing in the CRHR. Both of these are operating railroads that are important for their association with transcontinental transportation. The project will leave the railroads operational and will not affect the alignment or setting of the railroads and therefore will not result in significant impacts on these historic resources.

Paleontological Resources

According to the Geologic Map of California, Chico sheet (Saucedo and Wagner 1992), the project area is underlain by Holocene Epoch (i.e., less than approximately 10,000 years before present) natural levee and channel deposits. This geologic unit occurs in active stream channels and their natural levees as well as broad alluvial fans.

Borings advanced by Kleinfelder, Inc. (2004) indicate that the sediments beneath the levee crown consist of alternating layers of sand, silt, clay, and gravels to the depth explored (i.e., 121.5 feet). It is unknown whether the natural levee and channel deposits geologic unit extends to the depth explored by Kleinfelder, or whether a different formation exists within the depth that the slurry wall will penetrate. A geologic cross section passing through Live Oak (approximately 10 miles north of the project area) shows the Sutter Formation (volcaniclastic sediments) underlying the Quaternary alluvial sediments at a depth of approximately 250 feet. This formation may or may not exist beneath the natural levee and channel deposits.

No paleontological resource evaluation has been conducted for this project. However, significant paleontological resources, if present beneath the project area, are expected to be sparsely distributed, given the nature of the depositional environment of the sediments.

Impacts and Mitigation

a. Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Two historical resources are located within the project area, the Southern and Western Pacific Railroads. Both are functioning railroads that are eligible for listing in the CRHR because of their association with the theme of transportation in the west. However, repairs to the levee will not result in impacts on the

railroads. Because there will be no impacts that will adversely change the significance of these historical resources, no mitigation is necessary.

- b. Would the proposed project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?*

Impact CR-1: Potential Adverse Impacts on Undiscovered Historical or Archaeological Resources within the Project Area

The project area has been adequately surveyed for the purposes of identifying surface archaeological sites. Though cultural resources were located within the project area, no cultural resources that are considered historic resources for the purposes of CEQA will be affected.

Because surveys examine only the surface of the ground, unidentified buried cultural resources may be present in the project area. The project area is likely to be sensitive for prehistoric resources based on its location near a permanent water sources and its proximity to known prehistoric sites. Sites in this area are likely to be buried because of their location in a floodplain. Significant buried cultural resources, if present, could be adversely affected by construction activities, including grading and excavation. As indicated in the Environmental Commitments section of Chapter 2, in the event that cultural resources are unearthed, work will stop within 100 feet of the find until its significance has been evaluated and necessary steps have been taken to mitigate any potential impact.

Impact CR-2: Potential Disturbance to Cultural Resources at Borrow Locations

Soil will be imported from a permitted source for use in the construction of a seepage berm. This area has not been examined for cultural resources as part of this project. It is possible that cultural resource sites considered historic resources for the purposes of CEQA are located within the borrow area. If eligible cultural resources were present and the project resulted in the destruction or disturbance of these sites, it would be considered a significant impact. In order to reduce this impact to a less-than-significant level, cultural resources inventories should be implemented and any cultural resources within the proposed area avoided or evaluated and mitigated prior to construction as indicated in Environmental Commitments section of Chapter 2.

- c. Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Impact CR-3: Potential Disturbance to Paleontological Resources

As described above, any paleontological resources are expected to be sparsely distributed beneath the project area. In light of this condition, and the fact the project would disturb only a relatively narrow “slice” of sediments, the likelihood of the project disturbing a paleontological resource, particularly one that is considered significant under CEQA, is low. Excavation of the sediments and any significant fossils could destroy or degrade the fossils’ condition; additionally, the nature of project excavation would cause any fossils to be removed from their stratigraphic context, thereby reducing the scientific usefulness of the fossil. Environmental Commitments as described in Chapter 2 would require that project construction be suspended at any location at which fossils or materials that resemble fossils are excavated. In this event, the Authority would retain a qualified paleontologist to inspect the materials and determine whether they are considered significant under CEQA. Therefore, this impact is less than significant.

- d. Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Impact CR-4: Potential Disturbance of Human Remains

The project has a low potential to disturb human remains, including those located outside of formal cemeteries, because the project area is below the average water level of the river. As indicated in the Environmental Commitments section of Chapter 2, in the event that human remains are unearthed during construction, construction in the area of the discovery would be stopped and the county coroner would be consulted. If the bones appear to be of Native American origin, a qualified archaeologist and the appropriate Native American group or individual would be consulted. This impact is less than significant because this Environmental Commitment is in place and no mitigation is required.

Geology and Soils

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section provides:

- a general description of geologic, soil, and seismic conditions in the project area;

- a description of relevant government regulations that pertain to geologic, soil, and seismic-related hazards; and
- an assessment of potential geologic-, soil-, and seismic-related impacts associated with project construction and operation.

All physical and regulatory setting information presented in this chapter, as well as the subsequent impact analysis, is based on best available information and the professional judgment of earth scientists from Jones & Stokes.

Physical Setting

The old levee was originally a country road called Morrison Grade that was incorporated into the Sacramento River Flood Control Project in the early 1900s. Morrison Grade was transformed into a levee on a foundation made up of uncompacted hydraulic mining debris and layers of sand. Approximately 300 feet of this levee failed in February 1986.

Geology and Soils

The proposed project is located on the left bank levee of the Yuba River upstream of the confluence of the Yuba and Feather Rivers between SR 70 and the Southern Pacific Railroad. The levee is constructed of earth fill and is surfaced at the crown with an asphalt concrete and gravel patrol road. The levee varies in elevation from approximately 76 and 84 feet above mean sea level (msl). (Kleinfelder 2004)

According to Kleinfelder's Problem Identification Report (PIR), the levee fill material generally consists of sandy silt and silty sand. Alternating layers of sand, silty sand, silt and sandy silt underlie the foundation soils, which were underlain by thick layers of gravel. These gravel layers are underlain by alternating layers of sand, silt, and clay, and additional gravel layers to the maximum depth explored (approximately 121.5 feet below the levee crown.) (Kleinfelder 2004)

Beyond the toe of the levee, the surface soils (i.e., to a depth of approximately 5 feet) may be divided into two broad groups: those formed from recent alluvium and those derived from old alluvial fans or terraces (Kleinfelder, 2004). These soils generally consist of silty, fine- to coarse-grained sands, sandy silts, and sandy gravels. Most of the soils on the valley floor are shallow to moderately deep, sloping, well-drained soils with very slowly permeable subsoils underlain by hardpan. These soils have good natural drainage, slow subsoil permeability, and slow runoff rates. (Lytle 1988) Data from three groundwater monitoring wells located within 1.6 miles of the subject levee indicate groundwater elevations varied between approximately 64 and 2 between the years of 1963 and 2004. The groundwater and soil moisture conditions within the area vary,

depending on Yuba River stage, rainfall, irrigation practices, and/or runoff conditions. (Kleinfelder 2004)

Erosion Hazard

The erosion hazard on the level and nearly level terrain that exists on the landside of the levee reaches is slight (Lytle 1998). The hazard of erosion on the steeper levee banks is greater. Erosion hazard on the waterside of the levee varies, but is not a subject of this report, as it would not be affected by the project.

Subsidence

Subsidence is the gradual lowering of the earth surface resulting from fluid withdrawal, oxidation of organic soils, and compaction by heavy structures. The hazard of subsidence at the project area is inferred to be low, based on the absence of organic soils and lack of structures.

Landslides and Levee Stability

There are no existing landslide hazards on the level and nearly level terrain on the landside of the subject levee. Based on the failure of the levee in 1986 and evidence presented by Kleinfelder (2004), the stability of the levee is poor, and the levee is at high risk of failure as a result of seepage.

Seismicity

Fault Rupture and Ground Shaking

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act), which was signed into law by the California State Legislature in 1972, requires the State Geologist to delineate all active fault traces in the state and to delineate appropriately wide Earthquake Fault Zones around these fault traces. The purpose of this and other requirements of the Alquist-Priolo Act is to prevent the construction of habitable structures near active faults without first conducting detailed fault-rupture hazard investigations (Hart and Bryant 1997).

For the purpose of fault zonation under the Alquist-Priolo Act, the California Geological Survey defines active faults as those that show evidence of surface displacement during the Holocene (i.e., within the last 11,000 years). Faults that show evidence of displacement within the Pleistocene (i.e., between 11,000 and 1.6 million years ago) are considered to be potentially active.

There are no active faults, potentially active faults, or Alquist-Priolo Earthquake Fault Zones in the vicinity of the project area (Kleinfelder 2003; Jennings 1994). The closest active fault is the Dunnigan Hills Fault, which is located

approximately 20 miles west of the project area. Accordingly, the project area is not likely to be affected by surface fault rupture, but could be subject to ground shaking from this and other regional faults.

Liquefaction

Liquefaction is a process in which soils lose shear strength and liquefy during episodes of intense ground shaking. As a general rule, liquefaction is most likely to occur in areas underlain by loose, fine sands and/or silts and a water table that resides within 50 feet of the ground surface (California Division of Mines and Geology 1997).

According to the Geologic Map of California, Chico sheet (Saucedo and Wagner 1992), the project area is underlain by natural levee and channel deposits. Borings advanced by Kleinfelder, Inc. (2004) indicate that the sediments beneath the levee crown consist of alternating layers of sand, silt, clay, and gravels to the depth explored (121.5 feet).

According to California Geological Survey geologic hazard mapping (California Geological Survey 2004), the Marysville area is subject to a peak ground acceleration of 0.17 g (where one g is equal to the force of gravity). This low-to-moderate strength of shaking presents a low-to-moderate hazard of liquefaction at the project area.

Regulatory Setting

Section 402 of the Clean Water Act/ National Pollutant Discharge Elimination System

Section 402 of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES program. The EPA has delegated to the SWRCB the authority for administering the NPDES program in California, where it is implemented by the state's nine RWQCBs. Under the NPDES Phase II Rule, any construction activity disturbing 1 acre or more must obtain coverage under the General Permit. General Permit applicants are required to prepare both a notice of intent to obtain coverage under the General Permit and a SWPPP. The SWPPP describes the BMPs that will be implemented to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

Yuba County Grading Ordinance

Proponents of projects in Yuba County that involve excavations (cuts) more than 2 feet deep or fills more than 1 foot deep must comply with the requirements of the Yuba County Grading Ordinance. Depending on the extent of the proposed

cut and fill, compliance with these requirements may require the submittal of a detailed grading plan, soils engineering report, engineering geology report, and liquefaction study. In all instances, the project applicant must prepare and implement an erosion control plan that details BMPs that will be implemented to control stormwater runoff, erosion, and sedimentation until final approval of grading operations is issued by the Yuba County Department of Public Works.

Impacts and Mitigation Measures

a(i). Would the proposed Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault?

There are no known faults located in the immediate vicinity of the project area. Therefore, there will be no impact.

a(ii). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The seismic ground-shaking hazard in the project area is low to moderate (California Geologic Survey 2004), and there would be no structures. Therefore, there would be no impact.

a(iii). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The soils and sediments at the project area are potentially susceptible to liquefaction because of their composition of silts and sands, and the potential presence of groundwater within 50 feet of the surface. However, the proposed bank repairs would neither increase nor decrease this existing hazard, as there is no risk of loss, injury, or death. Therefore, there would be no impact.

a(iv). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The current risk of landside on the level and nearly level landside and crown of the existing levee is low. The proposed project would not increase or decrease this existing risk. Therefore, there would be no impact.

b. Would the proposed project result in substantial soil erosion or the loss of topsoil?

Impact GEO-1: Accelerated Erosion and Sedimentation

Ground disturbance caused by project construction activities has the potential to increase erosion and sedimentation rates above preconstruction levels. However, The Authority would prepare and implement a SWPPP to address erosion, stormwater runoff, sedimentation, and other construction-related pollutants during project construction until all areas disturbed during construction have been permanently stabilized. The preparation and implementation of the SWPPP is necessary to comply with the requirements of the County's erosion control ordinance and the state's NPDES general construction activity stormwater permit. The specific BMPs that will be incorporated into the SWPPP will be determined during the final design phase of the selected alternative and will be prepared in accordance with the RWQCB Field Manual. However, the plan will likely include, but not be limited to, one or more of the following standard erosion and sediment control BMPs:

- ***Timing of construction.*** The construction contractor will conduct all construction activities during the dry season to avoid ground disturbance during the rainy season.
- ***Staging of construction equipment and materials.*** All construction-related equipment and materials will be staged on the landside of the subject levee reaches. To the extent possible, equipment and materials will be staged in areas that have already been disturbed.
- ***Minimize soil and vegetation disturbance.*** The construction contractor will minimize ground disturbance and the disturbance/destruction of existing vegetation. This will be accomplished in part through the establishment of designated equipment staging areas, ingress and egress corridors, and equipment exclusion zones prior to the commencement of any grading operations.
- ***Stabilize grading spoils.*** Grading spoils generated during the construction will be temporarily stockpiled in staging areas located away from the Yuba River. Silt fences, fiber rolls, or similar devices will be installed around the base of the temporary stockpiles to intercept runoff and sediment during storm events. If necessary, temporary stockpiles may be covered with an appropriate geotextile to increase protection from wind and water erosion.
- ***Install sediment barriers.*** The project proponent may install silt fences, fiber rolls, or similar devices to prevent sediment-laden runoff from leaving the construction area.
- ***Stormwater drain inlet protection.*** The project proponent may install silt fences, drop inlet sediment traps, sandbag barriers, and/or other similar devices.
- ***Permanent site stabilization.*** The construction contractor will install structural and vegetative methods to permanently stabilize all graded or otherwise disturbed areas once construction is complete. Structural methods may include the installation of biodegradable fiber rolls and erosion control

blankets. Vegetative methods may involve the application of organic mulch and tackifier and/or the application of an erosion control seed mix. Implementation of a SWPPP would substantially minimize the potential for project-related erosion and associated adverse effects on water quality. Because all project-related grading would occur on the subject levee reaches, the project also would not result in the loss of topsoil resources.

Therefore, this impact is considered less than significant.

- c. Would the proposed project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Impact GEO-2: Increased Levee Stability

There are no existing hazards on the level terrain surrounding the subject levee. The proposed project would improve the stability of the levee by further reducing seepage and the potential for seepage-related failures. Therefore, this impact would be beneficial.

- d. Would the proposed project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

The proposed project would not involve the construction or placement of structures on expansive soils. Therefore, there would be no impact.

- e. Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The project would not generate wastewater. Therefore, there would be no impact.

Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Physical Setting

A substantial portion of the land surrounding the project area is used for agricultural production and therefore lacks intensive development. It is likely

that these areas have been regularly exposed to pesticides, herbicides, and other chemicals used in typical agricultural production. However, no soil contamination has been found within the subject levee.

Regulatory Setting

The analysis of significance of impacts related to hazards and hazardous materials is based on criteria **VII. a–h** in the environmental checklist above and on the following factors:

- potential hazards and/or hazardous materials encountered during trenching or any subsurface excavation and
- proper disposal of hazardous materials encountered during trenching or any subsurface excavation.

Impacts and Mitigation Measures

- a. Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or*
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Impact HAZ-1: Possible Temporary Exposure to or Release of Hazardous Materials during Construction

Small volumes of hazardous materials (fuel, engine oil, and hydraulic line oil) would be temporarily used and handled to operate the construction equipment. Refueling of most equipment (except for the cranes and trench excavators) would be limited to the designated staging area. There is a danger that these materials may be released in accidental spills and result in harm to the people or the environment. Implementation of a SWPPP, as described under Impact GEO-1, would ensure that the risk of accidental spills and releases into the environment would be minimal and that this impact would be less than significant. No mitigation is required.

- c. Would the proposed project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No schools exist within ¼ mile of the proposed project area.

- d. Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The proposed project is not located on a site included on any list of hazardous material sites. There would be no impact.

- e. Would the proposed project be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?*

The proposed project is located more than 3 miles from the Yuba County Airport and would not affect any airport land use plans. There would be no impact.

- f. Would the proposed project be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?*

There are no known private airstrips located within the vicinity of the project area. The proposed project would have no impact on use or safety of private airstrips, nor would the use of such airstrips result in increased hazards to people working in the project area. There would be no impact.

- g. Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Construction-related activities for the proposed project would occur along the landside and crown of the existing levee. Because of the rural nature of the project area, emergency response and evacuation plans are not expected to be affected by the proposed project during or upon completion of construction. There would be no impact.

- h. Would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Impact HAZ-2: Exposure of People or Structures to a Significant Risk Involving Wildland Fires

Project construction activities include the use of mechanized construction equipment on the landside of the levee. Flammable fuels used in these mechanized tools, in conjunction with potential sparks from this construction equipment, present a potentially significant risk of wildland fire. Given the project's proximity to the mobile home park and the Caltrans storage yard, this

impact is significant. Mitigation measures HAZ-MM-1 and HAZ-MM-2 would reduce the impact to a less-than-significant level.

Mitigation Measure HAZ-MM-1: Before construction begins, clear materials that could serve as fire fuel from areas slated for construction activities.

If dry vegetation or other fire fuels exists on or near staging areas or any other area on which equipment will be operated, contractors shall clear the immediate area of fire fuel. To maintain a firebreak and minimize the availability of fire fuels, the Authority shall require contractors to maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.

Mitigation Measure HAZ-MM-2: Require that spark-generating construction equipment be equipped with manufacturers' recommended spark arresters.

The Authority shall require contractors to equip any construction equipment that normally includes a spark arrester with an arrester in good working order. Implementation of this measure would minimize a source of construction-related fire.

Hydrology and Water Quality

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.			■	
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
c. Substantially alter existing drainage pattern of site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>		
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
j. Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>		■

Introduction and Methods

This chapter provides: (1) a general description of local hydrology and water quality in the project area, (2) a general description of relevant government regulations that pertain to surface and groundwater hydrology and water quality, and (3) an assessment of potential hydrologic and water quality impacts associated with the construction and operation of the proposed project. All physical and regulatory setting information presented in this chapter, as well as the subsequent impact analysis, is based on best available information and the professional judgment of hydrologists and earth scientists from Jones & Stokes.

Physical Setting

Local Surface Water Hydrology

The Yuba River is the only waterway in the project vicinity. The river drains the western slope of the Sierra Nevada and flows generally southwesterly to its confluence with the Feather River. The mainstem of the Yuba River forms at the confluence of the North, Middle, and South forks just south of the New Bullards Bar Reservoir. Major tributaries to the Yuba include Slate, Canyon, Goodyears, Haypress, Fordyce, Texas, Fall, Oregon, Kanaka, East Fork, and Poorman Creeks and Downie River. During the summer, the water in the Yuba near the project site is confined to the low-flow channel, approximately 300 feet from the south levee. (EDAW 2003)

Water Quality

The Yuba River is not included on the 2002 CWA 303(d) list, which indicates that it is not an impaired water for any of its beneficial uses, including those uses related to fish, recreation, and irrigation. Water quality data are collected at a station near Smartville and a station near Marysville. According to a report by USGS, the Yuba River ranked as one of the least degraded rivers in the nation (USGS 2003).

Regulatory Setting

Hydrology—Flood Safety

Flood hazard areas are mapped by FEMA on Flood Insurance Rate Maps. These maps are designed for flood insurance purposes only and do not necessarily show all areas subject to flooding. The maps designate lands likely to be inundated during a 100-year storm event and elevations of the base flood. They also depict areas between the limits affected by 100-year and 500-year events and areas of

minimal flooding. These maps are often used to establish building pad elevations to protect new development from flooding effects.

The California Reclamation Board regulates the construction of levees and berms in the Central Valley. Rules promulgated in Title 23 of the California Code of Regulations (CCR Title 23, Division 1, Article 8 [Section 111 through 137]) regulate the modification and construction of levees to ensure public safety. The rules state that existing levees may not be excavated or left partially excavated during the flood season, which is generally November 1 through April 15 for the Yuba River.

Water Quality

Potential water quality impacts associated with general construction activity are regulated at the local, state, and federal level by the City of Marysville and SWRCB.

Federal

Potential water quality impacts associated with general construction activity are regulated at federal level through the NPDES general construction activity permit, described in the Geology and Soils section.

State

The SWRCB is the primary state agency responsible for protecting the quality of the state's surface water and groundwater supplies. Under authority of the Porter-Cologne Water Quality Control Act, the SWRCB sets water quality policies and standards, documents these policies and standards in official water quality control plans (e.g., Sacramento River Basin Plan), and enforces them through various state and federal programs. Potential water quality impacts associated with general construction activity are typically regulated at the state level by RWQCBs through the NPDES general construction activity permit, described in the Geology and Soils section.

Local

Potential water quality impacts associated with general construction activity are regulated at the local level through the Yuba County Grading, Erosion, and Sediment Control Ordinance described in the Geology and Soils section.

Impacts and Mitigation

- a. Would the proposed project violate any water quality standards or waste discharge requirements?*

Impact WQ-1: Accelerated Erosion and Sedimentation

Construction activities on the landside and crown of the existing levee have the potential to affect water quality in the Yuba River and receiving waters. Ground disturbing activities could result in a slight increase in the potential for erosion and sedimentation near the Yuba River. However, as discussed in Impact GEO-1, construction would be limited to the landside and crown of the existing levee. In addition, the construction contractor would prepare and implement a SWPPP to control stormwater runoff, erosion, sedimentation, and other construction-related pollutants during excavation and until construction is complete and all disturbed areas are permanently stabilized. This would substantially minimize the potential for project-related erosion, sedimentation, and the violation of applicable water quality standards. Therefore, this impact would be less than significant.

Impact WQ-2: Potential Inadvertent Release of Petroleum Products into the Channel

Small volumes of petroleum products (fuel, engine oil, and hydraulic line oil) would be temporarily used and handled to operate construction equipment. There is a danger that these materials may be released in accidental spills and result in harm to people or the environment. The implementation of a SWPPP (described in the Geology and Soils section), which would include methods to protect water quality in response to emergency spills, would minimize potential effects. Therefore, this impact would be less than significant. No mitigation is required.

- b. Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

The proposed project would not have an effect on groundwater. There would be no impact.

- c. Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a*

stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

Ground disturbing activities that would occur during the construction of the proposed project would result in very minor, temporary alterations to local drainage patterns in the project area. The placement of fill to create the berm may temporarily alter erosion and siltation rates; however, the completed project would reduce the risk of levee failure and the increased erosion and siltation rates. The project would not alter the course of a stream or a river and would not substantially affect drainage patterns. This impact would be less than significant. No mitigation is required.

d. Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Impact WQ-3: Changes in Drainage Patterns that Affect the Potential for Flooding

Land grading and other ground disturbing activities that would occur during the construction of the proposed levee repairs would result in very minor, temporary alterations to local drainage patterns on the landside of the levee. However, these alterations would be of minor extent and would not affect on- or off-site flooding. In addition, the purpose of the proposed project is to increase flood protection and the project would therefore reduce the risk of levee failure and subsequent flooding. Therefore, this impact is less than significant in the short term and is beneficial in the long term.

e. Would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Impact WQ-4: Increased Runoff as a Result of Operation of Relief Wells

The operation of the proposed relief wells would result in the collection of up to 70 gallons of water per minute during maximum flows. The water would be collected using a V-shaped ditch and collection system as described in Chapter 2. The collection system downstream of SR 70 would transfer flows from the well to the storm drain system to the south. The existing storm drain has adequate capacity to carry the small amount of discharge from the collection system. The collection system downstream of SR 70 would drain to a pump station located north of Shad Pad Road at a location adjacent to the existing levee. The water would then be pumped to the waterside of the Yuba River. The collection of the water would not result in substantial increases in pollutant concentrations, nor

would any additional pollutants be introduced to the system. Therefore, this impact is less than significant. No mitigation is required.

f. Would the proposed project otherwise substantially degrade water quality?

As described in Impacts GEO-1, WQ-1, and WQ-2, implementation of a SWPPP would substantially reduce the potential for construction-related erosion and sedimentation to adversely affect water quality in the Yuba River. Therefore, this impact is less than significant. No mitigation is required.

g. Would the proposed project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The proposed project would not result in the placement of housing within the 100-year floodplain. There would be no impact.

h. Would the proposed project place within a 100-year flood hazard area structures that would impede or redirect floodflows?

The project objective is to repair the levee, and does not involve the construction of any new structures that would impede or redirect floodflows. There would therefore be no impact on flow.

i. Would the proposed project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Impact WQ-4: Flooding Resulting from Failure of the Levee

The methods used to construct the proposed levee repairs are designed to minimize the potential for levee failures during construction. Once constructed, the proposed levee repairs would improve the long-term stability of the subject levee by reducing seepage and seepage-related failures. Therefore, the proposed project would have a less-than-significant impact in the short term and a beneficial impact in the long term.

j. Would the proposed project contribute to inundation by seiche, tsunami, or mudflow?

The proposed project would partially alter the composition of the subject levee reaches but would not involve alterations that would increase susceptibility of surrounding communities to inundation by seiches, tsunamis, or mudflows. Therefore, there would be no impact.

Land Use and Planning

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IX. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Physical Setting

The Yuba County General Plan (Yuba County 1996) designates the project area as Valley Agriculture. The Valley Agriculture classification is used to identify areas on the valley floor located outside of urban areas to retain agriculture as the primary land use; to protect the agricultural community from encroachment of unrelated agricultural uses that, by their nature, would be injurious to the physical and economic well-being of the agricultural community; and to encourage the preservation of agricultural land, both productive and potentially productive. Examples of uses that are considered appropriate under this classification include, but are not limited to: growing and harvesting field crops, grain, and hay crops; growing and harvesting fruit and nut trees, vines, and vegetables; pasture and grazing land; game preserves or hunting and fishing; and animal raising operations. Limited residential development is permitted for property owners, caretaker/employee housing, and farmworker housing. (Yuba County 1996.)

The specific project area is a levee and is compatible with the Valley Agricultural land use designation because it protects agricultural lands from damage and property loss attributable to flooding.

Regulatory Setting

The Yuba County General Plan includes goals, policies, and objectives that guide land use decisions in Yuba County. The following goals, policies, and objectives may be relevant to the project:

2—Open Space and Conservation Goal. Maintain and enhance natural resources, open space lands, and the scenic beauty of Yuba County in order to protect the quality of the environment, the county's economy, and the health and well-being of present and future residents.

86—Open Space and Conservation Policy. The County shall encourage the preservations of areas of natural vegetation that may also contain threatened, endangered, or special-status species, including oak woodlands, riparian areas, marshland, and vernal pools.

Impacts and Mitigation Measures

The analysis of significance of impacts of the proposed project is based on criteria *a–c* in the above environmental checklist.

a. Would the project physically divide an established community?

The proposed levee repairs would leave no permanent structures that would physically divide an established community. There would be no impact.

b. Would the proposed project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project would not conflict with the Yuba County General Plan or any other applicable plan. There would be no impact.

c. Would the proposed project conflict with any applicable habitat conservation plan or natural community conservation plan?

The proposed project would not conflict with any habitat conservation plan or natural community conservation plan. There would be no impact.

Mineral Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
X. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project area is not located on or near any known mineral resources protected for future mining (Yuba County 1996). The project will have no impact on mineral resources.

Noise

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XI. NOISE. Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This chapter addresses noise impacts associated with construction of the proposed levee repairs. Where applicable, mitigation measures to reduce impacts are also discussed. Construction activities are the primary source of noise associated with the project. Where significant noise impacts have been identified, mitigation measures to reduce noise impacts have been identified.

Physical Setting

The following is a brief background discussion of noise terminology.

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels which approximates the frequency response of the human ear.
- **Maximum Sound Level (L_{\max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{\min}).** The minimum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq}).** The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy.
- **Percentile-Exceeded Sound Level (L_{xx}).** The sound level exceeded “x”% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Most of Yuba County is rural in nature. Areas of the county that are not urbanized are relatively quiet. Areas of the county that are more urbanized are subjected to higher noise levels from roadway traffic, industrial activities, and other human activities. Within the county, major sources of noise include roadway traffic on state routes, major arterials, and other roadways; railroad noise; aircraft operations; and fixed noise sources from industrial, commercial, mining, and farming activities. Table 3-6 summarizes typical ambient noise levels based on population density.

Table 3-6. Population Density and Associated Ambient Noise Levels

	dBA, L _{dn}
Rural	40–50
Suburban	
Quiet suburban residential or small town	45–50
Normal suburban residential	50–55
Urban	
Normal urban residential	60
Noisy urban residential	65
Very noise urban residential	70
Downtown, major metropolis	75–80
Under flight path at major airport, ½ to 1 mile from runway	78–85
Adjoining freeway or near a major airport	80–90
Sources: Cowan 1984; Hoover and Keith 1996.	

A mobile home park is located on the landside of Reach B. SR 70 runs directly adjacent to the park, approximately 100 feet west, and the former Western Pacific Railroad is just west of SR 70. Approximately 10 sensitive receptors are located within this area. A residential area, composed of approximately nine units, exists along the landside of Reach C. These units are located between 10 and 50 feet from the landside toe of the levee. A motel is located farther upstream, on the landside of Reach C, approximately 300 feet from the existing levee. The remainder of the landside of Reach C is bordered by a Caltrans storage yard, which is located approximately 150 feet to 400 feet from the levee. All other areas near the levee are rural, containing grassland, orchards, or railroad tracks.

Regulatory Setting

There are no federal or state noise regulations that apply to the proposed project.

Local Regulations

Yuba County General Plan Noise Element

Yuba County has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. The general plan is a document required by state law that serves as the county's blue print for land use and development. The plan is a comprehensive, long-term document that provides details for the physical development of the county, sets out policies, and identifies ways to put the policies into action. The

noise element of the general plan identifies recommended ambient noise levels for land uses within the county (Table 3-7).

Table 3-7. Yuba County Noise Element Recommended Allowable Ambient Noise Level Objectives

Land Use	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Low density residential	50 dB	50 dB
Multi-family residential	55 dB	50 dB
Schools	45 dB	45 dB
Retail/commercial	60 dB	55 dB
Passive recreation areas	45 dB	45 dB
Active recreation areas	70 dB	70 dB
Hospitals/mental facilities	45 dB	40 dB
Agriculture	50 dB	50 dB
Neighborhood commercial	55 dB	55 dB
Professional office	55 dB	55 dB
Light manufacturing	70 dB	65 dB
Heavy manufacturing	75 dB	70 dB

Source: Yuba County 1996.

Yuba County Noise Ordinance

The Yuba County noise ordinance, part of the county's code, is enforceable by law. Following is a brief discussion of the noise ordinance regulations implemented by the county to protect its citizens from the adverse effects of noise.

Section 8.20.140 of Yuba County's noise ordinance states that where the ambient noise level is less than designated in Table 3-8, the respective maximum noise level from Table 3-8 will govern.

Table 3-8. Yuba County Noise Ordinance Ambient Base Noise Level

Zone Permitted	Time	Ambient Level (decibels)	Maximum Noise Level (decibels)
Single family residential	10:00 p.m. to 7:00 a.m.	45	55
	7:00 p.m. to 10:00 p.m.	50	60
	7:00 a.m. to 7:00 p.m.	55	65
Single family residential	10:00 p.m. to 7:00 a.m.	50	60
	7:00 a.m. to 10:00 p.m.	55	65
Commercial—business and professional (BP)	10:00 p.m. to 7:00 a.m.	55	65
Commercial	7:00 a.m. to 10:00 p.m.	60	70
General industrial zone (M1)	Anytime	65	75
Extractive industrial zone (M2)	Anytime	70	80

Section 8.20.130 of Yuba County's noise ordinance states that it is unlawful for any person within a residential zone, or within a radius of 500 feet, to operate any construction equipment or perform any outside construction or repair work. This prohibition applies between the hours of 10:00 p.m. and 7:00 a.m., provided that such activity occurs in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance.

Other Relevant Criteria

The Office of Noise Control (ONC) of the California Department of Health published a model noise ordinance 1977 (Office of Noise Control 1977). This model ordinance recommends limits on noise generated by construction noise sources. These limits are summarized in Table 3-9.

Table 3-9. Office of Noise Control Construction Noise Limits

Time of Day	Single Family Residential		Multi-Family Residential		Semi-Residential/ Commercial	
	Duration ≤10 days	Duration >10 days	Duration ≤10 days	Duration >10 days	Duration ≤10 days	Duration >10 days
Daily, except Sundays and legal holidays, 7 a.m. to 7 p.m.	75 dBA	60 dBA	80 dBA	65 dBA	85 dBA	70 dBA
Daily, 7 p.m. to 7 a.m. and all day Sunday and legal holidays	60 dBA	50 dBA	65 dBA	5 dBA	70 dBA	60 dBA

Source: Office of Noise Control 1977.

CEQA Significance Criteria

Criteria for determining the significance of noise impacts were developed based on the environmental checklist form in State CEQA Guidelines Appendix G, and applicable federal, state, and local regulations. A noise impact from the alternatives would be considered significant if:

- construction would occur within 500 feet of a residence outside the hours of 7:00 a.m. and 10:00 p.m.;
- construction would occur between the hours of 10:00 p.m. and 7:00 a.m. and would exceed the limits indicated in Table 3-8; or
- noise from operational activities would exceed the limits indicated in Table 3-9.

Impacts and Mitigation Measures

- a. Would the proposed project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?*

Impact N-1: Exposure of Noise-Sensitive Land Uses to Noise from Construction Activities

Construction of levee repairs would temporarily increase noise in the vicinity of the project area. Noise increases would result both from on-site construction activities and from construction-related vehicle traffic delivering materials to and from the construction site. This increase in noise would occur only during the duration of construction and would not occur as a result of operation of the proposed project. In addition, Yuba County's noise ordinance exempts construction activity between the hours of 7:00 a.m. and 10:00 p.m. Therefore, this impact is less than significant, and no mitigation is required.

- b. Would the proposed project expose persons to or generate excessive groundborne vibration or groundborne noise levels?*

The proposed project is not expected to generate groundborne vibration. There would be no impact.

- c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Impact N-2: Generation of Permanent Noise Levels Above Existing Levels

The pump associated with relief well operation would generate noise. However, it would be operated only during periods of high flow and would be located north of Shad Pad Road adjacent to the existing levee, approximately 300 feet from any sensitive receptors. In addition, it would not generate a significant amount of noise. Therefore, this impact would be less than significant. No mitigation is required.

- d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Impact N-3: Exposure of Noise-Sensitive Land Uses to a Substantial or Periodic Increase in Noise

As described above, the only noise that would be generated upon completion of the proposed project would be a result of operation of the pump station. This noise is not expected to result in a substantial change in ambient noise levels, nor would it affect sensitive receptors. Therefore, this impact is less than significant. No mitigation is required.

- e. Would the project be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?*

The project would be located more than 3 miles from the nearest airport and is not within an airport land use plan. There would be no impact.

- f. Would the project be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?*

The project is not located in the vicinity of a private airstrip and would not expose residents to excessive noise from aircraft. There would be no impact.

Population and Housing

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XII. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Physical Setting

According to the 2000 U.S. Census, there are approximately 23,000 housing units within Yuba County. Based on increased development, particularly in the southern area of the county, it is estimated that there are several hundred additional housing units available at present. These include developments in the Plumas Lakes area, Linda, Olivehurst, and North Arboga.

The immediate project area is rural, although there are some developed areas on the landside of the subject levee. These include a motel, housing units, the Caltrans storage yard, mobile homes, and a Wal-Mart. Specifically, a mobile home park is located adjacent to reach B, and an additional nine residences are located just south of Shad Pad Road, on the landside of Reach C.

Impacts and Mitigation

- a. Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

The implementation of the proposed project would not induce population growth. However, levee repairs to accommodate a 100-year flood would be beneficial to the population and housing in Yuba County as a result of the decreased risk of future flooding within the affected areas, and the associated threat to lives and infrastructure.

- b. Would the project displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere, or*
- c. Would the project displace a substantial number of people, necessitating the construction of replacement housing elsewhere?*

Impact POP-1: Changes in Housing Supply as a Result of Removal or Relocation of the Mobile Home Park

Option 2 for Reach B would require the removal or relocation of a mobile home park and would result in minimal changes in housing options in this area. Approximately 10 units would need to be relocated or removed to accommodate the construction of relief wells. However, because the number of houses expected to be removed or relocated would be small, and because housing availability is increasing as a result of several new developments in southern Yuba County, there would not be an overall shortage of housing as a result of implementation of Options 2 and 3 for Reach B. Therefore, this impact is less than significant and no mitigation is required.

Public Services

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is a levee repair project; it will not result in any new or physically altered government facilities, nor will it result in an increased demand for public services. No impact on public services would occur.

Recreation

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIV. RECREATION. Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This chapter addresses impacts on recreation associated with construction of the proposed levee repairs. Where applicable, mitigation measures to reduce impacts are also discussed. Construction activities are the primary source of impacts on recreation associated with the project. Where significant impacts have been identified, mitigation measures to reduce these impacts have been identified.

Physical Setting

A recreation area, approximately 2 acres, is located northeast of the project area, on the waterside of Reach B. This informal recreation area is used for a number of activities, including fishing, boating, and off road vehicle use. The area is accessed via the levee crown and a paved road connecting the levee to the beach-like recreational area.

Yuba County

The Yuba County system of parks and recreational facilities is limited, and the county does not have a parks and recreation department (EDAW et al. 2003). However, the Yuba County General Plan has a goal to “set aside sufficient areas to meet future park and recreation needs.” The General Plan also states,

Privately owned park and recreation facilities shall be encouraged, including private campgrounds, hunting and fishing areas, sports centers, and private

picnicking areas, in order to reduce demands on public agencies. (Yuba County 1996).

CEQA Significance Criteria

Criteria for determining the significance of impacts on recreation were developed based on the environmental checklist form in State CEQA Guidelines Appendix G. In addition, an impact on recreation as a result of the proposed project would be considered significant if the project would:

- locate project facilities in a manner that would result in a substantial long-term disruption of any institutionally recognized recreational facilities or activities; or
- result in substantial inconsistency with local recreation plans and policies.

Impacts and Mitigation Measures

- a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

The implementation of the proposed project would not result in the increased use of other recreational facilities, or the construction of new facilities that would cause an adverse effect on the environment.

Impact REC-1: Temporary Disruption to Existing Recreational Facilities

Vehicles may access the beach area on the waterside of Reach B only by using the levee crown and a road connecting it to the beach area. During construction of the slurry wall in this portion of the levee, access along the levee crown will be prohibited. Construction of approximately 100 feet of slurry wall is expected to take approximately 1 day. Therefore, it is anticipated that access to the recreational area would be temporarily closed for no longer than 2 days (enough time to construct the wall in the location of access). Because this closure would be temporary and access would resume upon completion of the slurry wall in that portion of the levee, and because notice of the closure would be given before the start of construction as described in the Environmental Commitments section of Chapter 2, this impact is considered less than significant. No mitigation is required.

Transportation and Traffic

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC. Would the project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section presents the environmental and regulatory background necessary to analyze the traffic impacts associated with the proposed project.

Operation of the proposed project is not expected to generate a substantial number of vehicle trips and, therefore, is not expected to result in an impact on transportation and circulation. Consequently, operational impacts resulting from the proposed project are not addressed in this document. However, construction of the proposed project would generate vehicle trips and affect the operation of roadways in the immediate area surrounding the project site, which include SR 70 and Shad Pad Road. For Phase I construction activities, an excavator, two

to three dump trucks, and two loaders would be brought onto the site from SR 70. Phase II construction activities would include approximately 10,700 haul trips, as well as five compactors and five bulldozers brought on site from SR 70.

Implementation of the proposed project would affect the operation of roadways at and within the immediate area of the proposed project site. The primary effect of the proposed project would be to result in a temporary increase in the number of vehicles on the surrounding roadways.

Physical Setting

Project Area Transportation Network

The project site is located within the County of Yuba on the northern edge of the city of Linda. SR 70 runs through the project site. SR 70, North Beale Road, and Shad Pad Road provide regional access to the project area. It is assumed that trucks and other construction equipment would access the project areas from the main roadway onto smaller roadways within the area.

Criteria for Determination of Significance

The following significance criteria, in addition to *a-c* in the checklist above, were used in the determination of significance (ITE 1989). The proposed project would result in a significant impact if:

- based on guidance from the Institute of Traffic Engineers (ITE), the proposed project were to result in 100 *added* vehicle trips to peak hour traffic volumes; or
- the proposed project were to result in an overall level of service (LOS) D or worse on the City's local and major street systems.

During construction, the movement of crews, equipment, and material would result in temporary increases in traffic on the surrounding roadways. Locally, vehicles associated with construction activities are anticipated to travel on SR 70, North Beale Road, and Shad Pad Road. Construction-related traffic impacts are expected to be temporary, and the additional traffic would be minor (less than 100 trips) compared to existing daily and peak-hour traffic volumes on local roadways.

Regulatory Setting

The quality of service provided by a roadway is quantified in terms of LOS. This method uses a letter rating to describe the peak period driving conditions for a particular facility. The letters A–F represent progressively worse driving

conditions—generally, LOS A indicates a free-flowing operation with little or no delay, and LOS F denotes jammed flow with substantial delay. Table 3-10 summarizes typical LOS conditions.

Table 3-10. Level of Service Criteria for Freeways

Level of Service	Description	Volume/Capacity Ratio and Speed
A	Free-flow conditions with a high level of maneuverability.	0.00 to 0.28 65 mph
B	Free-flow conditions but presence of other vehicles is noticeable. Minor disruptions easily absorbed.	0.28 to 0.44 65 mph
C	Minor disruptions cause significant local deterioration	0.44 to 0.66 64 mph
D	Borders on unstable flow with ability to maneuver severely restricted because of congestion	0.66 to 0.84 61 mph
E	Conditions at or near capacity. Disruptions cannot be dissipated and cause queues to form	0.84 to 1.00 53 mph
F	Forced or breakdown flow with queues forming at locations where demand exceeds capacity.	Greater than 1.00 Variable

¹ Based on design speed of 65 miles per hour.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209 (Washington, DC, 1998), p. 3-11

Cities and counties use various criteria to determine acceptable LOS on their roadway systems. The Circulation Element of the Yuba County General Plan contains the following goal:

2CG: Maintain roadways level of service that recognize differences between urban and rural environments and minimize congestion.

The associated policy (21CP) states:

“On County roads in urban areas and within specific/community plan areas, Level of Service C shall be maintained during PM Peak Hour at signalized intersections.”

Impacts and Mitigation Measures

- a. Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a*

substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections), or

- b. Would the project cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?*

Impact TR-1: Increased Traffic and Exceedance of Level-of Service Standard during Construction

During construction, the movement of crews, equipment, and material would result in temporary increases in traffic on the surrounding roadways. Locally, vehicles associated with construction activities are anticipated to travel on SR 70, North Beale Road, and Shad Pad Road. For Phase I construction activities, an excavator, two to three dump trucks, and two loaders would be brought to the site from SR 70. Phase II construction activities would include approximately 10,700 haul trips, as well as five compactors and five bulldozers brought to the site from SR 70. Construction-related traffic impacts are expected to be temporary, and the additional traffic would be minor (less than 100 trips) compared to existing daily and peak-hour traffic volumes on local roadways. Because the amount of traffic anticipated to be generated by the proposed project is relatively minor, it is not anticipated to result in an overall LOS D or worse on the City's local and major street systems. However, constructing the project could result in an adverse effect on local traffic patterns. Therefore, this impact is considered significant. Implementation of Mitigation Measure TR-MM-1 and Mitigation Measure TR-MM-2 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-1: Coordinate Truck Routes

The project contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.

Mitigation Measure TR-MM-2: Develop and Implement a Traffic Control Plan

The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.

A traffic control plan describes the methods of traffic control to be used during construction. All on-street construction traffic would be required to comply with the local jurisdiction's standard construction specifications. The plan will reduce the effects of construction on the roadway system in the project area throughout the construction period. Construction contractors will follow the standard

construction specifications of affected jurisdictions and obtain the appropriate encroachment permits, if required. The conditions of the encroachment permit will be incorporated into the construction contract and will be enforced by the agency that issues the encroachment permit.

At least one lane of traffic will be maintained at all times along major streets. Proposed lane closures during the a.m. and p.m. commuting hours will be coordinated with the appropriate jurisdiction and minimized during the morning and evening peak traffic periods. Standard construction specifications also typically limit lane closures during commuting hours. Lane closures will be kept as short as possible. Safe pedestrian and bicyclist access, if any, will be maintained in or around the construction areas at all times. Construction areas will be secured as required by the applicable jurisdiction to prevent pedestrians and bicyclists from entering the work site, and all stationary equipment will be located as far away as possible from areas where bicyclists and pedestrians are present.

Impact TR-2: Degradation or Damage to Local Roads

During construction of the proposed projects, Shad Pad Road, and other local roads, not designed to accommodate the movement of large trucks, may be degraded or otherwise damaged. The movement of haul trucks, construction equipment, and crew vehicles could damage the roadways such as potholes or minor fractures. This impact is considered significant. Mitigation Measure TR-MM-3 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-3: Repair Damaged Roads Upon Completion of Each Phase

The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.

- c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

The proposed project would not affect air traffic patterns. There would be no impact.

- d. Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Impact TR-3: Increased Road Hazards during Construction

The proposed project does not have any design features that would result in hazardous traffic conditions. However, the ingress and egress onto and off of SR 70 at the project site would result in increased traffic hazards. These trucks would need to cross North Beale Road and would increase the traffic volume at this intersection and the potential for hazards in this area. This impact is considered significant. Implementation of Mitigation Measure TR-2, as described under Impact TR-1, would reduce this impact to a less than significant level.

e. Would the project result in inadequate emergency access?

Impact TR-4: Temporary Construction-Related Blockage of Emergency Access

Construction of the proposed project could result in inadequate emergency access by temporarily blocking emergency access through traffic delays attributable to slow-moving construction and haul vehicles entering and departing the site; loading and unloading of trucks and equipment; potential closure of pedestrian and/or bicycle rights-of-way; and other activities have the potential to result in inadequate emergency access. In addition, construction activities and the operation and storage of construction equipment and materials could result in inadequate emergency access. As a result, construction-related emergency access blockage may be significant. Implementation of Mitigation Measure TR-3 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-4: Notify and Consult with Emergency Service Providers.

The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.

f. Would the project result in inadequate parking capacity?

Impact TR-5: Temporary Inadequate Parking Capacity

Construction of the seepage cutoff walls and relief and monitoring wells is not labor intensive. Estimates of the number of pieces of equipment that would be required suggest that up to 20 workers would be needed to construct each reach. Existing street parking capacity in addition to parking at construction staging areas would accommodate commuters to the construction sites. Because

adequate parking is available at and in the vicinity of the levee, the effect on local parking capacity is considered less than significant. No mitigation is required.

g. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Construction of the proposed project would be temporary and would not conflict with any adopted policies, plans, or programs supporting alternative transportation. There would be no impact.

Utilities and Service Systems

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.				
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Physical Setting

There are very few utilities in or adjacent to the project area because it is rural in nature. However, there are approximately 10 utility poles supporting a power line that runs adjacent to the landside toe of the levee. Most of the poles are within 50 feet of the toe of the levee.

Impacts and Mitigation

- a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or*
- b. Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, or*
- c. Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, or*
- d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed, or*
- e. Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments, or*
- f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, or*
- g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

The proposed project would not create any new demand for utilities or public service systems. It would not exceed wastewater requirements, nor would it necessitate expansion of any wastewater treatment facilities or water supply entitlements. The project would comply with federal, state, and local regulations related to solid waste.

Impact UT-1: Relocation of Power Lines

The construction of a seepage berm or relief wells along all reaches of the project area would require the relocation of the existing power lines along the landside levee toe. The Authority has contacted the appropriate utilities to coordinate this

relocation. It is anticipated that the utilities have established procedures for power line relocation. The Authority will cooperate with the utilities and follow standard procedures to ensure minimal disruption to the power lines and services. Therefore, this impact would be less than significant. No mitigation is required.

Chapter 4

List of Preparers

Chapter 4

List of Preparers

This chapter lists the people who contributed to the preparation of this EIR. This list is consistent with the requirements set forth in CEQA (Public Resources Code § 15129).

Jones & Stokes

Name	Title
Gregg Roy	Project Director
Chris Elliott	Project Manager
Jennifer Ames	Project Coordinator
Laurel Armer	Biologist
Harry Oakes	Wildlife Biologist
Shannon Hatcher	Noise Analyst
Tim Rimpo	Air Quality Analyst
Shahira Ashkar	Cultural Resources Specialist
Scott Frazier	Soil Scientist
Corrine Ortega	Publications Specialist
John Durnan	Graphic Artist
Dianne Rose	Graphic Artist

Chapter 5

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Appendix A
CEQA Checklist

Appendix A

CEQA Checklist

1. **Project Title:** Yuba River Levee Repair Project
2. **Lead Agency Name and Address:** Three Rivers Levee Improvement Authority
3. **Contact Person and Phone Number:** Richard Webb (530) 742-0520
4. **Project Location:** Yuba River south levee
5. **Project Sponsor's Name and Address:** Same as Lead Agency
6. **General Plan Designation:** Valley Agriculture
7. **Zoning:**
8. **Description of Project:**
Please refer to Chapter 2, Project Description.
9. **Surrounding Land Uses and Setting:**
Please refer to Chapter 2, Project Description, and the resource sections in Chapter 3.
10. **Other Public Agencies whose Approval Is Required:**
State Lands Commission
State Reclamation Board
Central Valley Regional Water Quality Control Board
U.S. Fish and Wildlife Service

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

Determination:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have an impact on the environment that is “potentially significant” or “potentially significant unless mitigated” but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Date

Printed Name

For

Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - (a) Earlier Analysis Used. Identify and state where earlier analyses are available for review.
 - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - (a) the significance criteria or threshold, if any, used to evaluate each question; and
 - (b) the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
II.	AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
III.	AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
V.	CULTURAL RESOURCES. Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> /beneficial
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS.					
	Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
	Would the project:				
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■/beneficial	<input type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	■/beneficial	<input type="checkbox"/>
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
j.	Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IX.	LAND USE AND PLANNING. Would the project:				
a.	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
X.	MINERAL RESOURCES. Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XI. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XII. POPULATION AND HOUSING.	Would the project:				
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> /beneficial
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIV. RECREATION. Would the project:					
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC.	Would the project:				
a.	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.					
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a 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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

With the environmental commitments and mitigation measures described in Chapters 2 and 3, all environmental effects would be reduced to a less-than-significant level. Please refer to Chapter 3 for a complete discussion of the environmental effects.

**Appendix B. Mitigation Monitoring Master
Checklist Table - Yuba River
Levee Repair Project**

Appendix B. Mitigation Monitoring Master Checklist Table - Yuba River Levee Repair Project

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
AESTHETICS				
none				
AGRICULTURAL RESOURCES				
none				
AIR QUALITY				
Implement Feasible Control Measures for Construction Emissions of Fugitive Dust.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
BIOLOGICAL RESOURCES				
Perform Preconstruction and Postconstruction Surveys for Elderberry Shrubs.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment."	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
Train construction personnel to recognize elderberry plants and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS-approved environmental awareness training before beginning work at construction sites.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
Compensate for the loss and potential take by transplanting the elderberry plants that cannot be avoided to a USFWS-approved conservation area. Transplanting must comply with USFWS-approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999).	CEQA-triggered mitigation measure	During construction	Contractor/Authority	Phase II

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
<p>Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999). Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.</p>	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase II
<p>Preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations.</p>	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
<p>To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season.</p>	CEQA-triggered mitigation measure	During construction, only if construction would affect protected tree resources	Contractor/Authority	Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Removal of all woody and herbaceous vegetation from the proposed construction areas would occur during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds.	CEQA-triggered mitigation measure	Prior to construction	Contractor	Phase II
In the event nesting or roosting raptors are identified, the Authority will coordinate with the California Department of Fish and Game (DFG) to identify measures to ensure raptors are not adversely affected.	environmental commitment	Prior to and during construction	Contractor/Authority	Both
CULTURAL RESOURCES				
Stop work and assess significance in the event cultural resources are unearthed during construction	environmental commitment	During construction	Contractor/Authority	Both
GEOLOGY AND SOILS				
Prepare and implement a Storm Water Pollution Prevention Plan.	environmental commitment	Prior to and during construction	Contractor/Authority	Both
HAZARDOUS MATERIALS				
Contractors will maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
Contractors will equip any construction equipment that normally includes a spark arrester with an arrester in good working order.	CEQA-triggered mitigation measure	Prior to and during construction		Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
HYDROLOGY AND WATER QUALITY				
None				
LAND USE AND PLANNING				
None				
MINERAL RESOURCES				
None				
NOISE				
The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction contractor will employ noise-reducing construction practices.	environmental commitment	During construction	Contractor/Authority	Both
POPULATION AND HOUSING				
None				
PUBLIC SERVICES				
None				

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
RECREATION				
The Authority shall ensure that the contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure.	environmental commitment	Prior to construction	Contractor/Authority	Both
TRANSPORTATION/TRAFFIC				
The project contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Both
The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
UTILITIES AND SERVICE SYSTEMS				
None				

Initial Study
Yuba River Levee Repair Project

Prepared for:

Three Rivers Levee Improvement Authority
1594 Broadway
Marysville, CA 95901
Contact: Richard Webb

Prepared by:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914
Contact: Chris Elliott
916/737-3000

August 2004

Jones & Stokes. 2004. Initial Study, Yuba River Levee Repair Project. August.
(J&S 04-361.) Sacramento, CA.

Mitigation Monitoring Plan

The Three Rivers Levee Improvement Authority (the Authority), as the lead agency under the California Environmental Quality Act (CEQA), has developed this mitigation monitoring plan (MMP) for the Yuba River Levee Repair Project Initial Study. This MMP is designed to ensure that the mitigation measures identified in the environmental impact report for the project are implemented. The MMP addresses the mitigation measures that the Authority is responsible for implementing.

The following table represents the MMP. For each mitigation measure, Table 1 identifies:

- the description of the measure,
- the type of action,
- the implementation schedule,
- the implementing party, and
- the phase applicabilty.

Table 1. Mitigation and Monitoring Plan - Yuba River Levee Repair Project

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
AESTHETICS				
None				
AGRICULTURAL RESOURCES				
None				
AIR QUALITY				
Implement feasible control measures for construction emissions of fugitive dust.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
BIOLOGICAL RESOURCES				
Valley Elderberry Longhorn Beetle				
Perform preconstruction and postconstruction surveys for elderberry shrubs.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment."	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
Train construction personnel to recognize elderberry shrubss and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS-approved environmental awareness training before beginning work at construction sites.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
Compensate for the loss and potential take by transplanting the elderberry shrubss that cannot be avoided to a USFWS-approved conservation area. Transplanting must comply with USFWS-approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle.	CEQA-triggered mitigation measure	During construction	Contractor/Authority	Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
<p>Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle. Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.</p>	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase II
Swainson's Hawk				
<p>Preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations.</p>	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
<p>To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season.</p>	CEQA-triggered mitigation measure	During construction, only if construction would affect protected tree resources	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Removal of all woody and herbaceous vegetation from the proposed construction areas would occur during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds.	CEQA-triggered mitigation measure	Prior to construction	Contractor	Phase II
In the event nesting or roosting raptors are identified, the Authority will coordinate with the DFG to identify measures to ensure raptors are not adversely affected.	Environmental commitment	Prior to and during construction	Contractor/Authority	Phase I and Phase II
CULTURAL RESOURCES				
Stop work and assess significance in the event cultural resources are unearthed during construction	Environmental commitment	During construction	Contractor/Authority	Phase I and Phase II
GEOLOGY AND SOILS				
Prepare and implement a Storm Water Pollution Prevention Plan.	Environmental commitment	Prior to and during construction	Contractor/Authority	Phase I and Phase II
HAZARDOUS MATERIALS				
Contractor will maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
Contractor will equip any construction equipment that normally includes a spark arrester with an arrester in good working order.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
HYDROLOGY AND WATER QUALITY				
None				
LAND USE AND PLANNING				
None				
MINERAL RESOURCES				
None				
NOISE				
The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction Contractor will employ noise-reducing construction practices.	Environmental commitment	During construction	Contractor/Authority	Phase I and Phase II
POPULATION AND HOUSING				
None				
PUBLIC SERVICES				
None				

Table 1. Mitigation and Monitoring Plan (Continued)

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
RECREATION				
The Authority shall ensure that the Contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure.	Environmental commitment	Prior to construction	Contractor/Authority	Phase I and Phase II
TRANSPORTATION/TRAFFIC				
The Contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase I and Phase II
The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase I and Phase II
The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Phase I and Phase II
UTILITIES AND SERVICE SYSTEMS				
None				

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Acronyms and Abbreviations

Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ARB	Air Resources Board
Authority	Three Rivers Levee Improvements Authority
BMPs	best management practices
CAA	Clean Air Act
CAAQS and NAAQS	State of California and the federal government ambient air quality standards
CCAA	California Clean Air Act of
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
DFG	California Department of Fish and Game
DWR	California Department of Water Resources
EIR	environmental impact report
EPA's	Environmental Protection Agency's
ESA	federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FRAQMD	Feather River Air Quality Management District
HCP	habitat conservation plan
IS	initial study
ITE	Institute of Traffic Engineers
LOS	level of service
MBTA	Migratory Bird Treaty Act
msl	mean sea level
NAHC	Native American Heritage Commission
NO	nitrogen dioxide
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O	ozone
ONC	Office of Noise Control
PIR	Problem Identification Report
PM	particulate matter microns in diameter or less
ppm	parts per million

PRC	Public Resources Code
RD	Reclamation District
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Officer
SO	sulfur dioxide
SR	State Route
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
YCWA	Yuba County Water Agency
µg/m	cubic meter

Chapter 1

Introduction

Document and Project Purpose

The Three River Levee Improvement Authority (Authority) is a joint powers authority with the mission of advancing the flood safety of Yuba County, California. The county is subject to seasonal flood threat from many rivers and creeks, including the Yuba River, Feather River, Bear River, and tributary drainages. Because of this flood risk, many local rivers have been confined by constructed levees.

The Authority is proposing to enhance flood protection of properties within the Reclamation District (RD) Number 784 service area by repairing the levee on segments of the south levee of the Yuba River, just upstream of its confluence with the Feather River (Figure 1-1).

This initial study (IS) discloses the environmental impacts of constructing proposed flood control impacts and identifies measures to reduce significant impacts. The IS is being prepared in compliance with the California Environmental Quality Act (CEQA), which applies to a discretionary activity proposed by a California public agency.

Project Location

The proposed project is located in the southern portion of Yuba County along the Yuba River south levee, upstream of its confluence with the Feather River, just south of Marysville. The project repairs would be located entirely within the boundaries of RD 784. Materials for the project would be transported from off-site sources.

Project Background

Yuba County has a flood-ravaged history since European settlement, evidenced especially over the last 20 years by two catastrophic floods and subsequent flood management efforts, summarized below.

In 1986, Yuba County suffered a flood that inundated 10,700 acres, killed one person, and damaged or destroyed more than 4,000 homes and businesses when the Yuba River levee upstream of State Route 70 (SR 70) failed.

Two major flood protection efforts resulted from the 1986 floods in the Central Valley. First, the U.S. Army Corps of Engineers (Corps) and California Department of Water Resources (DWR) initiated the Systems Evaluation Project. Second, in 1988, the Yuba County Water Agency (YCWA) initiated the Yuba Basin Project, which led to a Corps project designed to achieve a 200-year level of protection for area levees, which are maintained and operated by RD 784. These levee projects were expected to provide a 200-year level of protection once they were completed in approximately 2000.

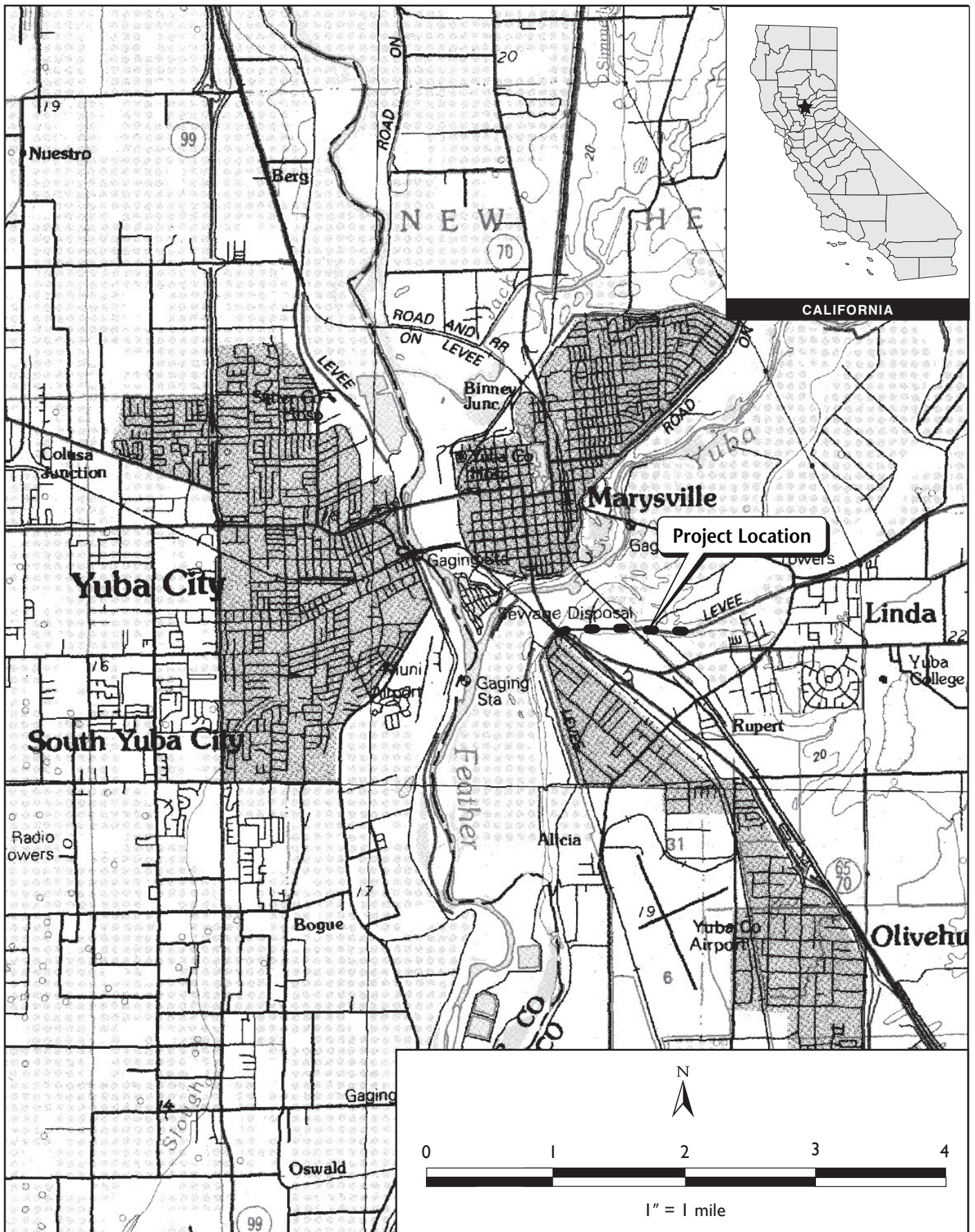
In 1997, Yuba County suffered another devastating flood that inundated 16,000 acres, killed three people, and damaged or destroyed more than 850 homes and businesses. More than 100,000 people were evacuated from the region, the largest evacuation in California history.

The 1997 flood resulted in YCWA initiating a Supplemental Flood Control Study. The goal of this effort was to substantially improve the flood protection provided by the Systems Evaluation Project and the Yuba Basin Project.

The Yuba Basin Project was approved by Congress in 1998, and a construction start was authorized in 2002. However, in 2003, new levee criteria from the Corps caused reevaluation of the project design, which substantially increased the cost, necessitating project reauthorization by Congress. Actions are currently underway to obtain project authorization and appropriation to initiate construction.

As part of a separate study, in May 2003, DWR informed RD 784, Yuba County, and YCWA that their draft Federal Emergency Management Agency (FEMA) Flood Mapping Study identified deficient levee sections in the flood protection system for the county. The draft report, which was being prepared by the Corps, contained preliminary findings that sections of the Western Pacific Interceptor Canal levee and Bear River north levee did not meet standards for the 100-year FEMA flood event, including levee height standards. Once the DWR study was completed, it would be provided to FEMA, which would then map the area protected by these levees as a flood hazard zone (i.e., within the 100-year floodplain), unless corrective measures were implemented.

In light of these various flood studies, RD 784, YCWA, and Yuba County have initiated a fast-paced program to evaluate potential options for achieving certifiable 100-year or better flood protection for the county. To accelerate achievement of this goal in advance of DWR and Corps efforts, RD 784 and Yuba County have strengthened their partnership in the formation of the Authority to facilitate cooperation and sharing of resources.



Problem Definition

A geotechnical report concluded that there are significant problems relating to seepage with the levee foundations along the project reach (Kleinfelder 2004). As a result, the Authority has decided to act quickly to implement portions of the repairs this year.

Levee Stability

Levee stability in this area is compromised by seepage. Seepage is a phenomenon wherein water moves outward and downward away from the river channel, either through the levee cross section (i.e., through-seepage) or below the levee and surrounding land surface (i.e., under-seepage) (Figure 1-2). The key problem associated with seepage is levee breach or collapse, which occurs when the earth material within or underlying the levee becomes undermined by the pressure of the seeping water. A subform of seepage is the phenomenon of soil piping, which occurs when a void in the earth material becomes exploited by moving water, causing the void to rapidly increase and threaten the levee integrity. Several factors contribute to seepage, including high water pressure within the water course (such as during periods of high river stage, which are common based on local hydrology) and pervious earth material within or underlying the levee (which is an inherent relict condition from upstream hydraulic mining in the nineteenth century).

Project Objectives and Repairs

The detailed engineering study by the HDR team for the Authority is nearing completion. This study will determine the magnitude of the repair effort necessary to achieve FEMA certification and a higher level of flood protection provided by the Yuba River south levee. The Authority is evaluating the study results for a plan that will meet the following objectives:

- the proposed project provides the greatest level of flood protection possible;
- the cost will not exceed available funding;
- the proposed project will not create an increased flood risk problem for surrounding levee districts;
- the proposed project will be constructed as soon as possible to reduce flood risk; and
- the proposed project is politically, socially, and environmentally acceptable.

Regulatory Compliance

California Environmental Quality Act Compliance

CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. CEQA requires that the lead agency (Authority) prepare an IS to determine whether an environmental impact report (EIR) is needed, or a negative declaration or mitigated negative declaration may be adopted. An EIR would be required if any “potentially significant impacts” were identified that could not be mitigated to a less-than-significant level. A negative declaration may be adopted if impacts are considered “less than significant,” and a mitigated negative declaration may be adopted if the project would result in less-than-significant impacts with mitigation measures incorporated into the project.

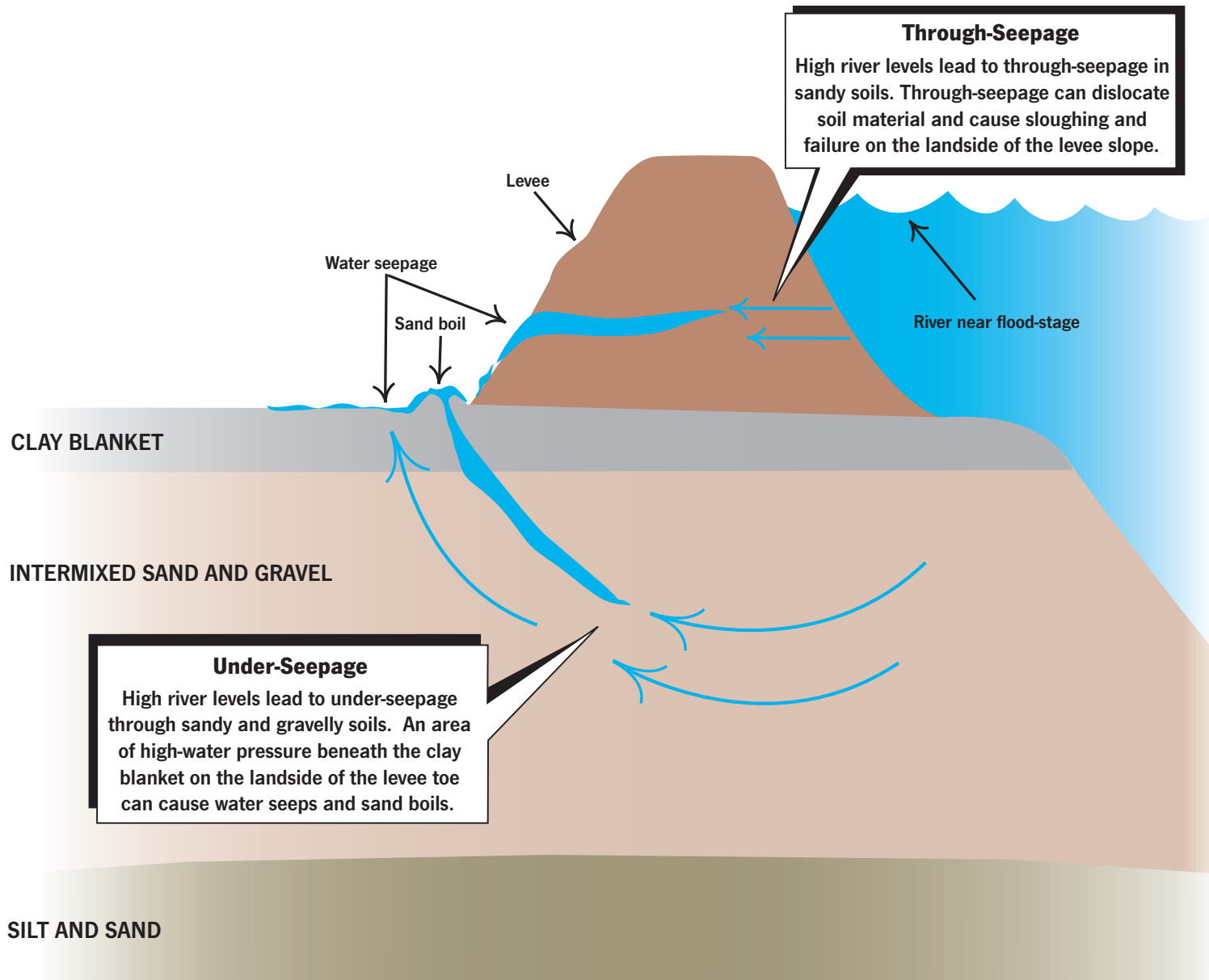
As an IS, this document evaluates the impacts of the proposed project and incorporates mitigation measures to eliminate or reduce impacts to a less-than-significant level. Based on the results of the IS, the Authority will either adopt a mitigated negative declaration for the proposed project or prepare an EIR. The State CEQA Checklist (Appendix G of the CEQA Guidelines) is the template for Chapter 3 of this document, and the impact analysis is provided under the respective questions in the checklist.

Other Permits and Approvals

In addition to CEQA compliance, the project is also being reviewed for the need to obtain permits and approvals under other federal, state, and local laws that may be applicable to the project. While these other permits and approvals are independent of the CEQA document, they are being coordinated as closely as possible. This process includes review of the permits and approvals shown in Table 1-1.

Table 1-1. Regulatory Compliance Permits and Approvals

Authority/Agency	Permit/Approval	Trigger
California Reclamation Board	Encroachment Permit	Modifications to a federal or state project levee
Central Valley Regional Water Quality Control Board	National Pollutant Discharge Elimination System	Earth disturbance greater than 1 acre
	Section 401 Certification or Waiver	



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Document Organization

This document is organized as follows:

- Chapter 1, “Introduction,” describes the project background, purpose, and regulatory compliance.
- Chapter 2, “Project Description,” describes the project area, construction methods that will be employed, and the project features (i.e., environmental commitments) that have been incorporated into the project to avoid or reduce potential project effects.
- Chapter 3, “Environmental Setting and Impacts,” includes the Initial Study Checklist. Components of the study include a setting discussion, impact analysis criteria, project effects and significance, and applicable mitigation measures.
- Chapter 4, “References,” provides information on all printed references and personal communications used to prepare the IS.
- Chapter 5, “List of Preparers,” presents an inventory of all those who assisted in the preparation of this document.

Chapter 2

Project Description

Chapter 2

Project Description

Introduction

This chapter describes the construction and design of components of the proposed project. The project proposes the construction of levee repairs along the Yuba River south levee, from the former Western Pacific Railroad (located just downstream of SR 70) to approximately 2,000 feet upstream of the former Southern Pacific Railroad, for a total of approximately 5,000 feet, to reduce the risk of flooding within the Authority's planning area (Figure 2-1).

Proposed Project

To address under- and through-seepage concerns on this stretch of the levee, a combination of treatments is being proposed (Figure 2-1). These treatments include the construction of a slurry cutoff wall, construction of relief wells, and the construction of a landside seepage berm. As shown in Figure 2-1, the total treatment area has been divided into five reaches for purposes of this analysis: Reaches A, B, C, D, and E. Construction would occur in two phases. Phase I would occur September through October 2004, and Phase II would occur in summer 2005.

Reach A

Reach A is the area along the levee between the former Western Pacific Railroad and the downstream end of the project approximately 50 feet downstream (Photograph 2-1). Treatments for Reach A would be the construction of either relief wells or a seepage berm located in the area immediately downstream of the railroad embankment. These treatments would reduce the under-seepage potential in this reach. Construction and design of these treatments are described below. As shown in Table 2-1, construction would occur during Phase II in 2005.

Option 1: Relief Wells

To mitigate under-seepage beneath the Yuba River levee in Reach A, relief wells could be constructed. Relief wells are passive systems that would be constructed near the landside toe of the levee. The wells are designed to alleviate excess seepage pressures at depth to reduce the potential for high exit gradients and boiling of material near the levee toe during high river stage (Figure 2-2). The wells would be spaced 25 feet apart and may extend to depths of about 120 feet. It is anticipated that the relief well system would generate approximately 70 gallons of water per minute.

During relief well construction, a typical well-drilling rig would be used to drill to the required depth and construct the well (including well casing, gravel pack material, and well seal) beneath the ground surface. The drill rig would likely be an all-terrain, track-mounted rig that could access the well locations from the levee crest. A concrete-lined V-shaped ditch would be constructed to collect well discharge and transfer flows from the well to the storm drain system to the south. Restoration of the disturbed work area would be required.

Construction of each well and the lateral drainage system would take approximately 5–10 days. Additional time (about 2 weeks) may be required for site restoration.

Equipment needed to construct the wells would include the drill rig, an equipment support vehicle, and a water supply truck. A trench excavator or backhoe would be required to install the lateral drain line.

Materials imported to the site would include well casing, sand and gravel, concrete, drainpipe, and other materials needed for construction. Areas along the levee crest may be used to store equipment and supplies during construction of each well.

For the relief wells, permanent facilities would include the wells themselves, associated lateral drains, and the pump station. Inspection of the relief wells would be required at least on an annual basis, and observation of flow from the wells would be required during high river stages. The wells would be test-pumped every 2 years, and the discharge water from those tests would be trucked off site to a central disposal, as appropriate.

Option 2: Seepage Berm

The Authority may choose to construct a seepage berm to alleviate under-seepage in Reach A. The seepage berm would be approximately 80 feet wide (extending away from the levee landside toe) and would extend laterally along the levee approximately 50 feet downstream from the railroad embankment (Figure 2-3). It is anticipated that the berm would be constructed within the railroad right of way and would not extend into adjacent residential and private properties.



Figure 2-1
Project Reach Map

Legend

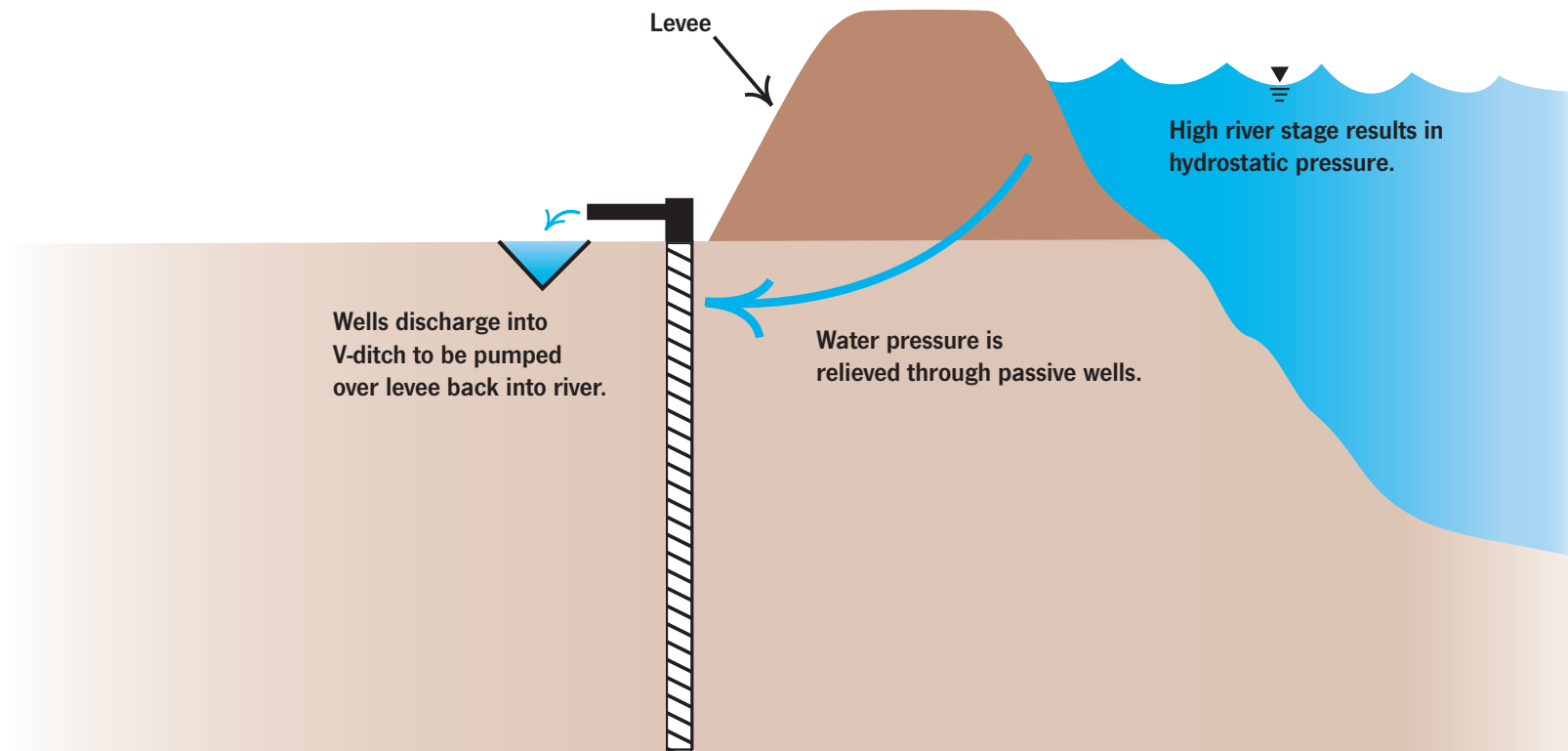
- | | |
|---------|--|
| Reach A | Old WPRR to 50' Downstream |
| Reach B | SR 70 to Shad Pad Road |
| Reach C | Shad Pad Road to Downstream
Limit of 1986 Break |
| Reach D | Downstream Limit of 1986
Break to Old SPRR |
| Reach E | Old SPRR to 2000' Upstream |



0 250' 500'
1" = 500'

RELIEF WELLS

Concept: Relief wells passively control water pressure by discharging water into a collection system. The water is then pumped back into the river.

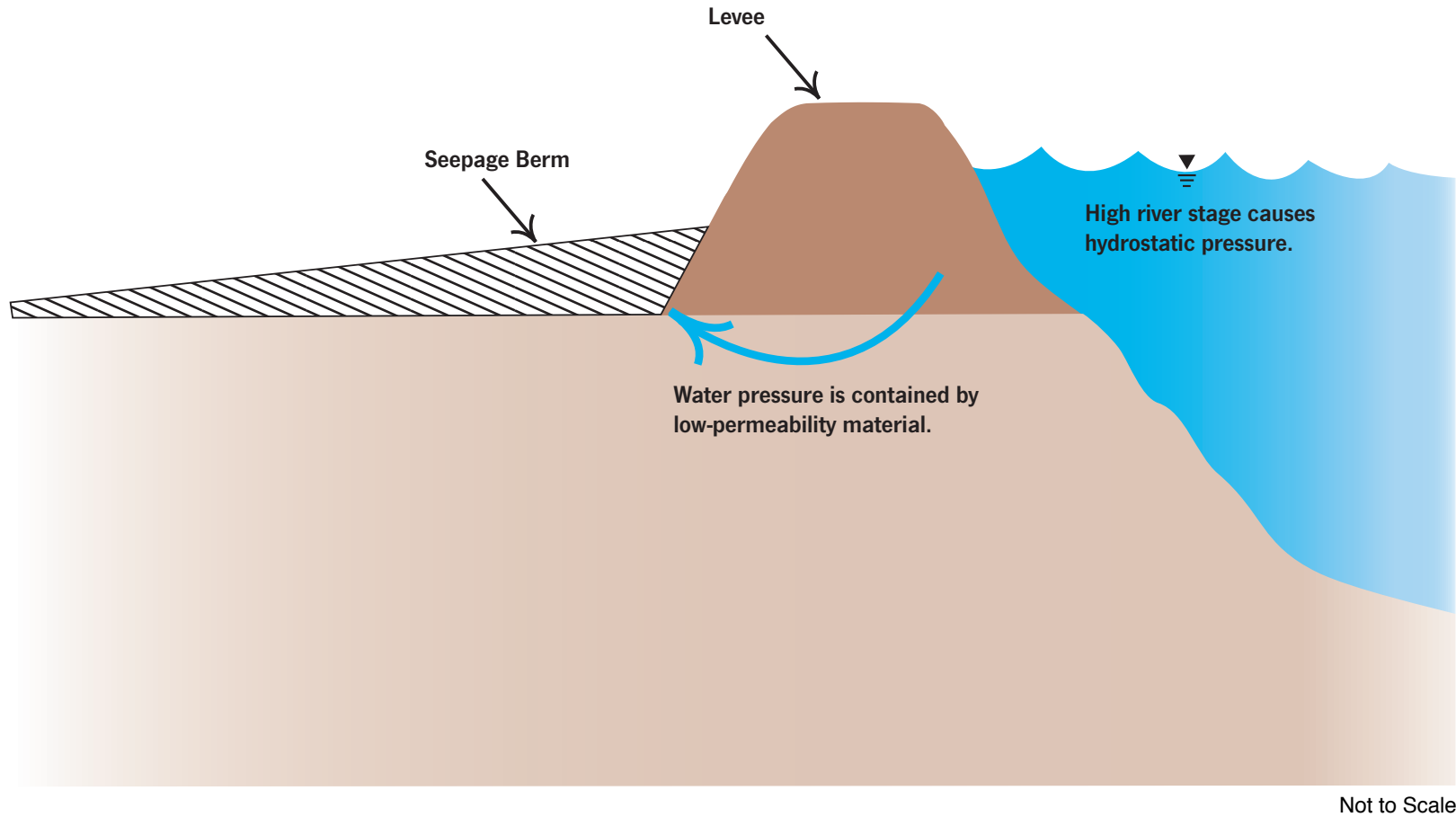


Not to Scale

04361.04 100

SEEPAGE BERM

Concept: Water pressure is contained and dispersed by a thickened soil layer.



04361.04 100

The seepage berm would require approximately 1,000 cubic yards of material, 100 haul truck trips, one compactor, and a bulldozer. Construction of the berm at this site would occur in Phase II and would take approximately 30 days. Construction would consist of stripping the existing ground surface, placing a 1-foot-thick layer of drain rock across the ground surface, and then placing 3 to 5 feet of random fill over the drain rock. The seepage berm would extend approximately 15 feet vertically up the landside slope of the existing levee.

The permanent footprint of the berm would extend for approximately 80 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 80 feet wide and 50 feet long. The berm would be seeded upon completion of construction. Staging areas would be located just south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach B

Reach B includes the area from SR 70 to Shad Pad Road, a total distance of approximately 600 feet (Photograph 2-2). It has been determined that this portion of the levee is composed of sand and has both under- and through-seepage problems. To mitigate these concerns, the Authority is proposing to construct a 50-foot-deep slurry wall using the conventional slot trench method and relief wells. Construction of the slurry wall would occur in Phase I, and construction of the relief wells would occur in Phase II (Table 2-1). Construction and design of these treatments are described below.

Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. This work would occur in two phases, with slurry wall construction occurring in Phase I and relief well construction occurring in Phase II (Table 2-1). This option, as a result of the installation of relief wells, would require the removal or relocation of the existing mobile homes adjacent to the landside toe of the levee before the start of construction. Utilities located near the levee toe also would need to be relocated.

Slurry Wall

The construction of a slurry cutoff wall would use conventional slot trench methods: a trench would be excavated through the levee and subsurface materials and would then be backfilled with low-permeability materials (Figure 2-4). During construction, the trench, which would be approximately 3 feet wide and extend to depths of up to 50 feet, would be kept open using a bentonite-water slurry mix. The soil excavated from the trench would be hauled to a mixing location on the landside of the levee, where it would be mixed with hydrated bentonite and cement to reduce permeability and increase strength. The soil-cement-bentonite mixture then would be hauled to the levee crown and backfilled into the trench. This mixture would create an impermeable barrier in the levee.

During slurry cutoff wall construction, one crew would be able to construct approximately 50 linear feet of slurry wall (for wall depths of approximately 50 feet) in an 8-hour shift. It is anticipated that one crew would be working on Reach B. Equipment needed for the crew would include a long-stick excavator (80-foot reach), three or four dump trucks (10-cubic yard capacity each), and two loaders at the mixing location. Approximately 600 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench for Reach B. The mixing area would be located at a staging area just east of Shad Pad Road and adjacent to the existing levee. The site would be used to prepare the soil-bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 6,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 600 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 600 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.

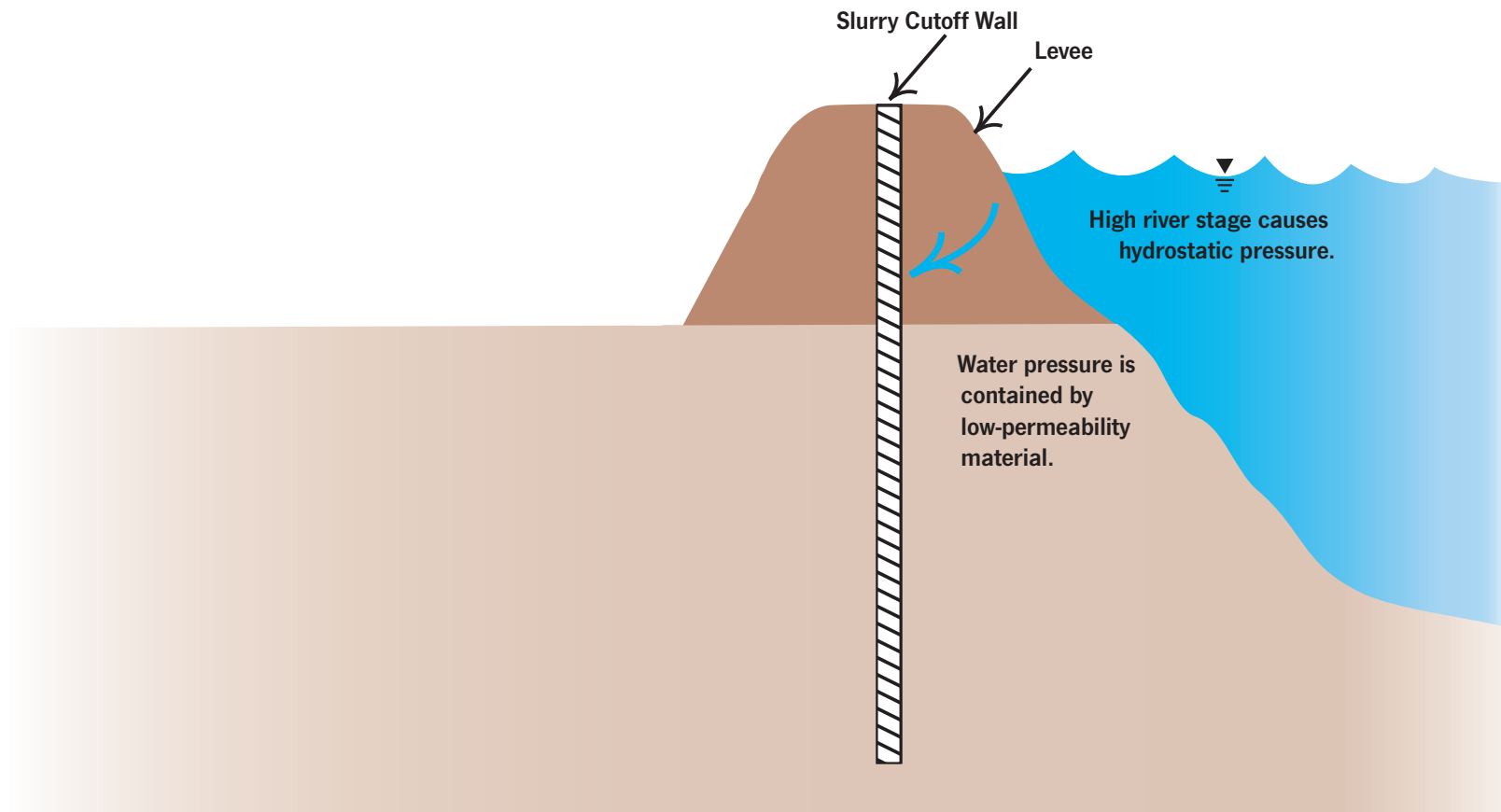
Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 600 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

SLURRY CUTOFF WALL

Concept: Potential seepage paths are blocked and dispersed by a low-permeability wall constructed in the levee cross section.



Not to Scale



Photo 2-1. Reach A, looking southeast from levee. Note elevated SR 70 at left and railroad (old WPRR) berm sloping down to land surface at right.



Photo 2-2. Reach B, looking upstream east with mobile home park on landside of levee. Note treeline at levee toe.

Relief Wells

The construction methods for relief wells in this reach would be the same as that described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road adjacent to the existing levee.

Reach C

Reach C is located in the area between Shad Pad Road and the 1986 levee breach. On the landside of this area and approximately 400 feet upstream and 1,400 feet downstream of it, a cobble trench, approximately 5 feet wide and 20 feet deep, was constructed to alleviate seepage issues (Photographs 2-3 and 2-4). However, based on changes in design practices since 1986, Kleinfelder has determined that this cobble trench has not been effective (Kleinfelder 2004). It has been determined that this portion of the levee is composed of sand and has both under- and through-seepage problems. To alleviate these concerns, the Authority is proposing two options: (1) construct a 50-foot-deep slurry wall using the conventional slot trench method and relief wells; or (2) construct a 50-foot-deep slurry wall using the slot trench method and a seepage berm. Construction of the slurry wall would occur in Phase I, and construction of either the relief wells or the seepage berm would occur in Phase II (Table 2-1). Construction and design of these treatments are described below.

Option 1: Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. This work would occur in two phases, with slurry wall construction occurring in Phase I and relief well construction occurring in Phase II (Table 2-1). The total length of slurry wall would be 1,600 feet, and the total length of relief well area would also be 1,600 feet. The slurry wall would be constructed using the conventional slot trench method, and relief wells would be constructed as described for Reach A. As shown in Table 2-1, construction would occur in two phases.

Slurry Wall

It is anticipated that two crews, one crew per section of levee, would be working on this reach of the levee. This crew would begin work on Reach C upon completion of slurry wall construction in Reach B. Approximately 1,800 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench at Reach C. The mixing area would be located at the staging area just east of Shad Pad Road and adjacent to the existing levee. The site would be used to prepare the soil-

bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 17,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 1,700 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 1,700 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.

Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 1,600 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

Relief Wells

Construction of relief wells would be the same as described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road at a location adjacent to the existing levee.

Option 2: Construct Slurry Wall and Seepage Berm

Option 2 would involve the construction of a slurry wall as described under Option 1 and an 80-foot-wide seepage berm. This work would occur in two phases, with slurry wall construction occurring in Phase I and seepage berm construction occurring in Phase II (Table 2-1). This option would require the relocation of existing utilities located near the landside levee toe within the seepage berm footprint.



Photo 2-3. Reach C, looking downstream (west) at western end of reach toward Reach B. Note rental residences and rock toe trench on landside of levee (at left).



Photo 2-4. Reach C, looking upstream (east) near western end of reach. Note Caltrans yard, vegetation, and rock toe trench on landside of the levee.

Seepage Berm

Construction methods and equipment for the seepage berm in this reach would be the same as described under Reach A. The berm would require approximately 40,000 cubic yards of material, 4,000 haul truck trips, one compactor, and a bulldozer.

The permanent footprint of the berm would extend for approximately 80 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 80 feet wide and 1,600 feet long. The berm would be seeded upon completion of construction. Staging areas would be located east of Shad Pad Road and south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach D

Reach D includes the area of levee failure during the 1986 flood event (Photograph 2-5). On the landside of this area, a cobble trench, approximately 5 feet wide and 20 feet deep, was constructed to alleviate seepage issues. Because of the placement of large boulder-sized rock during that emergency, a slurry wall is not feasible at the site of failure. A seepage berm is being proposed to reduce the under-seepage potential at the location of the 1986 break. The berm would be approximately 300 feet wide and 600 feet long. Portions of the berm and slurry wall in Reach C would overlap to ensure maximum levee stability near the break site. The footprint of the berm would extend along the fence of the Caltrans yard at an angle until it reached a width of 300 feet. It would require relocating utilities located on the landside of the levee and importing 65,000 cubic yards of soil materials. Sixty-five hundred haul truck trips, two compactors, and two bulldozers would be used during construction. Construction of the berm at this site would occur in Phase II and would take approximately 60 days. The construction methods would be the same as those described under Reach A.

The permanent footprint of the berm would extend for approximately 300 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 300 feet wide and 600 feet long. The berm would be seeded upon completion of construction. Staging

areas would be located east of Shad Pad Road and south of the proposed seepage berm. Staging areas and other areas disturbed by construction would be returned to preproject conditions after the berm is constructed.

Reach E

Reach E includes the area from the former Southern Pacific Railroad to approximately 2,000 feet upstream along the levee (Photograph 2-6). This area would be treated with a slurry wall and either relief wells or a seepage berm for the entire length. The construction of the relief wells would be the same as described above, and the conventional slot trench method would be used for construction of the slurry wall. As shown in Table 2-1, construction would occur in Phase II.

Option 1: Construct Slurry Wall and Relief Wells

Option 1 would involve the construction of a conventional slurry wall to alleviate through-seepage concerns and the construction of relief wells to alleviate under-seepage concerns. The total length of slurry wall and relief wells would be 2,000 feet. The slurry wall would be constructed using the conventional slot trench method, and relief wells would be constructed as described for Reach A. As shown in Table 2-1, all construction would occur during Phase II.

Slurry Wall

It is anticipated that two crews, one crew per section of levee, would be working on this reach of the levee concurrently. Approximately 2,200 dump truck trips would be necessary to haul material between the excavator and the mixing area along the levee and then back to the cutoff trench at Reach E. The mixing area would be located at the staging area just east of the former Southern Pacific Railroad and adjacent to the existing levee. The site would be used to prepare the soil-bentonite mixture and supply bentonite-water slurry. The mixing area would be contained to avoid exposure of the environment outside the levee crown area to the mixing materials.

It would be necessary to excavate approximately 7 vertical feet of the existing levee from the crown to provide a working platform and reduce the risk of hydraulic fracturing from the slurry trench fluids. Approximately 22,000 cubic yards of material would be hauled from the top of the levee in Reach B to a temporary stockpile area, requiring about 2,200 dump truck trips. Following completion of the slurry cutoff wall, the material would be hauled back to the levee crown (an additional 2,200 truck trips) to restore the levee to its original elevation. All equipment would operate concurrently for approximately 6 weeks.



Photo 2-5. Reach D, looking downstream (west) from the railroad (old SPRR). The levee and track intersect at the floodgate headwalls at right. Note the rock toe trench at the base of the levee. Also note elderberry shrubs in the foreground and Sutter Buttes in the background.



Photo 2-6. Reach E, looking downstream from eastern end of reach. Note concrete processing batch plant on landside of the levee at left, as well as railroad tracks evident in vegetation on levee slope.

Vertical clearance of about 40 feet would be needed for the excavator boom. Horizontal clearance of about 10 feet beyond the levee crest may be required for excavator swing when loading dump trucks.

Materials imported to the site would include bentonite, cement, water (if a domestic supply is not available nearby), and construction support materials.

The only permanent facility associated with the construction of the slurry cutoff wall would be the slurry wall itself, which may be 3 feet wide, up to 50 feet deep, and up to a total of 2,000 feet long (existing within the levee cross section). The mixing area would be restored to pre-project conditions after the slurry wall is constructed.

Relief Wells

Construction of relief wells would be the same as described for Reach A. It is anticipated that the wells in this reach would generate approximately 70 gallons of water per minute. This water would be collected in a V-ditch system and pumped back into the Yuba River through a pump station located west of Shad Pad Road at a location adjacent to the existing levee.

Option 2: Construct Slurry Wall and Seepage Berm

Option 2 would involve the construction of a slurry wall as described under Option 1 and a 200-foot-wide berm. This work would occur in Phase II (Table 2-1). The berm would require approximately 85,000 cubic yards of material. Eighty-five hundred haul truck trips, two compactors, and two bulldozers would be used during construction. Construction of the seepage berm may require relocating the existing concrete batch plant.

Seepage Berm

Construction methods and equipment for the seepage berm in this reach would be the same as described under Reach B. The permanent footprint of the berm would extend for approximately 200 feet from the toe of the existing levee. Temporary disturbance may occur up to 50 feet from the seepage berm footprint during construction. In addition, a 10-foot-wide permanent easement would be purchased adjacent to the toe of the berm to allow access to the berm and levee for maintenance.

The only permanent facility associated with the construction of the berm would be the berm itself, which would measure approximately 200 feet wide and 2,000 feet long. The berm would be seeded upon completion of construction. Staging areas would be located east of the former Southern Pacific Railroad and south of the proposed seepage berm. Staging areas and other areas disturbed by

construction would be returned to preproject conditions after the berm is constructed.

Construction Phases

Construction of the treatments would occur in two phases. Phase I would occur in September through October 2004. Phase II would occur in summer 2005. Table 2-1 shows the specific treatments that would be completed under each phase.

Table 2-1. Construction Phases

	Reach A	Reach B	Reach C		Reach D	Reach E	
			Option 1	Option 2		Option 1	Option 2
Phase I (2004)	No work	Construction of a 50' slurry wall using the conventional slot trench method	Construction of a 50' slurry wall using the conventional slot trench method	Construction of a 50' slurry wall using the conventional slot trench method	No work	No work	No work
Phase II (2005)	Relief wells seepage berm	Construction of relief wells	Construction of relief wells	Construction of 80'-wide seepage berm	Construction of 300'-wide seepage berm	Construction of a 50' slurry wall using the conventional slot trench method Construction of relief wells	Construction of a 50' slurry wall using the conventional slot trench method Construction of 200'-wide seepage berm

Environmental Commitments

To reduce or eliminate construction-related impacts and enhance the environmental quality of the project area, the Authority will implement the following environmental commitments. These measures would be implemented at a site-specific level, as appropriate, and are separate from CEQA-triggered mitigation described in Chapter 3. The identified measures include:

- conduct preconstruction surveys to determine the presence of nesting or roosting raptors (specifically, Swainson's hawk and white-tailed kite);
- install construction fencing to exclude construction access to sensitive areas;
- prepare and implement a stormwater pollution prevention plan (SWPPP) before construction activities that will cause ground disturbance;
- implement noise-reduction construction practices; and

- stop construction if any paleontological resources or human remains are discovered.

Raptors

Raptors are expected to have migrated before the start of construction. However, in the event nesting or roosting raptors are identified, the Authority will coordinate with the California Department of Fish and Game (DFG) to identify measures to ensure raptors are not adversely affected. These measures may include implementation of suitable buffers and phasing of construction.

Stormwater Pollution Prevention Plan

The Authority will obtain coverage under the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) general construction activity stormwater permit. The Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES stormwater permit program in Yuba County. Obtaining coverage under the NPDES general construction activity permit generally requires that the project applicant prepare a SWPPP that describes the best management practices (BMPs) that will be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction. The specific BMPs that will be incorporated into the erosion and sediment control plan and SWPPP will be determined during the final design phase of the selected alternative and will be prepared by the construction contractor in accordance with the RWQCB Field Manual. More detail regarding the contents of the SWPPP is provided in Chapter 3 in the Geology and Soils section.

Noise-Reducing Construction Practices

The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction contractor will employ noise-reducing construction practices. Measures that can be used to limit noise may include, but are not limited to:

- locating equipment as far as practical from noise-sensitive uses,
- using sound control devices such as mufflers on equipment,
- using equipment that is quieter than standard equipment,
- using noise-reducing enclosures around noise-generating equipment, and
- working within periods of lower reception sensitivity.

The Authority will notify residences within 500 feet of the construction areas of the construction schedule in writing before construction. The Authority will also

designate a noise-disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise-disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents in the identified range.

Cultural Resources

If paleontological resources are inadvertently discovered during ground-disturbing activities, the construction contractor will stop work in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Significant fossils will be properly recovered and curated at an appropriate museum. In the event that fossils are encountered with regularity during construction, the applicant will retain a qualified paleontologist to conduct a paleontological resource sensitivity evaluation and mitigation plan that will more formally outline construction monitoring, recovery, and curation procedures. The plan will be implemented through the excavation phase of the project, as required.

If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, the construction contractor and lead contractor compliance inspector will verify that work is halted until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the State Historic Preservation Officer (SHPO), the Authority, and other appropriate agencies.

If human remains of Native American origin are discovered during ground-disturbing activities, it is necessary for the Authority to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (NAHC (California Public Resources Code [PRC 5097]). If human remains are discovered or recognized in any location other than a dedicated cemetery, the Authority will not allow further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the Yuba County Coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin,
- the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or

- the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

Recreation Area Access Closure Notification

The Authority shall ensure that the contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure. Notice should be posted adjacent to access road, and signs shall be at least 3 square feet in size. The sign shall also indicate a contact regarding recreational area access closure.

Environmental Setting and Impacts

Chapter 3

Environmental Setting and Impacts

Introduction

This chapter provides an overview of the existing physical environment and regulatory requirements for each resource that may be affected by the project. The environmental setting is followed by an evaluation of the environmental impacts for each resource. The chapter is organized by resource topic and corresponds to the Environmental Checklist Form of the State CEQA Guidelines. A complete environmental checklist is included in Appendix A.

Implementing the mitigation measures specified in the impact analysis will either avoid adverse impacts completely or reduce the impacts to a less-than-significant level. Some impacts have been avoided by incorporating environmental commitments into the project description. The Authority will adopt a mitigation and monitoring program at the time it adopts the mitigated negative declaration. The purpose of the plan is to ensure that the mitigation measures adopted as part of project approval will be implemented when the project is constructed. The Mitigation Monitoring Plan checklist is included in this document as Appendix B.

The following terminology is used to describe the level of significance of impacts:

- A finding of *no impact* is appropriate if the analysis concludes that the project would not affect the particular topic area in any way.
- An impact is considered *less than significant* if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered *less than significant with mitigation* incorporated if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of mitigation measures that have been agreed to by the applicant.
- An impact is considered *potentially significant* if the analysis concludes that it could have a substantial adverse effect on the environment, and mitigation is not possible.

Aesthetics

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

The term *aesthetics* typically refers to the perceived visual character of an area, such as of a scenic view, open space, or architectural facade. The aesthetic value of an area is a measure of its *visual character* and *visual quality* combined with *viewer response* (Federal Highway Administration 1983). This combination may be affected by the components of a project (e.g., buildings constructed at a height that obstructs views, hillsides cut and graded, open space changed to an urban setting), as well as changing elements, such as light, weather, and the length and frequency of viewer exposure to the setting. Aesthetic impacts are changes in viewer response as a result of project construction and operation.

Visual Character

Visual character is the appearance of the physical form of the landscape, composed of natural and human-made elements, including topography, water, vegetation, structures, roads, infrastructure, and utilities; and the relationships of these elements in terms of form, line, color, and texture.

Visual Quality

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity as modified by its visual sensitivity.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape. (Federal Highway Administration 1983.)

High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Response

Viewer response is the psychological reaction of a person to visible changes in the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., roadway or trail) (Federal Highway Administration 1983). The measure of the quality of a view must be tempered with the overall sensitivity of the viewer and viewer response. Viewer sensitivity is dependent on the number and type of viewers and the frequency (e.g., daily or seasonally) and duration of views (i.e., how long a scene is viewed). Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and the viewing duration.

Aesthetic Assessment Process

The concepts presented above are combined in a visual impact assessment process that involves identification of the following:

- visual character and quality of the project area,
- relevant policies and concerns for protection of visual resources,
- general visibility of the project area and site using descriptions and photographs, and
- viewer response and potential impacts.

Setting

The project area is rural/rural residential and has little topographic variation. The project has been divided into Reaches A through E, which are described separately below.

Reach A

Reach A consists of the area just downstream of the former Western Pacific Railroad and between SR 70 and the downstream end of the project. This area contains mainly grasses, exposed dirt, and areas covered with concrete associated with the SR 70 overpass.

Reach B

Reach B consists of the area between SR 70 and Shad Pad Road, a total distance of approximately 600 feet. A mobile home park is located on the landside of the levee. Trees and a chainlink fence separate the toe of the levee from the homes. On the waterside, the western end consists of a beach area that is used for recreational purposes, especially for use by off-road vehicles such as dirt bikes and quads. This beach area is generally barren but does contain some trees and bushes. In addition, the area directly adjacent to the levee is vegetated with native riparian species (Photograph 2-2). The waterside toe of the levee is approximately 100 feet from the low-flow channel of the Yuba River.

Reach C

Reach C is located in the area between Shad Pad Road and the 1986 levee breach. The waterside of this reach supports grasses and orchards. The landside consists of grasses and some dispersed mature vegetation. A chainlink fence separates the landside of the levee and the adjacent Caltrans storage yard. The eastern end of this reach contains the area of the levee that broke during the 1986 floods. (Photographs 2-3 and 2-4).

Reach D

Reach D consists of the area between the 1986 break and the former Southern Pacific Railroad. This area is aesthetically similar to Reach C, as there are orchards and grasslands on the waterside, and grasslands on the landside. (Photograph 2-5)

Reach E

Reach E is approximately 2,000 feet long, starting at the Southern Pacific Railroad and moving upstream along the levee. The landside of the levee is mostly grasses. Portions of an abandoned railroad exist along a berm on the landside of the levee. A residential area is located at the extreme eastern end of this reach. (Photograph 2-6)

Impacts and Mitigation Measures

- a. Would the proposed project have a substantial adverse effect on a scenic vista, or*
- c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

Impact VIS-1: Construction-Related Impacts on Views

The presence of construction equipment on the levee crown and on the landside of the levee would temporarily degrade the existing views at the project site. Construction equipment would be present up to 60 days during Phase I (2004) and up to 120 days during Phase II (2005). People at the beach area, along the river, traveling along adjacent roads, including SR 70, and residents and guests of nearby residential structures would be able to see construction workers and crews. No equipment would be located at the project site between phases or upon completion of project construction. Therefore, this impact would be less than significant and no mitigation is required.

Impact VIS-2: Impacts on Scenic Vistas from Levee Crown and River

Upon completion of construction of Phase II, relief wells and the seepage berms would be the only aboveground physical changes to the viewshed. The seepage berms would be seeded. Relief wells would not be higher than 3 feet above the existing ground level and would not be seen from the waterside of the levee or from great distances on the landside. Because of the existing low aesthetic quality of these areas, and the minor changes in aesthetics associated with the proposed project's permanent aboveground features, this impact is less than significant. No mitigation is required.

- b. Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?*

The proposed project is not located near, nor is it visible from, a scenic highway. There would be no impact (California Department of Transportation 1996).

d. Would the proposed project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project would not create any sources of light or glare. There would be no impact.

Agricultural Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
II. AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Although orchards and other types of agricultural land exist on the waterside of the levee, no levee repairs, staging areas, or other disturbance would occur on the waterside of the levee as a result of the proposed project. Therefore, there would be no impact on agricultural land.

Air Quality

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
III. AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Physical Setting

Regional Climate and Atmospheric Conditions

The proposed project is located in Yuba County, which is in the Sacramento Valley Air Basin (SVAB). The SVAB comprises Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, Yolo, and parts of Solano and Placer Counties. The SVAB is bounded on the west by the Coast Ranges and on the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin is to the south. The proposed project is within the jurisdiction of the Feather River Air Quality Management District (FRAQMD), part of the SVAB.

Summer conditions are typically characterized by high temperatures and low humidity, with prevailing winds from the south. Summer temperatures average approximately 90°F during the day and 50°F at night.

Winter conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. Winter daytime temperatures average in the low 50s (°F) and nighttime temperatures average in the upper 30s (°F). During winter, north winds become more frequent, but winds from the south predominate. Rainfall occurs mainly from late October to early May, averaging 17.2 inches per year, but varies significantly each year.

In addition to prevailing wind patterns that control the rate of dispersion of local pollutant emissions, Yuba and Sutter Counties experience two types of inversions that affect air quality. The first type of inversion contributes to photochemical smog problems by confining pollution to a shallow layer near the ground. This occurs in the summer, when sinking air forms a “lid” over the region. The second type of inversion occurs when the air near the ground cools while the air aloft remains warm. These inversions occur during winter nights and can cause localized air pollution “hot spots” near emission sources because of poor dispersion. (Feather River Air Quality Management District 1998.)

Air Pollutants and Ambient Air Quality Standards

Both the State of California and the federal government have established ambient air quality standards (CAAQS and NAAQS, respectively) for several different pollutants. For some pollutants, separate standards have been set for different periods of the year. Most standards have been set to protect public health, although some standards have been based on other values, such as protection of crops, protection of materials, and avoidance of nuisance conditions. The pollutants of greatest concern in the project area are carbon monoxide (CO), ozone, and inhalable particulate matter of a specified size. A summary of state and federal ambient air quality standards is shown in Table 3-1.

Carbon Monoxide

Health Effects. CO levels are a public health concern because when CO combines with hemoglobin, the rate at which oxygen is transported in the bloodstream is reduced. Even low concentrations of CO can significantly affect the blood oxygen concentration because CO binds to hemoglobin 220–245 times more strongly than oxygen. Both the cardiovascular system and the central nervous system can be affected when 25–40% of the hemoglobin in the bloodstream is bound to CO rather than to oxygen. State and federal ambient air quality standards for CO have been set at levels intended to keep CO from combining with more than 15% of the body’s hemoglobin.

State and Federal Standards. State and federal CO standards have been set for 1-hour and 8-hour averaging times. The state 1-hour CO standard is 20 parts per million (ppm) and the federal 1-hour CO standard is 35 ppm. State and federal standards are both 9 ppm for an 8-hour averaging period. State CO standards are values not to be exceeded; federal CO standards are established as values not to be exceeded more than once per year.

Ozone

Health Effects. Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and oxides of nitrogen (NO_x), react in the presence of sunlight in the atmosphere to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a public health concern because it is a respiratory irritant that increases susceptibility to respiratory infections. Ozone also causes substantial damage to the leaf tissues of crops and natural vegetation and damages many materials by acting as a chemical oxidizing agent.

State and Federal Standards. State and federal standards for ozone have been set for 1-hour and 8-hour averaging times. The state 1-hour ozone standard is 0.09 ppm, not to be exceeded at any time. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than three times in any 3-year period. The federal 8-hour ozone standard of 0.08 ppm is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard.

Table 3-1. State and Federal Ambient Air Quality Standards

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone	O ₃	1 hour	0.09	0.12	180	235	If exceeded	If exceeded on more than 3 days in 3 years
		8 hours	NA	0.08	NA	157	NA	If exceeded on more than 3 days in 3 years
Carbon monoxide (Lake Tahoe only)	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO ₂	Annual average	NA	0.053	NA	100	NA	If exceeded
		1 hour	0.25	NA	470	NA	If exceeded	If exceeded
Sulfur dioxide	SO ₂	Annual average	NA	0.03	NA	80	NA	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	NA	655	NA	NA	NA
Hydrogen sulfide	H ₂ S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C ₂ H ₃ Cl	24 hours	0.010	NA	26	NA	If equaled or exceeded	NA
Sulfate particles	SO ₄	24 hours	NA	NA	25	NA	If equaled or exceeded	NA

Table 3-1. Continued

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Inhalable particulate matter	PM10	Annual geometric mean	NA	NA	20	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	50	NA	If exceeded
		24 hours	NA	NA	50	150	If exceeded	If average 1% over 3 years is exceeded
	PM2.5	Annual geometric mean	NA	NA	12	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	15	NA	If exceeded
		24 hours	NA	NA	NA	65	NA	If average 2% over 3 years is exceeded
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30 days	NA	NA	1.5	NA	If equaled or exceeded	NA

Notes:

All standards are based on measurements at 25°C and 1 atmosphere pressure.

National standards shown are the primary (health effects) standards.

NA = not applicable.

Particulate Matter

Health Effects. Health concerns associated with suspended particulate matter focus on particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs. Suspended particulate matter 10 microns in diameter or less (PM₁₀) can lodge in the lungs and contribute to respiratory problems. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and dust carried by windstorms. It is also formed in the atmosphere from reactions of nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) with ammonia. Fine particles pose a serious health hazard, alone or in combination with other pollutants. The smallest particles inhaled are deposited in the lungs and can cause permanent lung damage. Fine particles can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of absorbed toxic substances.

State and Federal Standards. Both the federal and state air quality standards for particulate matter have been revised to apply only to PM₁₀. State and federal PM₁₀ standards have been set for 24-hour and annual averaging times. The state 24-hour PM₁₀ standard is 50 micrograms per cubic meter (µg/m³) and the federal 24-hour standard is 150 µg/m³. The state annual PM₁₀ standard is 20 µg/m³ as an annual geometric mean, whereas the federal annual PM₁₀ standard is 50 µg/m³ as an annual arithmetic mean. Air Resources Board (ARB) and the EPA have recently established air quality standards for particles 2.5 microns in diameter or less (PM_{2.5}). This was done to address the health risks associated with breathing these smaller particles, which lodge deeper in the lungs and typically are not exhaled. ARB has established an annual geometric mean of 12 µg/m³, whereas EPA has established a 24-hour standard of 65 µg/m³ and annual arithmetic mean of 15 µg/m³. Federal and state 24-hour PM₁₀ and PM_{2.5} standards may not be exceeded more than 1 day per year, and annual standards are not to be exceeded.

Existing Air Quality Conditions

The pollutants of greatest concern in the project area are carbon monoxide (CO), ozone (O₃), and PM₁₀, which is inhalable.

The State of California has designated the Yuba County portion of the SVAB as being in moderate nonattainment for ozone and in nonattainment for PM₁₀. The county is designated as unclassified for CO. The EPA has designated the county portion of the SVAB as being an unclassified/attainment area for CO and an unclassified area for PM₁₀. For ozone, EPA classifies the county as being a transitional area; it was previously in nonattainment, but has now met the 1-hour federal O₃ standard. The redesignation request to attainment is pending with EPA. On April 15, 2004, the EPA designated the county as a nonattainment area for the federal 8-hour ozone standard. The county's attainment status for each of these pollutants relative to NAAQS and CAAQS is shown in Table 3-2.

Table 3-2. State and Federal Attainment Designations

Pollutant		State Standards	Federal Standards
Ozone (O ₃)	1-hour	Moderate nonattainment	Transitional
	8-hour	Not Applicable	Basic Nonattainment
Inhalable particulate matter (PM ₁₀)		Nonattainment	Unclassified
Carbon monoxide (CO)		Unclassified	Unclassified/attainment

The existing air quality conditions in the project area can be characterized by monitoring data collected in the region. Air quality monitoring data for the last 3 years (2000–2002) are presented in Table 3-3. The nearest monitoring stations to the project area are the Yuba City monitoring station, which monitors for O₃ and CO, and the Gibson Road monitoring station in Yuba City, which monitors for PM₁₀ and PM_{2.5}. As indicated in Table 3-3, the Yuba City monitoring station has experienced occasional violations of CAAQS for O₃ during the 3-year monitoring period, and the 24-hour PM₁₀ CAAQS was violated more frequently. Each pollutant is discussed below.

Table 3-3. Ambient Air Quality Monitoring Data from the Yuba City (733 Almond Street) Monitoring Station

Pollutant Standards	2000	2001	2002
Ozone (O₃)			
Maximum 1-hour concentration (parts per million [ppm])	0.108	0.104	0.108
Number of days standard exceeded ^a			
CAAQS 1-hour (>0.09 ppm)	3.0	4.0	3.0
NAAQS 1-hour (>0.12 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	3.6	3.9	3.5
Maximum 1-hour concentration (ppm)	6.1	17.2	6.4
Number of days standard exceeded ^a			
CAAQS 8-hour (>9.0 ppm)	0	0	0
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
NAAQS 1-hour (>35 ppm)	0	0	0
Particulate Matter (PM₁₀)			
Maximum 24-hour concentration (micrograms per cubic meter [µg/m ³])	70.0	80.0	74.0
Second highest 24-hour concentration (µg/m ³)	66.0	67.0	63.0
Average geometric mean concentration (µg/m ³)	24.0	26.0	27.0
Average arithmetic mean concentration (µg/m ³)	28.0	30.0	32.0
Number of days standard exceeded ^a			
CAAQS 24-hour (>50 µg/m ³) ^b	18.0	48.0	30.0
NAAQS 24-hour (>150 µg/m ³) ^b	0	0	0
Particulate Matter (PM_{2.5})			
Maximum 24-hour concentration (µg/m ³)	44.0	56.0	62.0
Second highest 24-hour concentration (µg/m ³)	38.0	54.0	34.0
Average arithmetic mean concentration (µg/m ³)	10.6	11.9	13.0
Number of days standard exceeded ^a			
NAAQS 24-hour (>65 µg/m ³) ^c	0	0	0

CAAQS = California ambient air quality standards.

NAAQS = national ambient air quality standards.

^a The number of days above the standard is not necessarily the number of violations of the standard for the year. Calculated exceedances are based on measurements taken every 3 or 6 days, depending on the time of year and the site's monitoring schedule.

Sources: California Air Resources Board 2003b, U.S. Environmental Protection Agency 2003.

Regulatory Setting

Air quality management responsibilities exist at local, state, and federal levels of government. Air quality management planning programs were developed during the past decade generally in response to requirements established by the federal Clean Air Act (CAA). The enactment of the California Clean Air Act of 1988 (CCAA) produced additional changes in the structure and administration of air quality management programs in California.

Air Quality Management at the Federal Level

The CAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of CAA. Basic elements of the act include national ambient air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

CAA requires that EPA establish NAAQS and reassess, at least every 5 years, whether adopted standards are adequate to protect public health based on current scientific evidence. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the nation's citizens. NAAQS are shown in Table 3-3.

In November 1990, Congress enacted a series of amendments to the CAA intended to intensify air pollution control efforts across the nation. One of the primary goals of the 1990 amendments to the CAA was an overhaul of the planning provisions for those areas not currently meeting NAAQS. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

Air Quality Management at the State Level

The CCAA substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA established an air quality management process that generally parallels the federal process. The CCAA process, however, focuses on attainment of the state ambient air quality standards, which for certain pollutants and averaging periods are more stringent than the comparable federal standards.

The CCAA requires that an air district prepare an air quality attainment plan if the district violates state air quality standards for CO, SO₂, NO_x, or ozone. No locally prepared attainment plans are required for areas that violate the state PM₁₀ standards. The CCAA requires that the CAAQS be met as expeditiously

as practicable, but it does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards. The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

Air Quality Management in Yuba County

The project area is within the jurisdiction of FRAQMD. ARB and FRAQMD have primary responsibility for implementing NAAQS and ensuring that CAAQS are met. FRAQMD is also responsible for implementing strategies for air quality improvement and recommending mitigation measures for potential effects on air quality from new construction and development. The FRAQMD does not require that construction-related emissions be quantified. Instead, FRAQMD requires that specific construction-related mitigation measures be implemented to minimize dust generation.

Significance Criteria

State CEQA Guidelines (Appendix G) state that a project would normally have a significant effect on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality management plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O₃ precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

The guidelines further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the determinations above. FRAQMD's thresholds of significance for construction- and operation-related emissions are presented in Table 3-4.

Table 3-4. Feather River County Air Quality Management District's Thresholds of Significance

Pollutant	Thresholds of Significance	
	Construction (pounds per day)	Operation (pounds per day)
ROG ^a	—	25
NO _x ^a	—	25
CO ^b	—	—
PM10 ^a	—	80

^a FRAQMD has not set any threshold level for construction because it does not require quantification of construction emissions. Instead, it recommends implementation of effective and comprehensive feasible control measures indicated in Table 3-5 to reduce fugitive dust, as well as the submittal of a fugitive dust control plan to the District for approval.

^b Emissions of CO are not considered an issue of concern within the FRAQMD because the region is in attainment for CO, and air quality within the FRAQMD is not negatively affected by CO.

Source: Feather River Air Quality Management District 1998.

Impacts and Mitigation Measures

Assumptions and Methodology

Construction emissions impacts have been assessed based on guidance from the FRAQMD requirements. FRAQMD assumes that unmitigated construction emissions are significant but that with appropriate mitigation, those impacts can be reduced to a less-than-significant level (Table 3-5).

Table 3-5. Feather River Air Quality Management District Control Measures for Construction Emissions of Fugitive Dust

The following mitigation measures are required for all construction sites.
<ul style="list-style-type: none"> ▪ All grading operations on a project should be suspended when winds exceed 20 miles per hour (mph) or when winds carry dust beyond the property line despite implementation of all feasible dust control measures. ▪ Construction sites shall be watered as directed by the public works department or air quality management district (AQMD), and as necessary to prevent fugitive dust violations. ▪ An operational water truck should be on site at all times. Water shall be applied to control dust as needed to prevent visible emissions violations and offsite dust impacts. ▪ Onsite dirt piles or other stockpiled particulate matter should be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind-blown dust emissions. Use of approved non-toxic soil stabilizers according to manufacturers' specifications shall be incorporated into all inactive construction areas. ▪ All transfer processes involving a freefall of soil or other particulate matter shall be operated in a manner that minimizes the freefall distance and fugitive dust emissions. ▪ Apply approved chemical soil stabilizers according to the manufacturers' specifications to all inactive construction areas (previously graded areas that remain inactive for 96 hours), including unpaved roads and employee/equipment parking areas. ▪ To prevent track-out, wheel washers should be installed where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed before each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out. ▪ Paved streets shall be swept frequently (water sweeper with reclaimed water recommended, or wet broom) if soil material has been carried from the project site onto adjacent paved public thoroughfares. ▪ Traffic control shall be provided as needed during all phases of construction to improve traffic flow, as deemed appropriate by the public works department and/or California Department of Transportation, and to reduce vehicle dust emissions. An effective measure is to enforce vehicle traffic speeds at or below 15 mph. ▪ Traffic speeds shall be reduced on all unpaved surfaces to 15 mph or less, and unnecessary vehicle traffic will be reduced by restricting access. Appropriate training, onsite enforcement, and signage shall be provided. ▪ Groundcover shall be reestablished on the construction site as soon as possible and before final occupancy through seeding and watering. ▪ Open burning is a source of fugitive gas and particulate emissions and shall be prohibited at the project site. No open burning of vegetative waste (natural plant growth wastes) or other legal or illegal burn materials (trash, demolition debris, etc.) may be conducted at the project site. Vegetative wastes should be chipped or delivered to waste to energy facilities (permitted biomass facilities), mulched, composted, or used for firewood. It is unlawful to haul waste materials off site for disposal by open burning. ▪ Construction activities shall minimize disruption to traffic flow during peak hours to the greatest extent feasible. ▪ A truck hauling dirt, sand, soil, or other loose material should be covered or maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision shall be enforced by local enforcement agencies.

The following mitigation measures are recommended for all construction sites.

Reducing emissions of oxides of nitrogen (NO_x) from off-road diesel-powered equipment:

- The project representative shall provide a plan for approval by the Feather River AQMD (FRAQMD) demonstrating that the heavy-duty (equal to or greater than 50 horsepower) off-road equipment to be used in construction, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20% NO_x reduction and 45% particulate reduction^a compared to the most recent California Air Resources Board fleet average at time of construction.
- The project representative shall submit to FRAQMD a comprehensive inventory of all off-road construction equipment equal to or greater than 50 horsepower that will be used an aggregate of 40 or more hours during any portion of construction. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period during which no construction activity occurs. At least 48 hours before the use of subject heavy-duty off-road equipment, the project representative shall provide FRAQMD with the anticipated construction timeline, including start date, and names and phone numbers of the project manager and onsite foreman.

Controlling visible emissions from off-road diesel-powered equipment:

- The project shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (or Ringelmann 2.0) shall be repaired immediately, and FRAQMD shall be notified within 48 hours of identification of noncompliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period during which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed and the dates of each survey. FRAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other FRAQMD or state rules or regulations.

^a Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. FRAQMD should be contacted to discuss alternative measures.

Sources: Feather River Air Quality Management District 1998; Sacramento Metropolitan Air Quality Management District 2002; Matlock pers. comm.

- a. Would the project conflict with or obstruct implementation of applicable air quality plan, or*
- b. Would the project violate any air quality standard or contribute substantially to an existing projected air quality violation, or*
- c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?*

Impact AQ-1: Increases in Emissions Associated with Construction Activity

Construction of the project would result in the temporary increase in emissions of ROG, CO, NO_x, and PM10. Emissions would be generated by a variety of sources, including criteria pollutant emissions produced by construction equipment and fugitive dust created by wind and operation of construction equipment over exposed earth. Construction-related emissions were not estimated for the proposed project because, as stated, FRAQMD does not require that emissions be quantified for construction activities. Instead, FRAQMD requires specific construction-related mitigation measures to be implemented to minimize dust generation. Because FRAQMD assumes that unmitigated construction activities could result in a significant increase in PM10 and construction vehicle exhaust emissions, this impact is considered significant. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-MM-1: Implement Feasible Control Measures for Construction Emissions of Fugitive Dust.

The Authority will implement all feasible control measures indicated in Table 3-5.

Mitigation Measure AQ-MM-2: Prepare a Fugitive Dust Control Plan.

The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval. Fugitive dust control measures will be implemented in accordance with the approved plan during construction.

Impact AQ-2: Increased Construction-Related Diesel Health Risk

Construction activities will use diesel-fueled equipment. ARB has identified diesel exhaust particulate matter as a toxic air contaminant (TAC). However, the assessment of diesel-related cancer risks is typically based on a 70-year exposure period. Because construction activities are short-term, once construction activities have ceased, the potential exposure to construction-related diesel emissions will also cease. Therefore, it is not expected that the diesel-related emissions will occur very often. Because exposure to diesel exhaust will be well below the 70-year exposure period, construction and operation of the proposed project are not anticipated to result in an elevated health risk. Consequently, the

estimation of diesel risks associated with construction activities is considered to be less than significant. No mitigation is required.

Impact AQ-3: Generation of Significant Levels of Operational Emissions

As previously mentioned, the proposed project would not use any equipment or machinery after completion of construction that is expected to generate significant emissions. The relief wells and associated pump are not anticipated to create emissions exceeding any threshold indicated in Table 3-5. Consequently, the potential impact associated with such limited operation is considered less than significant. No mitigation is required.

- b. Would the project create objectionable odors affecting substantial number of people or*
- c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

Impact AQ-4: Create Objectionable Odors or Substantially Increase Pollutant Concentrations

The project is not expected to create objectionable odors that would affect a large number of people or expose sensitive receptors to substantial pollutant concentrations. Changes in air quality would occur only during the construction period and over a short period of time. Although the project is adjacent to a residential area, it is not expected to create objectionable odors because diesel exhaust would be readily dispersed. As indicated above, the project would not result in a substantial increase in pollutants when mitigation is applied.

Therefore the project would result in a less-than-significant impact on air quality associated with increasing objectionable odors and pollutant concentrations. No mitigation is required.

Biological Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section presents information on vegetation and wildlife resources in the project study area. Information on biological resources is based on field surveys performed in May, June, and July 2004, review of the DFG's California Natural Diversity Database, and a USFWS species list for the project area. The CNDDB search was conducted for the Yuba City and Olivehurst 7.5-minute U.S.

Geological Survey (USGS) quadrangle maps (California Natural Diversity Database 2004). The USFWS species list included special-status species that occur or may occur in Yuba County.

During the field surveys, the levee and adjacent areas were surveyed by walking the project area. A Jones & Stokes biologist identified and characterized the biological resources. The project area includes all of the area in which construction or construction staging may occur.

The general objectives of the field surveys were to:

- gather descriptive information on habitat types, including plant and wildlife species associated with each habitat type;
- identify wetlands and other waters of the United States that would be subject to U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act;
- identify suitable habitat for special-status plant and wildlife species that could occur in the project study area; and
- identify special-status species present in the study area.

Physical Setting

The project area includes an existing levee and lands that were previously cultivated. Current adjacent land uses include residential, commercial, agricultural, and open space areas. The land cover types occurring in or adjacent to the project study area include ruderal herbaceous, orchards, ornamental landscape trees, developed areas, disturbed areas, and open space areas. Each of these land cover types is described briefly below.

Sensitive natural communities are land cover types that are especially diverse, regionally uncommon, or of special concern to local, state and federal agencies. Removal or degradation of these communities constitutes a significant impact under CEQA. There are no sensitive natural communities in the project area; however, elderberry shrubs do occur on the levee slopes adjacent to the project area.

Vegetation

No wetlands or other waters of the U.S. occur in the project area. The Yuba River is on the north side of the levee; however, there is a wide floodplain between the toe of the levee and the river. Because no in-channel construction activities will occur, wetlands and other waters of the U.S. will not be affected by the project.

The ruderal herbaceous land cover type occurs on the waterside and landside levee slopes. The ruderal herbaceous land cover type is dominated by annual and

perennial grasses such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Bermuda grass (*Cynodon dactylon*), and forbs, including mugwort (*Artemisia douglasiana*) and mustard (*Brassica* spp.). Ruderal herbaceous vegetation provides cover and foraging areas for resident and migratory songbirds and small mammals.

Orchards occur on the north side of Reaches B and C. The orchards are outside the project area and would not be affected by the project. The orchard trees provide cover and foraging areas for resident and migratory songbirds and small mammals. Songbirds may nest in some of the orchard trees.

Developed areas include residential and commercial land uses. Residential areas are located on the south side of the levee in Reaches A and B. Commercial areas are located on the south side of the levee and include a hotel, a Caltrans maintenance yard, and a concrete processing plant. An abandoned rail track is present in Reach E.

Disturbed areas include several disked fields and an area adjacent to but outside of the Caltrans maintenance yard. Prior to disking, the fields were dominated by annual grasses and forbs. The area outside the Caltrans maintenance yard consists of mounds of soil and other materials that are overgrown with herbaceous vegetation.

Ornamental trees occur in or adjacent to the proposed construction areas. Ornamental trees include eucalyptus (*Eucalyptus* spp.), incense cedar (*Calocedrus decurrens*), walnut (*Juglans regia*), and mulberry (*Morus alba*). These trees provide potential nesting habitat for migratory birds. It is unlikely that raptors would nest in these trees because they are relatively small and close to disturbance factors. In addition to the ornamental trees, there is a mature cottonwood (*Populus fremontii*) on the south side of the levee in Reach C. This tree provides potential nesting and roosting habitat for raptors.

Fifteen elderberry shrubs or shrub clusters with at least one stem greater than 1 inch in diameter were identified within 100 feet of the proposed construction areas. Seven of these shrubs occur in the construction footprint of the setback levees. Slurry wall construction is expected to occur within 20 feet of the drip line of four additional shrubs, but no direct impacts are anticipated from slurry wall construction.

Special-Status Plant Species

Special-status plants are species that are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (ESA) or other regulations or are species considered sufficiently rare by the scientific community to qualify for such listing. The CNDDDB and USFWS special-status plant species list for the Olivehurst and Yuba City 7.5-minute quadrangles were used to identify any potential special-status plant species in the project area. The USFWS lists identified three special-status plant species that have the potential to

occur in the Olivehurst and Yuba City 7.5-minute quadrangles, Ferris's milk-vetch (*Astragalus tener* var. *ferrisiae*), veiny monardella (*Monardella douglassi*), and Hartweg's golden sunburst (*Pseudobahia bahiifolia*). However, the project site does not provide suitable habitat for any of the species.

There are no occurrences of special-status plant species listed on the CNDDB (California Natural Diversity Database 2004) for the project area of impact. Hartweg's golden sunburst have been documented over a mile away from the project area at the confluence of the Feather and Yuba Rivers. However, there is no suitable habitat for Hartweg's golden sunburst in the project area. No state- or federally listed plant species were observed during the field survey.

Special Status Wildlife Species

Special-status wildlife that could occur in the proposed project's geographic area were identified using the CNDDB (2003) and USFWS lists. The USFWS lists identified 49 special-status wildlife species that have the potential to occur in the Olivehurst and Yuba City 7.5-minute quadrangle. However, 46 of these species would not occur at the project site because suitable habitat is absent or lacks nesting or roosting habitat. Special-status wildlife species identified as potentially occurring in the project vicinity are valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*).

There are no occurrences of special-status wildlife species listed on the CNDDB (California Natural Diversity Database 2004) for the project area of impact. Three species were identified by the CNDDB search as occurring within the vicinity of the project site. The three species identified by the CNDDB search as occurring over 1 mile from the vicinity of the project site at the confluence of the Yuba and Feather Rivers are bank swallow (*Riparia riparia*), tricolored blackbird (*Agelaius tricolor*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). However, no suitable habitat for these species at the project site.

The special-status wildlife species that are federally or state-listed with a potential to occur at the site are discussed below.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle is federally listed as threatened. The project area is not located within critical habitat or essential habitat for VELB. Final ruling on critical habitat for the beetle was established by USFWS on August 8, 1980. Essential habitat was identified in the Valley Elderberry Longhorn Beetle Recovery Plan (U.S. Fish and Wildlife Service 1984).

A California endemic species, the valley elderberry longhorn beetle is found in scattered populations throughout its range. The species range includes most of the California Central Valley (Barr 1991). The adults feed exclusively on

elderberry (*Sambucus mexicanus*) foliage and are active from early March through early June. During this time they mate and females lay eggs on living elderberry stems. Larvae bore through the stems of the shrubs to create an opening in the stem within which they pupate. After metamorphosing into an adult, the beetle chews a circular exit hole through which it emerges (Barr 1991). Surveys for evidence of valley elderberry longhorn beetle and to measure stem diameters of elderberry shrubs were not conducted.

Swainson's Hawk

Swainson's hawk is a state-listed threatened species. The Central Valley and the far northwestern corner of California define the limits of the current Swainson's hawk breeding range in the state. Historically, this migratory species nested in woodland habitats and foraged in native grasslands. Conversion of native grassland and woodland habitats into agricultural uses has contributed to the estimated 90% decline in the species' statewide population (Bloom 1980). Today, Swainson's hawks in the Central Valley forage in large, open agricultural habitats. Typical nesting habitat includes riparian forests, lone trees in open grasslands, and open oak groves. Loss and fragmentation of these nesting and foraging habitats are resulting in further losses of historic nesting territories (Estep 1989).

Although no Swainson's hawks were observed during the field surveys, Swainson's hawk could use the cottonwood on the landside of Reach C as well as the mature cottonwood trees on the waterside of the levee. Most of the cottonwoods on the north side of the levee are in an off-road vehicle use area so these trees may not be used for nesting because of consistent disturbance. No foraging habitat exists in the project area.

White-Tailed Kite

The white-tailed kite is a federal species of concern and is fully protected under the California Fish and Game Code. White-tailed kites have steadily decreased throughout much of California since the late 1970s. Declines have been especially evident in southern California (Garrett and Dunn 1981), along the south coast (Marantz 1986), and in the San Joaquin Valley (Small 1994). Local populations appear to be relatively healthy along the north and east San Francisco Bay and in the Sacramento–San Joaquin Delta.

White-tailed kites inhabit open lowland grassland, riparian woodland, marshes, and scrub areas. Some large shrubs or trees are required for nesting. They are dependent on small rodents with highly cyclical populations. Communal night roosting is common during the non-breeding season. The most important threat facing this species is loss of habitat. Although kites appear able to withstand some habitat alteration from grazing and farming, large stretches of agricultural areas devoid of natural vegetation and urbanized areas are not suitable habitat.

No white-tailed kites were observed during field surveys however, the cottonwood on the landside of Reach C and the trees on the north side of the levee provide suitable nesting and roosting habitat for the species.

Special-Status Fish Species

Although special status fish species are found in the Yuba River, neither these species nor their habitat will be affected by the project because all construction will occur on the landside of the levee and the levee surface.

Federal Regulations

Federal regulations that apply to biological resources present at the project site include the federal ESA and Section 404 of the CWA. These regulations are briefly described below.

Federal Endangered Species Act

The federal ESA prohibits the take of endangered or threatened wildlife species. *Take* is defined to include harassing, harming (includes significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Actions that result in take can result in civil or criminal penalties.

The federal ESA and EPA Section 404 Guidelines prohibit the issuance of wetland permits for projects that would jeopardize the existence of a threatened or endangered wildlife or plant species. The Corps must consult with the USFWS when threatened or endangered species may be affected by a proposed project to determine whether issuance of a Section 404 Permit would jeopardize the species. In the context of the project site, the federal ESA would be triggered if the project would result in the take of a threatened or endangered species or if issuance of a Section 404 Permit or other federal agency action could adversely affect or jeopardize a threatened or endangered species.

Section 404 of the Clean Water Act

The Corps and EPA regulate the discharge of dredged and fill material into “waters of the United States” under Section 404 of the CWA. Corps jurisdiction over nontidal waters of the United States extends to the ordinary high-water mark, provided the jurisdiction is not extended by the presence of wetlands (33 CFR Part 328 Section 328.4). The ordinary high-water mark is defined in the federal regulations to mean

[T]hat line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. —(33 CFR Part 328 Section 328.3[e]).

The Corps typically will exert jurisdiction over that portion of the project site that contains waters of the United States and adjacent or isolated wetlands. This jurisdiction equals approximately the bank-to-bank portion of a creek along its entire length up to the ordinary high-water mark and adjacent wetlands areas that will either be directly or indirectly adversely affected by a proposed project.

Migratory Bird Treat Act

The Migratory Bird Treaty Act (MBTA) was established in 1918 to protect migratory birds. The MBTA protects species or families of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The MBTA prohibits, unless permitted by regulations, the take of migratory birds. Take includes the harassment, hunt, capture, killing, possession, purchase or transport of migratory birds. This act also prohibits the take of any part, nest, or egg of any such bird. (16 U.S.C. 703)

State Regulations

California regulations that apply to resources at the proposed project site include the CESA and Section 1601 of the California Fish and Game Code. These regulations are briefly described below.

California Endangered Species Act

CESA is similar to the federal ESA but pertains only to state-listed endangered and threatened species. CESA requires state agencies to consult with DFG when preparing documents under CEQA to ensure that the actions of the state lead agency do not jeopardize the continued existence of listed species. CESA directs agencies to consult with DFG on projects or actions that could affect listed species, directs DFG to determine whether there would be jeopardy to listed species, and allows DFG to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if the agency determines that there are “overriding considerations”; however, the agencies are prohibited from approving projects that would cause the extinction of a listed species.

Mitigating impacts on state-listed species involves avoidance, minimization, and compensation (listed in order of preference). Unavoidable impacts on state-listed species are typically addressed in a detailed mitigation plan prepared in accordance with DFG guidelines. DFG exercises authority over mitigation

projects involving state-listed species, including those resulting from CEQA mitigation requirements.

CESA prohibits the take of plant and wildlife species that are state listed as endangered or threatened. DFG may authorize take if there is an approved habitat management plan or management agreement that avoids or compensates for impacts on listed species.

California Department of Fish and Game Codes

DFG has regulations to prohibit take of birds, including migratory birds and raptors. DFG code 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. DFG code 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code.

Local Regulations

The Yuba County General Plan (Yuba County 1996) provides guidance for overall resource conservation in Yuba County and states several conservation goals that aim to protect significant biological resources. Specific habitats identified for special consideration for preservation and protection include the Yuba River, Yuba River watershed, wetlands, and oak riparian woodlands.

Criteria for Determining Significance

The following criteria for determining significance of impacts were taken from Appendix G of the State CEQA Guidelines. The project would result in a significant impact on biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the DFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impacts and Mitigation

- a. Would the proposed project adversely impact, either directly or through habitat modification, any endangered, rare, or threatened species as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (sections 17.11 or 17.12)?*

Impact BIO-1: Impacts on the Valley Elderberry Longhorn Beetle or Its Habitat

Complete avoidance of adult beetles and elderberry shrubs is assumed when a 100-foot buffer is established and maintained around elderberry shrubs that have stems of 1 inch or more in diameter (U.S. Fish and Wildlife Service 1999). Fifteen elderberry shrubs or shrub clusters with at least one stem greater than 1 inch in diameter were identified within 100 feet of the proposed construction areas. Slurry wall construction is expected to occur within 20 feet of the drip line of four shrubs during Phase 1. Seven shrubs occur in the construction footprint of the potential landside levee improvements (i.e., relief wells and seepage berms) that are proposed for Phase II.

Construction activities and vehicle access roads associated with slurry wall construction (Phase I and II) would be restricted to the top of the levee. During construction, a minimum 20-foot buffer from the drip line of each shrub will be maintained to the greatest extent possible. For the four elderberry shrubs occurring within 20 feet of the levee crown, complete avoidance within the required 20-foot buffer may not be possible. Although vehicle access would potentially occur within 20 feet of these shrubs, and within 100 feet of other shrubs, the impact on valley elderberry longhorn beetle is considered less than significant because:

- the construction areas are located on the levee crown and the shrubs are located on the levee slopes, outside the construction footprint;
- there is not anticipated to be direct physical contact;
- root damage is not expected to occur because excavation will occur only on the compacted levee surface, and roots are not expected to occur in this area; and

- construction would occur at a time when adult beetles are not present (the possible impact of dust will be minimized with the implementation of a dust control plan).

Overall, the impact on valley elderberry longhorn beetle associated with Phase I (i.e., slurry wall construction) is considered less than significant because of the timing of construction and because no direct impacts will occur on the shrubs. Impacts on valley elderberry longhorn beetle would be minimized through the use of fenced buffer areas, education of contractors and crews about avoiding damage to shrubs, and implementation of measures to control dust.

Construction activities associated with other levee improvement features (i.e., relief wells and seepage berms) would be located on the landside of the levee slope and adjacent upland habitat. Up to seven elderberry shrubs may occur in the construction footprint of the landside levee improvements. The number of shrubs will be dependent on the final levee improvement features.

The impact on valley elderberry longhorn beetle associated other levee improvement features (i.e., relief wells and seepage berms) is considered significant during Phase II because these activities would result in the direct loss of elderberry shrubs. The project will be designed to minimize impacts on valley elderberry longhorn beetle to the greatest extent possible. Implementation of the following mitigation measures would reduce the impact to a less-than-significant level.

Mitigation Measure BIO-MM-1: Perform Preconstruction and Postconstruction Surveys for Elderberry Shrubs.

To ensure that any additional elderberry shrubs, besides those recorded during the 2004 surveys, are identified, a qualified biologist will perform an elderberry shrub survey before implementation of Phase II of the proposed project. The biologist will field stake the locations of elderberry shrubs and shrub clusters, if present, before construction begins.

Following completion of levee improvement activities, the Authority will perform a postconstruction evaluation of the elderberry shrubs to determine whether any shrubs were damaged by construction activities. If unanticipated damage occurs to elderberry shrubs, the Authority will consult with USFWS on appropriate additional mitigation.

All surveys will be performed according the USFWS valley elderberry longhorn beetle compensation guidelines (U.S. Fish and Wildlife Service 1999). During the preconstruction and postconstruction surveys, the following information will be recorded for each shrub or shrub cluster:

- the number of stems greater than 1 inch in diameter,
- the number of stems less than 1 inch in diameter,
- the approximate height and width of the elderberry shrub or shrub cluster;
- the presence of valley elderberry longhorn beetle exit holes, and

- the dominant vegetation that is associated with the elderberry shrub or shrub cluster.

The location of each elderberry shrub will be mapped using GPS, and a site map will be prepared that identifies the location and size of each shrub and shrub cluster. The Authority will use this site map to determine vehicle and equipment haul routes and work areas.

Mitigation Measure BIO-MM-2: Implement Minimization and Avoidance Measures for Elderberry Shrubs.

For Phases I and II, the Authority will implement the following measures to minimize and avoid impacts on elderberry shrubs that provide suitable habitat for valley elderberry longhorn beetle. These measures include:

- Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.
- Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: “This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment.”
- Train construction personnel to recognize elderberry plants and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS–approved environmental awareness training before beginning work at construction sites.

For Phase II, the Authority will consult with USFWS to determine the appropriate avoidance and minimization compensation measures for elderberry shrubs found in the levee improvement areas.

Mitigation Measure BIO-MM-3: Compensate for Unavoidable Impacts on Elderberry Shrubs.

The Authority will consult with USFWS to determine the appropriate compensation measures for elderberry that will be directly affected by the project. It is anticipated that a low-effect habitat conservation plan (HCP) will be required to compensate for impacts on valley elderberry longhorn beetle habitat.

If avoidance and minimization of effects on valley elderberry longhorn beetle habitat are not possible, the Authority will implement the measures following:

- Compensate for the loss and potential take by transplanting the elderberry plants that cannot be avoided to a USFWS–approved conservation area. Transplanting must comply with USFWS–approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999).

- Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999). Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.

Impact BIO-2: Impacts on the Breeding and Roosting Habitat for Swainson's Hawk

No Swainson's hawks were observed during the field survey on June 25 and July 23, 2004 and no impacts would occur during Phase I. Construction activities and vehicle access roads associated with Phase I activities would be restricted to the top of the levee and would not affect the Swainson's hawk. No trees would be removed for this phase of construction and work would occur at a time when Swainson's hawks will not be in the region.

In the event nesting or roosting Swainson's hawks are identified prior to constructing Phase II, the Authority will coordinate with the DFG to identify measures to ensure raptors are not adversely affected.

Construction activities associated with Phase II repairs (i.e., relief wells and seepage berms) would be located on the landside of the levee slope and adjacent upland habitat. Noise and visual disturbances associated with operation of equipment and other construction- and maintenance-related activities within up to ½ mile of occupied nest sites could adversely affect nesting Swainson's hawks. Noise and visual disturbances of sufficient magnitude could result in nest abandonment, a reduction in the level of care provided by adults (e.g., duration of brooding, frequency of feeding), or forced fledging. If these situations occur, the likelihood of successful production of young during the year of disturbance could be reduced. The number of nests or young that could be affected will be determined during the Phase II preconstruction surveys and active construction period surveys, as described below.

Nest-site removal or disturbance will occur only if Swainson's hawks are nesting at the time the trees are removed or the area around the nest is disturbed by these activities. Because Swainson's hawk nest sites may vary from year to year, the number of nest sites that could be affected by the project may vary annually. Preconstruction surveys will be performed throughout the spring months to determine whether nest sites are located within ½ mile of proposed project activities.

The impact on the Swainson's hawk associated with constructing Phase II repairs is considered potentially significant because these activities could result in the loss or disturbance of Swainson's hawk nests. The project will be designed to minimize impacts to the greatest extent possible. Implementation of the following mitigation measures would reduce the impact to a less-than-significant level.

Mitigation Measure BIO-MM-4: Perform Preconstruction Surveys for Nesting Swainson's Hawks Prior to Construction and Maintenance.

Phase II preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations. Surveys will be performed in spring and summer 2005. Preconstruction surveys will consist of surveying all potential nest sites within ½ mile of proposed construction features, borrow sites, and mitigation sites. Surveys will be performed several times during the breeding season to avoid and minimize effects on late-nesting birds. Nest sites will be marked on an aerial photograph, and the position will be recorded using GPS.

Mitigation Measure BIO-MM-5: Avoid and Minimize Construction-Related Disturbances within ½ Mile of Active Swainson's Hawk Nest Sites.

To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season. If practicable, levee improvements that would result in the greatest disturbance to an active nest site will be deferred until after, or as late in, the breeding season as possible. The Authority will provide DFG with the locations of active nest sites identified during the preconstruction surveys and will coordinate with DFG on appropriate avoidance and minimization measures on a case-by-case basis.

DFG requires that a ½-mile buffer be established around all active Swainson's hawk nests between March 1 and August 15 (California Department of Fish and Game 1994). Potential nesting trees within the proposed project footprint will be removed before construction. Potential nest trees outside the proposed construction areas will be retained. Vegetation slated for removal as part of the proposed project will be removed before the nesting season for migratory birds and Swainson's hawk (i.e., removal will occur between September 1 and February 1).

Because of the relatively narrow width of the project area and the location and dimensions of the proposed work areas and access roads to riparian vegetation that could provide nesting habitat for Swainson's hawk, a ½-mile buffer may not be feasible in all areas. The Authority will maximize the buffer width around active nest sites on a site-by-site basis and will consult with DFG on the buffer widths before commencing construction activities. If possible, the Authority will delay construction and maintenance around individual nests until after the young have fledged. The Authority will immediately cease work and contact DFG if a young bird has prematurely fledged the nest as a result of construction or maintenance activities.

Impact BIO-3: Impacts on the Breeding and Roosting Habitat for White-Tailed Kite and other Raptors

Impacts on breeding and roosting habitat for the white-tailed kite associated with construction activities would be the same as discussed for Swainson's hawk. If an active raptor nest is found outside the construction areas, a buffer zone will be created around the nest tree. The recommended buffer, as identified by DFG, is 250 feet (Sections 3503 and 3503.5 of the California Fish and Game Code).

In the event nesting or roosting raptors are identified, the Authority will coordinate with DFG to identify measures to ensure raptors are not adversely affected. Implementation of Mitigation Measures identified above for the Swainson's hawk would reduce this impact to a less-than-significant level.

Impact BIO-4: Impacts on the Breeding and Roosting Habitat for Migratory Birds

The project area is located in and adjacent to habitat that supports nesting birds protected under the Migratory Bird Treaty Act (MBTA). The project will be designed to minimize impacts to the greatest extent possible. Implementation of the following mitigation measures would reduce the potential effects on nesting birds.

Mitigation Measure BIO-MM-6: Avoid and Minimize Effects on Migratory Birds.

Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas. The Authority will perform preconstruction surveys to determine whether nesting birds are present in or immediately adjacent to the proposed project area and associated staging and storage areas.

The Authority will remove all woody and herbaceous vegetation from the proposed construction areas during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds. During the breeding season, all vegetation will be maintained to a height of approximately 6 inches to minimize the potential for nesting. If construction occurs during the breeding season and not all affected vegetation has been removed, a qualified biologist will survey the construction areas for active nests and young migratory birds immediately before construction. If active nests or migratory birds are found within the boundaries of a construction area, the Authority will develop appropriate measures and will inform DFG of its actions. Inactive migratory bird nests (excluding raptors) located outside the construction areas will be preserved. If an inactive migratory bird nest is located in these areas, it will be removed before the start of the breeding season (approximately February 1).

- b. Would the proposed project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No riparian habitat occurs in the project area; consequently, there would be no impacts on riparian habitat

- c. Would the proposed project have an adverse impact on federally protected wetlands (including, but not limited to, marsh, vernal pools, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?***

No wetlands occur in the project area. The Yuba River is located on the north side the levee. There is a floodplain surface, of varying width, between the river and the toe of the levee. No in-channel construction activities will occur in the river. Therefore, wetlands and other waters of the U.S. will not be affected by the project. Thus, construction activities associated with the conventional trench method, deep soil mixing method, and relief and monitoring wells would result in no impacts on wetlands.

- d. Would the proposed project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?***

Although special status fish species are found in the Yuba River, adjacent to the project area, these species will not be affected by the project because all construction will occur on the levee surface. Project activities will occur on top of existing levee and the landside of the levee. Because of the location of the project, no effect on resident or migratory wildlife corridors or wildlife nursery sites will occur. Thus, construction activities associated deep soil mixing, relief wells, and monitoring wells would result in no impacts wildlife corridors or use of nursery site. Construction activities could temporarily impede wildlife movement, however the completed project would not obstruct the movement of any wildlife

- e. Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

The project would not conflict with any local policies or ordinances protecting biological resources.

- f. Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

The project would not conflict with the provisions of an HCP, NCCP, or other conservation plan.

Cultural Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Introduction and Methods

Cultural Setting

Prehistoric Context

This section provides a brief overview of the changing adaptive strategies used by prehistoric inhabitants of the Central Valley and the archaeological evidence of these strategies. A more comprehensive discussion of the prehistory of this area is presented in the confidential cultural resources inventory and evaluation report (Jones & Stokes 2004a).

There is little archaeological evidence that humans used the Central Valley during the late Pleistocene and early Holocene (12,000 to 6000 B.C.). The most likely explanation for the lack of evidence is a deficiency in the archaeological record, rather than an absence of human use; most Pleistocene- and Holocene-era sites are deeply buried in accumulated gravels and silts, or have eroded away.

The earliest archaeological evidence of human use of the Central Valley dates to approximately 3000 B.C., in the Early Horizon period (from 6000 to 2000 B.C.). During this period, a generalized subsistence strategy is thought to have been replaced by a more specialized strategy. This intensification is exhibited in what Fredrickson (1973) has identified as the Windmiller Pattern. Artifact

assemblages and faunal remains at Windmill sites indicate that a diverse range of resources was exploited, including seeds, small game, and fish.

The Middle Horizon period dates from approximately 2000 B.C. to A.D. 500. Sites from this period have also been found in the Central Valley. The adaptive pattern most frequently apparent during this period is called the Berkeley Pattern (Fredrickson 1973), although sites displaying Windmill Pattern assemblages have also been dated to the Middle Horizon. The Berkeley Pattern differs from the Windmill Pattern primarily in an increased emphasis on the exploitation of acorns as a staple. In the archaeological record, acorn exploitation is evidenced by more numerous and varied mortars and pestles. The Berkeley Pattern also is noted for its especially well-developed bone-tool industry and such technological innovations as ribbon flaking of chipped stone artifacts. During the Middle Horizon period, flexed burials replaced extended burials and the use of grave goods generally declined (Moratto 1984).

The period between A.D. 500 and the arrival of the Spanish in central California has been named the Late Horizon. The predominant pattern during this period is called the Augustine Pattern (Fredrickson 1973). This pattern is characterized by large village sites, increased acorn and nut processing, the introduction and use of bows and arrows, and the use of clam shell disc beads as the primary medium of exchange. During the last part of the Late Horizon period, cremation became a common mortuary practice.

Ethnographic Context

The project area was inhabited ethnographically by the Nisenan, or Southern Maidu, during the period recorded ethnographically by early Euro-American arrivals. Nisenan territory comprised the drainages of the Yuba, Bear, and American Rivers, as well as the lower drainages of the Feather River. The Nisenan, together with the Maidu and Konkow, their northern neighbors, form the Maiduan language family of the Penutian linguistic stock (Shipley 1978).

Nisenan settlements were located based primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Villages ranged in size from three houses to up to 40 or 50. Houses were domed structures covered with earth and tule or grass and measured 10 to 15 feet in diameter. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. Larger villages often had semisubterranean dance houses, which were covered in earth and tule or brush and had a central smokehole at the top and an east-facing entrance. Another common village structure was a granary, used for storing acorns. (Wilson and Towne 1978.)

The Nisenan occupied permanent settlements from which specific task groups set out to harvest the Central Valley's seasonal bounty of flora and fauna. The Valley Nisenan economy involved riverine resources, in contrast to the Hill Nisenan, whose resource base consisted primarily of acorns and game. The only domestic plant was native tobacco, but many wild species were closely

husbanded. The acorn crop from the blue oaks and black oaks was so carefully managed that it served as the equivalent of agriculture and could be stored against winter shortfalls in resources. Deer, rabbit, and salmon were the chief sources of animal protein in the aboriginal diet, but many other insect and animal species were taken when available.

Historical Context

Europeans first explored the area that is now Yuba County in 1808, when Spanish explorer Gabriel Moraga led an expedition from Mission San Jose to the northern Sacramento Valley (Gordon 1988; Hoover et al. 1990). The earliest Euro-American settlement in present-day Yuba County was made possible by the land grants being established by the Mexican government. John A. Sutter obtained the first such grant, the New Helvetia Rancho, in 1841. The project area is located within this land grant.

Originally known as Nye's Ranch, Marysville was incorporated in 1851. It became the head of navigation on the Feather River and the point of debarkation for riverboats from San Francisco and Sacramento filled with miners on their way to northern mines (Historical Commission 1976; Laney n.d.; Napoli 1998). The town prospered during the gold rush era, becoming one of the largest cities in California.

During the remainder of the nineteenth century, as gold production declined, Marysville's economic base shifted to agriculture. As was true in most regions of the state, wheat became the most profitable and therefore most popular crop during the 1860s and 1870s. The arrival of the Southern Pacific Railroad in the mid-1860s diverted traffic from the river and made transportation of goods to market easier and more reliable. The Western Pacific Railroad was constructed along the western side of Marysville in 1910, taking over maintenance of the Feather River levee. (Historical Commission 1976; Laney n.d.; Napoli 1998).

Flooding, always a problem in the area, became a central issue when hydraulic mining raised the riverbeds of the Feather and Yuba Rivers, adding to the problem. Initial flood control efforts were usually uncoordinated, consisting of the construction of small levees and drains by individual landowners. These measures proved insufficient to protect the town and surrounding cultivated land.

In 1908, residents of Yuba County had formed RD 784, which includes land in the proposed project area. The district was formed partially in response to the flood of 1907. RD 784 built substantial levee and drainage systems to restrain floodwaters from the Bear and Feather Rivers and incorporated levees built by the Farm Land Investment Company and other landowners. In 1911, the newly established State Reclamation Board took jurisdiction over RDs, including RD 784. That year, with approval from the state, the Sacramento Flood Control Plan was implemented. The plan proposed an ambitious program of construction of levees, weirs, and bypasses along the river. In 1920, RD 784 voters approved a plan to improve levees along the Yuba, Bear, and Feather Rivers among other

improvements. The levee along the Yuba River was constructed at this time. (JRP Historical Consulting Services 1994.)

Regulatory Setting

CEQA requires that public agencies that finance or approve public or private projects assess the impacts of the project on cultural resources. Cultural resources are defined as buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance. Cultural resources that possess significance in one of these areas are termed *historical resources* for the purposes of CEQA. If a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, CEQA requires that alternative plans or mitigation measures be considered. Therefore, before developing mitigation measures, the significance of cultural resources must be determined. The steps normally taken in a cultural resources investigation for CEQA compliance are:

- identify cultural resources;
- evaluate the significance of resources;
- evaluate the effects of a project on *all* resources; and
- develop and implement measures to mitigate the effects of the project only on significant cultural resources, or historical resources.

The State CEQA Guidelines define a historical resource as one that is listed or eligible for listing on the California Register of Historical Resources (CRHR) (PRC 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

In addition, CEQA distinguishes between two classes of archaeological resource: archaeological sites that meet the definition of a historical resource as above, and "unique archaeological resources." An archaeological resource is considered unique if it:

- is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory;

- can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
- has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- is at least 100 years old and possesses substantial stratigraphic integrity; or
- involves important research questions that historical research has shown can be answered only with archaeological methods (PRC 21083.2).

The State CEQA Guidelines (14 California Code of Regulations [CCR] 15064.5[c]) state that the lead agency must treat an archaeological resource that meets the definition of a historical resource according to the provisions of PRC 21084.1, 14 CCR 15064.5, and 14 CCR 15126.4. If an archaeological resource does not meet the definition of a historical resource, but does meet the definition of a unique archaeological resource, the lead agency is obligated to treat the resource according to the provisions of PRC 21083.2 (14 CCR 15064.5[c][3]).

According to CEQA, a project may have a significant impact on the environment if it could cause a substantial adverse change in the significance of historical resources (14 CCR 15064.5[b]). CEQA further states that a substantial adverse change in the significance of historical resources means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of historical resources are any actions that would demolish or significantly alter the physical characteristics of historical resources that convey their historical significance and qualify it for inclusion in the CRHR or in a local register that meet the requirements of PRC 5020.01(k) and 5024.1(g).

Methods and Results

Efforts to located cultural resources within the project area consisted of conducting a records search, contacting the Native American Heritage Commission (NAHC) and Native American representatives and conducting a pedestrian survey of the project area. Five cultural resource sites were located within the project area: the levee itself, the Western Pacific Railroad, the Southern Pacific Railroad, an abandoned spur of the Southern Pacific Railroad, and a concentration of concrete blocks that may be historic.

Records Search

On June 28, 2004, a records search was conducted at the North Central Information Center of the California Historical Resources Information System at California State University, Sacramento. The records search covered the project area and a ½-mile radius around the project area. It consulted the state's database

of previously studies and recorded cultural resources sites, as well as pertinent historical inventories and historic maps.

The records search indicated that three previous studies had been conducted within or immediately adjacent to the project area (Bouey 1990; Gilreath et al. 1990; Offerman 2001). These studies resulted in the pedestrian survey of approximately 15% of the project area. Another nine studies have been conducted within a ½-mile radius of the project area (Caltrans 1993; Jackson 1977; Peak & Associates, Inc. 1998, 2002; Pacific Legacy 1997; Pritchard 1967; Storm n.d.; U.S. Army Corps of Engineers 1976; William Self Associates 2000). The records search also indicated that no known cultural resources are located within the project area, and three cultural resources are located within a ½-mile radius of the project area. These resources consist of:

- a bridge that was constructed in 1935 and is listed on the Caltrans Bridge Inventory as not eligible for listing in the National Register of Historic Places (Caltrans 1980);
- an abandoned railroad spur recorded in 1988 (Peak & Associates 1988), and;
- CA-YUB-164 (the Lindhurst Site) a prehistoric occupation site discovered during road construction in 1966 and the subject of a salvage archaeology project in 1967 (Pritchard 1967).

Native American Contacts

On June 25, 2004, Jones & Stokes cultural resources staff contacted the NAHC and requested that they consult their sacred lands database and provide a list of potentially interested Native American representatives for the project area. On June 30, 2004, the NAHC responded, stating that the search of their sacred lands database did not indicate any Native American resources in the immediate vicinity of the project area. The NAHC also provided a list of six Native American representatives that may have information regarding resources within the project area. On July 2, 2004, letters describing the project with maps illustrating the project area were sent to all six representatives. As of July 6, 2004, no responses have been received.

Pedestrian Survey

On July 1, 2004, two Jones & Stokes archaeologists conducted a pedestrian survey of the project area. All portions of the project area that were not developed, paved, or landscaped were surveyed in systematic transects spaced 25 to 35 meters apart. Visibility was poor because of high grasses.

Cultural Resources within the Project Area

Five cultural resources were located: the levee itself; the Western Pacific Railroad, the Southern Pacific Railroad, an abandoned spur of the Southern Pacific Railroad, and a concentration of concrete blocks that may be historic. These resources are evaluated in the technical report (Jones & Stokes 2004). The levee is a part of RD 784, which has been determined not eligible for listing (JRP Historical Consulting Services 1994). Only the Western Pacific Railroad and the Southern Pacific Railroad were recommended eligible for listing in the CRHR. Both of these are operating railroads that are important for their association with transcontinental transportation. The project will leave the railroads operational and will not affect the alignment or setting of the railroads and therefore will not result in significant impacts on these historic resources.

Paleontological Resources

According to the Geologic Map of California, Chico sheet (Saucedo and Wagner 1992), the project area is underlain by Holocene Epoch (i.e., less than approximately 10,000 years before present) natural levee and channel deposits. This geologic unit occurs in active stream channels and their natural levees as well as broad alluvial fans.

Borings advanced by Kleinfelder, Inc. (2004) indicate that the sediments beneath the levee crown consist of alternating layers of sand, silt, clay, and gravels to the depth explored (i.e., 121.5 feet). It is unknown whether the natural levee and channel deposits geologic unit extends to the depth explored by Kleinfelder, or whether a different formation exists within the depth that the slurry wall will penetrate. A geologic cross section passing through Live Oak (approximately 10 miles north of the project area) shows the Sutter Formation (volcaniclastic sediments) underlying the Quaternary alluvial sediments at a depth of approximately 250 feet. This formation may or may not exist beneath the natural levee and channel deposits.

No paleontological resource evaluation has been conducted for this project. However, significant paleontological resources, if present beneath the project area, are expected to be sparsely distributed, given the nature of the depositional environment of the sediments.

Impacts and Mitigation

a. Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Two historical resources are located within the project area, the Southern and Western Pacific Railroads. Both are functioning railroads that are eligible for listing in the CRHR because of their association with the theme of transportation in the west. However, repairs to the levee will not result in impacts on the

railroads. Because there will be no impacts that will adversely change the significance of these historical resources, no mitigation is necessary.

- b. Would the proposed project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?*

Impact CR-1: Potential Adverse Impacts on Undiscovered Historical or Archaeological Resources within the Project Area

The project area has been adequately surveyed for the purposes of identifying surface archaeological sites. Though cultural resources were located within the project area, no cultural resources that are considered historic resources for the purposes of CEQA will be affected.

Because surveys examine only the surface of the ground, unidentified buried cultural resources may be present in the project area. The project area is likely to be sensitive for prehistoric resources based on its location near a permanent water sources and its proximity to known prehistoric sites. Sites in this area are likely to be buried because of their location in a floodplain. Significant buried cultural resources, if present, could be adversely affected by construction activities, including grading and excavation. As indicated in the Environmental Commitments section of Chapter 2, in the event that cultural resources are unearthed, work will stop within 100 feet of the find until its significance has been evaluated and necessary steps have been taken to mitigate any potential impact.

Impact CR-2: Potential Disturbance to Cultural Resources at Borrow Locations

Soil will be imported from a permitted source for use in the construction of a seepage berm. This area has not been examined for cultural resources as part of this project. It is possible that cultural resource sites considered historic resources for the purposes of CEQA are located within the borrow area. If eligible cultural resources were present and the project resulted in the destruction or disturbance of these sites, it would be considered a significant impact. In order to reduce this impact to a less-than-significant level, cultural resources inventories should be implemented and any cultural resources within the proposed area avoided or evaluated and mitigated prior to construction as indicated in Environmental Commitments section of Chapter 2.

- c. Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Impact CR-3: Potential Disturbance to Paleontological Resources

As described above, any paleontological resources are expected to be sparsely distributed beneath the project area. In light of this condition, and the fact the project would disturb only a relatively narrow “slice” of sediments, the likelihood of the project disturbing a paleontological resource, particularly one that is considered significant under CEQA, is low. Excavation of the sediments and any significant fossils could destroy or degrade the fossils’ condition; additionally, the nature of project excavation would cause any fossils to be removed from their stratigraphic context, thereby reducing the scientific usefulness of the fossil. Environmental Commitments as described in Chapter 2 would require that project construction be suspended at any location at which fossils or materials that resemble fossils are excavated. In this event, the Authority would retain a qualified paleontologist to inspect the materials and determine whether they are considered significant under CEQA. Therefore, this impact is less than significant.

- d. Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Impact CR-4: Potential Disturbance of Human Remains

The project has a low potential to disturb human remains, including those located outside of formal cemeteries, because the project area is below the average water level of the river. As indicated in the Environmental Commitments section of Chapter 2, in the event that human remains are unearthed during construction, construction in the area of the discovery would be stopped and the county coroner would be consulted. If the bones appear to be of Native American origin, a qualified archaeologist and the appropriate Native American group or individual would be consulted. This impact is less than significant because this Environmental Commitment is in place and no mitigation is required.

Geology and Soils

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section provides:

- a general description of geologic, soil, and seismic conditions in the project area;

- a description of relevant government regulations that pertain to geologic, soil, and seismic-related hazards; and
- an assessment of potential geologic-, soil-, and seismic-related impacts associated with project construction and operation.

All physical and regulatory setting information presented in this chapter, as well as the subsequent impact analysis, is based on best available information and the professional judgment of earth scientists from Jones & Stokes.

Physical Setting

The old levee was originally a country road called Morrison Grade that was incorporated into the Sacramento River Flood Control Project in the early 1900s. Morrison Grade was transformed into a levee on a foundation made up of uncompacted hydraulic mining debris and layers of sand. Approximately 300 feet of this levee failed in February 1986.

Geology and Soils

The proposed project is located on the left bank levee of the Yuba River upstream of the confluence of the Yuba and Feather Rivers between SR 70 and the Southern Pacific Railroad. The levee is constructed of earth fill and is surfaced at the crown with an asphalt concrete and gravel patrol road. The levee varies in elevation from approximately 76 and 84 feet above mean sea level (msl). (Kleinfelder 2004)

According to Kleinfelder's Problem Identification Report (PIR), the levee fill material generally consists of sandy silt and silty sand. Alternating layers of sand, silty sand, silt and sandy silt underlie the foundation soils, which were underlain by thick layers of gravel. These gravel layers are underlain by alternating layers of sand, silt, and clay, and additional gravel layers to the maximum depth explored (approximately 121.5 feet below the levee crown.) (Kleinfelder 2004)

Beyond the toe of the levee, the surface soils (i.e., to a depth of approximately 5 feet) may be divided into two broad groups: those formed from recent alluvium and those derived from old alluvial fans or terraces (Kleinfelder, 2004). These soils generally consist of silty, fine- to coarse-grained sands, sandy silts, and sandy gravels. Most of the soils on the valley floor are shallow to moderately deep, sloping, well-drained soils with very slowly permeable subsoils underlain by hardpan. These soils have good natural drainage, slow subsoil permeability, and slow runoff rates. (Lytle 1988) Data from three groundwater monitoring wells located within 1.6 miles of the subject levee indicate groundwater elevations varied between approximately 64 and 2 between the years of 1963 and 2004. The groundwater and soil moisture conditions within the area vary,

depending on Yuba River stage, rainfall, irrigation practices, and/or runoff conditions. (Kleinfelder 2004)

Erosion Hazard

The erosion hazard on the level and nearly level terrain that exists on the landside of the levee reaches is slight (Lytle 1998). The hazard of erosion on the steeper levee banks is greater. Erosion hazard on the waterside of the levee varies, but is not a subject of this report, as it would not be affected by the project.

Subsidence

Subsidence is the gradual lowering of the earth surface resulting from fluid withdrawal, oxidation of organic soils, and compaction by heavy structures. The hazard of subsidence at the project area is inferred to be low, based on the absence of organic soils and lack of structures.

Landslides and Levee Stability

There are no existing landslide hazards on the level and nearly level terrain on the landside of the subject levee. Based on the failure of the levee in 1986 and evidence presented by Kleinfelder (2004), the stability of the levee is poor, and the levee is at high risk of failure as a result of seepage.

Seismicity

Fault Rupture and Ground Shaking

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act), which was signed into law by the California State Legislature in 1972, requires the State Geologist to delineate all active fault traces in the state and to delineate appropriately wide Earthquake Fault Zones around these fault traces. The purpose of this and other requirements of the Alquist-Priolo Act is to prevent the construction of habitable structures near active faults without first conducting detailed fault-rupture hazard investigations (Hart and Bryant 1997).

For the purpose of fault zonation under the Alquist-Priolo Act, the California Geological Survey defines active faults as those that show evidence of surface displacement during the Holocene (i.e., within the last 11,000 years). Faults that show evidence of displacement within the Pleistocene (i.e., between 11,000 and 1.6 million years ago) are considered to be potentially active.

There are no active faults, potentially active faults, or Alquist-Priolo Earthquake Fault Zones in the vicinity of the project area (Kleinfelder 2003; Jennings 1994). The closest active fault is the Dunnigan Hills Fault, which is located

approximately 20 miles west of the project area. Accordingly, the project area is not likely to be affected by surface fault rupture, but could be subject to ground shaking from this and other regional faults.

Liquefaction

Liquefaction is a process in which soils lose shear strength and liquefy during episodes of intense ground shaking. As a general rule, liquefaction is most likely to occur in areas underlain by loose, fine sands and/or silts and a water table that resides within 50 feet of the ground surface (California Division of Mines and Geology 1997).

According to the Geologic Map of California, Chico sheet (Saucedo and Wagner 1992), the project area is underlain by natural levee and channel deposits. Borings advanced by Kleinfelder, Inc. (2004) indicate that the sediments beneath the levee crown consist of alternating layers of sand, silt, clay, and gravels to the depth explored (121.5 feet).

According to California Geological Survey geologic hazard mapping (California Geological Survey 2004), the Marysville area is subject to a peak ground acceleration of 0.17 g (where one g is equal to the force of gravity). This low-to-moderate strength of shaking presents a low-to-moderate hazard of liquefaction at the project area.

Regulatory Setting

Section 402 of the Clean Water Act/ National Pollutant Discharge Elimination System

Section 402 of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES program. The EPA has delegated to the SWRCB the authority for administering the NPDES program in California, where it is implemented by the state's nine RWQCBs. Under the NPDES Phase II Rule, any construction activity disturbing 1 acre or more must obtain coverage under the General Permit. General Permit applicants are required to prepare both a notice of intent to obtain coverage under the General Permit and a SWPPP. The SWPPP describes the BMPs that will be implemented to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

Yuba County Grading Ordinance

Proponents of projects in Yuba County that involve excavations (cuts) more than 2 feet deep or fills more than 1 foot deep must comply with the requirements of the Yuba County Grading Ordinance. Depending on the extent of the proposed

cut and fill, compliance with these requirements may require the submittal of a detailed grading plan, soils engineering report, engineering geology report, and liquefaction study. In all instances, the project applicant must prepare and implement an erosion control plan that details BMPs that will be implemented to control stormwater runoff, erosion, and sedimentation until final approval of grading operations is issued by the Yuba County Department of Public Works.

Impacts and Mitigation Measures

a(i). Would the proposed Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault?

There are no known faults located in the immediate vicinity of the project area. Therefore, there will be no impact.

a(ii). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The seismic ground-shaking hazard in the project area is low to moderate (California Geologic Survey 2004), and there would be no structures. Therefore, there would be no impact.

a(iii). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The soils and sediments at the project area are potentially susceptible to liquefaction because of their composition of silts and sands, and the potential presence of groundwater within 50 feet of the surface. However, the proposed bank repairs would neither increase nor decrease this existing hazard, as there is no risk of loss, injury, or death. Therefore, there would be no impact.

a(iv). Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The current risk of landside on the level and nearly level landside and crown of the existing levee is low. The proposed project would not increase or decrease this existing risk. Therefore, there would be no impact.

b. Would the proposed project result in substantial soil erosion or the loss of topsoil?

Impact GEO-1: Accelerated Erosion and Sedimentation

Ground disturbance caused by project construction activities has the potential to increase erosion and sedimentation rates above preconstruction levels. However, The Authority would prepare and implement a SWPPP to address erosion, stormwater runoff, sedimentation, and other construction-related pollutants during project construction until all areas disturbed during construction have been permanently stabilized. The preparation and implementation of the SWPPP is necessary to comply with the requirements of the County's erosion control ordinance and the state's NPDES general construction activity stormwater permit. The specific BMPs that will be incorporated into the SWPPP will be determined during the final design phase of the selected alternative and will be prepared in accordance with the RWQCB Field Manual. However, the plan will likely include, but not be limited to, one or more of the following standard erosion and sediment control BMPs:

- **Timing of construction.** The construction contractor will conduct all construction activities during the dry season to avoid ground disturbance during the rainy season.
- **Staging of construction equipment and materials.** All construction-related equipment and materials will be staged on the landside of the subject levee reaches. To the extent possible, equipment and materials will be staged in areas that have already been disturbed.
- **Minimize soil and vegetation disturbance.** The construction contractor will minimize ground disturbance and the disturbance/destruction of existing vegetation. This will be accomplished in part through the establishment of designated equipment staging areas, ingress and egress corridors, and equipment exclusion zones prior to the commencement of any grading operations.
- **Stabilize grading spoils.** Grading spoils generated during the construction will be temporarily stockpiled in staging areas located away from the Yuba River. Silt fences, fiber rolls, or similar devices will be installed around the base of the temporary stockpiles to intercept runoff and sediment during storm events. If necessary, temporary stockpiles may be covered with an appropriate geotextile to increase protection from wind and water erosion.
- **Install sediment barriers.** The project proponent may install silt fences, fiber rolls, or similar devices to prevent sediment-laden runoff from leaving the construction area.
- **Stormwater drain inlet protection.** The project proponent may install silt fences, drop inlet sediment traps, sandbag barriers, and/or other similar devices.
- **Permanent site stabilization.** The construction contractor will install structural and vegetative methods to permanently stabilize all graded or otherwise disturbed areas once construction is complete. Structural methods may include the installation of biodegradable fiber rolls and erosion control

blankets. Vegetative methods may involve the application of organic mulch and tackifier and/or the application of an erosion control seed mix. Implementation of a SWPPP would substantially minimize the potential for project-related erosion and associated adverse effects on water quality. Because all project-related grading would occur on the subject levee reaches, the project also would not result in the loss of topsoil resources.

Therefore, this impact is considered less than significant.

- c. Would the proposed project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Impact GEO-2: Increased Levee Stability

There are no existing hazards on the level terrain surrounding the subject levee. The proposed project would improve the stability of the levee by further reducing seepage and the potential for seepage-related failures. Therefore, this impact would be beneficial.

- d. Would the proposed project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

The proposed project would not involve the construction or placement of structures on expansive soils. Therefore, there would be no impact.

- e. Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The project would not generate wastewater. Therefore, there would be no impact.

Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Physical Setting

A substantial portion of the land surrounding the project area is used for agricultural production and therefore lacks intensive development. It is likely

that these areas have been regularly exposed to pesticides, herbicides, and other chemicals used in typical agricultural production. However, no soil contamination has been found within the subject levee.

Regulatory Setting

The analysis of significance of impacts related to hazards and hazardous materials is based on criteria **VII. a–h** in the environmental checklist above and on the following factors:

- potential hazards and/or hazardous materials encountered during trenching or any subsurface excavation and
- proper disposal of hazardous materials encountered during trenching or any subsurface excavation.

Impacts and Mitigation Measures

- a. Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or*
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Impact HAZ-1: Possible Temporary Exposure to or Release of Hazardous Materials during Construction

Small volumes of hazardous materials (fuel, engine oil, and hydraulic line oil) would be temporarily used and handled to operate the construction equipment. Refueling of most equipment (except for the cranes and trench excavators) would be limited to the designated staging area. There is a danger that these materials may be released in accidental spills and result in harm to the people or the environment. Implementation of a SWPPP, as described under Impact GEO-1, would ensure that the risk of accidental spills and releases into the environment would be minimal and that this impact would be less than significant. No mitigation is required.

- c. Would the proposed project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No schools exist within ¼ mile of the proposed project area.

- d. Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The proposed project is not located on a site included on any list of hazardous material sites. There would be no impact.

- e. Would the proposed project be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?*

The proposed project is located more than 3 miles from the Yuba County Airport and would not affect any airport land use plans. There would be no impact.

- f. Would the proposed project be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?*

There are no known private airstrips located within the vicinity of the project area. The proposed project would have no impact on use or safety of private airstrips, nor would the use of such airstrips result in increased hazards to people working in the project area. There would be no impact.

- g. Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Construction-related activities for the proposed project would occur along the landside and crown of the existing levee. Because of the rural nature of the project area, emergency response and evacuation plans are not expected to be affected by the proposed project during or upon completion of construction. There would be no impact.

- h. Would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Impact HAZ-2: Exposure of People or Structures to a Significant Risk Involving Wildland Fires

Project construction activities include the use of mechanized construction equipment on the landside of the levee. Flammable fuels used in these mechanized tools, in conjunction with potential sparks from this construction equipment, present a potentially significant risk of wildland fire. Given the project's proximity to the mobile home park and the Caltrans storage yard, this

impact is significant. Mitigation measures HAZ-MM-1 and HAZ-MM-2 would reduce the impact to a less-than-significant level.

Mitigation Measure HAZ-MM-1: Before construction begins, clear materials that could serve as fire fuel from areas slated for construction activities.

If dry vegetation or other fire fuels exists on or near staging areas or any other area on which equipment will be operated, contractors shall clear the immediate area of fire fuel. To maintain a firebreak and minimize the availability of fire fuels, the Authority shall require contractors to maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.

Mitigation Measure HAZ-MM-2: Require that spark-generating construction equipment be equipped with manufacturers' recommended spark arresters.

The Authority shall require contractors to equip any construction equipment that normally includes a spark arrester with an arrester in good working order. Implementation of this measure would minimize a source of construction-related fire.

Hydrology and Water Quality

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.			■	
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
c. Substantially alter existing drainage pattern of site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>		
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
j. Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>		■

Introduction and Methods

This chapter provides: (1) a general description of local hydrology and water quality in the project area, (2) a general description of relevant government regulations that pertain to surface and groundwater hydrology and water quality, and (3) an assessment of potential hydrologic and water quality impacts associated with the construction and operation of the proposed project. All physical and regulatory setting information presented in this chapter, as well as the subsequent impact analysis, is based on best available information and the professional judgment of hydrologists and earth scientists from Jones & Stokes.

Physical Setting

Local Surface Water Hydrology

The Yuba River is the only waterway in the project vicinity. The river drains the western slope of the Sierra Nevada and flows generally southwesterly to its confluence with the Feather River. The mainstem of the Yuba River forms at the confluence of the North, Middle, and South forks just south of the New Bullards Bar Reservoir. Major tributaries to the Yuba include Slate, Canyon, Goodyears, Haypress, Fordyce, Texas, Fall, Oregon, Kanaka, East Fork, and Poorman Creeks and Downie River. During the summer, the water in the Yuba near the project site is confined to the low-flow channel, approximately 300 feet from the south levee. (EDAW 2003)

Water Quality

The Yuba River is not included on the 2002 CWA 303(d) list, which indicates that it is not an impaired water for any of its beneficial uses, including those uses related to fish, recreation, and irrigation. Water quality data are collected at a station near Smartville and a station near Marysville. According to a report by USGS, the Yuba River ranked as one of the least degraded rivers in the nation (USGS 2003).

Regulatory Setting

Hydrology—Flood Safety

Flood hazard areas are mapped by FEMA on Flood Insurance Rate Maps. These maps are designed for flood insurance purposes only and do not necessarily show all areas subject to flooding. The maps designate lands likely to be inundated during a 100-year storm event and elevations of the base flood. They also depict areas between the limits affected by 100-year and 500-year events and areas of

minimal flooding. These maps are often used to establish building pad elevations to protect new development from flooding effects.

The California Reclamation Board regulates the construction of levees and berms in the Central Valley. Rules promulgated in Title 23 of the California Code of Regulations (CCR Title 23, Division 1, Article 8 [Section 111 through 137]) regulate the modification and construction of levees to ensure public safety. The rules state that existing levees may not be excavated or left partially excavated during the flood season, which is generally November 1 through April 15 for the Yuba River.

Water Quality

Potential water quality impacts associated with general construction activity are regulated at the local, state, and federal level by the City of Marysville and SWRCB.

Federal

Potential water quality impacts associated with general construction activity are regulated at federal level through the NPDES general construction activity permit, described in the Geology and Soils section.

State

The SWRCB is the primary state agency responsible for protecting the quality of the state's surface water and groundwater supplies. Under authority of the Porter-Cologne Water Quality Control Act, the SWRCB sets water quality policies and standards, documents these policies and standards in official water quality control plans (e.g., Sacramento River Basin Plan), and enforces them through various state and federal programs. Potential water quality impacts associated with general construction activity are typically regulated at the state level by RWQCBs through the NPDES general construction activity permit, described in the Geology and Soils section.

Local

Potential water quality impacts associated with general construction activity are regulated at the local level through the Yuba County Grading, Erosion, and Sediment Control Ordinance described in the Geology and Soils section.

Impacts and Mitigation

- a. Would the proposed project violate any water quality standards or waste discharge requirements?*

Impact WQ-1: Accelerated Erosion and Sedimentation

Construction activities on the landside and crown of the existing levee have the potential to affect water quality in the Yuba River and receiving waters. Ground disturbing activities could result in a slight increase in the potential for erosion and sedimentation near the Yuba River. However, as discussed in Impact GEO-1, construction would be limited to the landside and crown of the existing levee. In addition, the construction contractor would prepare and implement a SWPPP to control stormwater runoff, erosion, sedimentation, and other construction-related pollutants during excavation and until construction is complete and all disturbed areas are permanently stabilized. This would substantially minimize the potential for project-related erosion, sedimentation, and the violation of applicable water quality standards. Therefore, this impact would be less than significant.

Impact WQ-2: Potential Inadvertent Release of Petroleum Products into the Channel

Small volumes of petroleum products (fuel, engine oil, and hydraulic line oil) would be temporarily used and handled to operate construction equipment. There is a danger that these materials may be released in accidental spills and result in harm to people or the environment. The implementation of a SWPPP (described in the Geology and Soils section), which would include methods to protect water quality in response to emergency spills, would minimize potential effects. Therefore, this impact would be less than significant. No mitigation is required.

- b. Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

The proposed project would not have an effect on groundwater. There would be no impact.

- c. Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a*

stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

Ground disturbing activities that would occur during the construction of the proposed project would result in very minor, temporary alterations to local drainage patterns in the project area. The placement of fill to create the berm may temporarily alter erosion and siltation rates; however, the completed project would reduce the risk of levee failure and the increased erosion and siltation rates. The project would not alter the course of a stream or a river and would not substantially affect drainage patterns. This impact would be less than significant. No mitigation is required.

d. Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Impact WQ-3: Changes in Drainage Patterns that Affect the Potential for Flooding

Land grading and other ground disturbing activities that would occur during the construction of the proposed levee repairs would result in very minor, temporary alterations to local drainage patterns on the landside of the levee. However, these alterations would be of minor extent and would not affect on- or off-site flooding. In addition, the purpose of the proposed project is to increase flood protection and the project would therefore reduce the risk of levee failure and subsequent flooding. Therefore, this impact is less than significant in the short term and is beneficial in the long term.

e. Would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Impact WQ-4: Increased Runoff as a Result of Operation of Relief Wells

The operation of the proposed relief wells would result in the collection of up to 70 gallons of water per minute during maximum flows. The water would be collected using a V-shaped ditch and collection system as described in Chapter 2. The collection system downstream of SR 70 would transfer flows from the well to the storm drain system to the south. The existing storm drain has adequate capacity to carry the small amount of discharge from the collection system. The collection system downstream of SR 70 would drain to a pump station located north of Shad Pad Road at a location adjacent to the existing levee. The water would then be pumped to the waterside of the Yuba River. The collection of the water would not result in substantial increases in pollutant concentrations, nor

would any additional pollutants be introduced to the system. Therefore, this impact is less than significant. No mitigation is required.

f. Would the proposed project otherwise substantially degrade water quality?

As described in Impacts GEO-1, WQ-1, and WQ-2, implementation of a SWPPP would substantially reduce the potential for construction-related erosion and sedimentation to adversely affect water quality in the Yuba River. Therefore, this impact is less than significant. No mitigation is required.

g. Would the proposed project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The proposed project would not result in the placement of housing within the 100-year floodplain. There would be no impact.

h. Would the proposed project place within a 100-year flood hazard area structures that would impede or redirect floodflows?

The project objective is to repair the levee, and does not involve the construction of any new structures that would impede or redirect floodflows. There would therefore be no impact on flow.

i. Would the proposed project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Impact WQ-4: Flooding Resulting from Failure of the Levee

The methods used to construct the proposed levee repairs are designed to minimize the potential for levee failures during construction. Once constructed, the proposed levee repairs would improve the long-term stability of the subject levee by reducing seepage and seepage-related failures. Therefore, the proposed project would have a less-than-significant impact in the short term and a beneficial impact in the long term.

j. Would the proposed project contribute to inundation by seiche, tsunami, or mudflow?

The proposed project would partially alter the composition of the subject levee reaches but would not involve alterations that would increase susceptibility of surrounding communities to inundation by seiches, tsunamis, or mudflows. Therefore, there would be no impact.

Land Use and Planning

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IX. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Physical Setting

The Yuba County General Plan (Yuba County 1996) designates the project area as Valley Agriculture. The Valley Agriculture classification is used to identify areas on the valley floor located outside of urban areas to retain agriculture as the primary land use; to protect the agricultural community from encroachment of unrelated agricultural uses that, by their nature, would be injurious to the physical and economic well-being of the agricultural community; and to encourage the preservation of agricultural land, both productive and potentially productive. Examples of uses that are considered appropriate under this classification include, but are not limited to: growing and harvesting field crops, grain, and hay crops; growing and harvesting fruit and nut trees, vines, and vegetables; pasture and grazing land; game preserves or hunting and fishing; and animal raising operations. Limited residential development is permitted for property owners, caretaker/employee housing, and farmworker housing. (Yuba County 1996.)

The specific project area is a levee and is compatible with the Valley Agricultural land use designation because it protects agricultural lands from damage and property loss attributable to flooding.

Regulatory Setting

The Yuba County General Plan includes goals, policies, and objectives that guide land use decisions in Yuba County. The following goals, policies, and objectives may be relevant to the project:

2—Open Space and Conservation Goal. Maintain and enhance natural resources, open space lands, and the scenic beauty of Yuba County in order to protect the quality of the environment, the county's economy, and the health and well-being of present and future residents.

86—Open Space and Conservation Policy. The County shall encourage the preservations of areas of natural vegetation that may also contain threatened, endangered, or special-status species, including oak woodlands, riparian areas, marshland, and vernal pools.

Impacts and Mitigation Measures

The analysis of significance of impacts of the proposed project is based on criteria *a–c* in the above environmental checklist.

a. Would the project physically divide an established community?

The proposed levee repairs would leave no permanent structures that would physically divide an established community. There would be no impact.

b. Would the proposed project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project would not conflict with the Yuba County General Plan or any other applicable plan. There would be no impact.

c. Would the proposed project conflict with any applicable habitat conservation plan or natural community conservation plan?

The proposed project would not conflict with any habitat conservation plan or natural community conservation plan. There would be no impact.

Mineral Resources

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
X. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project area is not located on or near any known mineral resources protected for future mining (Yuba County 1996). The project will have no impact on mineral resources.

Noise

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XI. NOISE. Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This chapter addresses noise impacts associated with construction of the proposed levee repairs. Where applicable, mitigation measures to reduce impacts are also discussed. Construction activities are the primary source of noise associated with the project. Where significant noise impacts have been identified, mitigation measures to reduce noise impacts have been identified.

Physical Setting

The following is a brief background discussion of noise terminology.

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels which approximates the frequency response of the human ear.
- **Maximum Sound Level (L_{\max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{\min}).** The minimum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq}).** The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy.
- **Percentile-Exceeded Sound Level (L_{xx}).** The sound level exceeded “x”% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Most of Yuba County is rural in nature. Areas of the county that are not urbanized are relatively quiet. Areas of the county that are more urbanized are subjected to higher noise levels from roadway traffic, industrial activities, and other human activities. Within the county, major sources of noise include roadway traffic on state routes, major arterials, and other roadways; railroad noise; aircraft operations; and fixed noise sources from industrial, commercial, mining, and farming activities. Table 3-6 summarizes typical ambient noise levels based on population density.

Table 3-6. Population Density and Associated Ambient Noise Levels

	dBA, L _{dn}
Rural	40–50
Suburban	
Quiet suburban residential or small town	45–50
Normal suburban residential	50–55
Urban	
Normal urban residential	60
Noisy urban residential	65
Very noise urban residential	70
Downtown, major metropolis	75–80
Under flight path at major airport, ½ to 1 mile from runway	78–85
Adjoining freeway or near a major airport	80–90
Sources: Cowan 1984; Hoover and Keith 1996.	

A mobile home park is located on the landside of Reach B. SR 70 runs directly adjacent to the park, approximately 100 feet west, and the former Western Pacific Railroad is just west of SR 70. Approximately 10 sensitive receptors are located within this area. A residential area, composed of approximately nine units, exists along the landside of Reach C. These units are located between 10 and 50 feet from the landside toe of the levee. A motel is located farther upstream, on the landside of Reach C, approximately 300 feet from the existing levee. The remainder of the landside of Reach C is bordered by a Caltrans storage yard, which is located approximately 150 feet to 400 feet from the levee. All other areas near the levee are rural, containing grassland, orchards, or railroad tracks.

Regulatory Setting

There are no federal or state noise regulations that apply to the proposed project.

Local Regulations

Yuba County General Plan Noise Element

Yuba County has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. The general plan is a document required by state law that serves as the county's blue print for land use and development. The plan is a comprehensive, long-term document that provides details for the physical development of the county, sets out policies, and identifies ways to put the policies into action. The

noise element of the general plan identifies recommended ambient noise levels for land uses within the county (Table 3-7).

Table 3-7. Yuba County Noise Element Recommended Allowable Ambient Noise Level Objectives

Land Use	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Low density residential	50 dB	50 dB
Multi-family residential	55 dB	50 dB
Schools	45 dB	45 dB
Retail/commercial	60 dB	55 dB
Passive recreation areas	45 dB	45 dB
Active recreation areas	70 dB	70 dB
Hospitals/mental facilities	45 dB	40 dB
Agriculture	50 dB	50 dB
Neighborhood commercial	55 dB	55 dB
Professional office	55 dB	55 dB
Light manufacturing	70 dB	65 dB
Heavy manufacturing	75 dB	70 dB

Source: Yuba County 1996.

Yuba County Noise Ordinance

The Yuba County noise ordinance, part of the county's code, is enforceable by law. Following is a brief discussion of the noise ordinance regulations implemented by the county to protect its citizens from the adverse effects of noise.

Section 8.20.140 of Yuba County's noise ordinance states that where the ambient noise level is less than designated in Table 3-8, the respective maximum noise level from Table 3-8 will govern.

Table 3-8. Yuba County Noise Ordinance Ambient Base Noise Level

Zone Permitted	Time	Ambient Level (decibels)	Maximum Noise Level (decibels)
Single family residential	10:00 p.m. to 7:00 a.m.	45	55
	7:00 p.m. to 10:00 p.m.	50	60
	7:00 a.m. to 7:00 p.m.	55	65
Single family residential	10:00 p.m. to 7:00 a.m.	50	60
	7:00 a.m. to 10:00 p.m.	55	65
Commercial—business and professional (BP)	10:00 p.m. to 7:00 a.m.	55	65
Commercial	7:00 a.m. to 10:00 p.m.	60	70
General industrial zone (M1)	Anytime	65	75
Extractive industrial zone (M2)	Anytime	70	80

Section 8.20.130 of Yuba County’s noise ordinance states that it is unlawful for any person within a residential zone, or within a radius of 500 feet, to operate any construction equipment or perform any outside construction or repair work. This prohibition applies between the hours of 10:00 p.m. and 7:00 a.m., provided that such activity occurs in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance.

Other Relevant Criteria

The Office of Noise Control (ONC) of the California Department of Health published a model noise ordinance 1977 (Office of Noise Control 1977). This model ordinance recommends limits on noise generated by construction noise sources. These limits are summarized in Table 3-9.

Table 3-9. Office of Noise Control Construction Noise Limits

Time of Day	Single Family Residential		Multi-Family Residential		Semi-Residential/ Commercial	
	Duration ≤10 days	Duration >10 days	Duration ≤10 days	Duration >10 days	Duration ≤10 days	Duration >10 days
Daily, except Sundays and legal holidays, 7 a.m. to 7 p.m.	75 dBA	60 dBA	80 dBA	65 dBA	85 dBA	70 dBA
Daily, 7 p.m. to 7 a.m. and all day Sunday and legal holidays	60 dBA	50 dBA	65 dBA	5 dBA	70 dBA	60 dBA
Source: Office of Noise Control 1977.						

CEQA Significance Criteria

Criteria for determining the significance of noise impacts were developed based on the environmental checklist form in State CEQA Guidelines Appendix G, and applicable federal, state, and local regulations. A noise impact from the alternatives would be considered significant if:

- construction would occur within 500 feet of a residence outside the hours of 7:00 a.m. and 10:00 p.m.;
- construction would occur between the hours of 10:00 p.m. and 7:00 a.m. and would exceed the limits indicated in Table 3-8; or
- noise from operational activities would exceed the limits indicated in Table 3-9.

Impacts and Mitigation Measures

- a. Would the proposed project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?*

Impact N-1: Exposure of Noise-Sensitive Land Uses to Noise from Construction Activities

Construction of levee repairs would temporarily increase noise in the vicinity of the project area. Noise increases would result both from on-site construction activities and from construction-related vehicle traffic delivering materials to and from the construction site. This increase in noise would occur only during the duration of construction and would not occur as a result of operation of the proposed project. In addition, Yuba County's noise ordinance exempts construction activity between the hours of 7:00 a.m. and 10:00 p.m. Therefore, this impact is less than significant, and no mitigation is required.

- b. Would the proposed project expose persons to or generate excessive groundborne vibration or groundborne noise levels?*

The proposed project is not expected to generate groundborne vibration. There would be no impact.

- c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Impact N-2: Generation of Permanent Noise Levels Above Existing Levels

The pump associated with relief well operation would generate noise. However, it would be operated only during periods of high flow and would be located north of Shad Pad Road adjacent to the existing levee, approximately 300 feet from any sensitive receptors. In addition, it would not generate a significant amount of noise. Therefore, this impact would be less than significant. No mitigation is required.

- d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Impact N-3: Exposure of Noise-Sensitive Land Uses to a Substantial or Periodic Increase in Noise

As described above, the only noise that would be generated upon completion of the proposed project would be a result of operation of the pump station. This noise is not expected to result in a substantial change in ambient noise levels, nor would it affect sensitive receptors. Therefore, this impact is less than significant. No mitigation is required.

- e. Would the project be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?*

The project would be located more than 3 miles from the nearest airport and is not within an airport land use plan. There would be no impact.

- f. Would the project be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?*

The project is not located in the vicinity of a private airstrip and would not expose residents to excessive noise from aircraft. There would be no impact.

Population and Housing

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XII. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Physical Setting

According to the 2000 U.S. Census, there are approximately 23,000 housing units within Yuba County. Based on increased development, particularly in the southern area of the county, it is estimated that there are several hundred additional housing units available at present. These include developments in the Plumas Lakes area, Linda, Olivehurst, and North Arboga.

The immediate project area is rural, although there are some developed areas on the landside of the subject levee. These include a motel, housing units, the Caltrans storage yard, mobile homes, and a Wal-Mart. Specifically, a mobile home park is located adjacent to reach B, and an additional nine residences are located just south of Shad Pad Road, on the landside of Reach C.

Impacts and Mitigation

- a. Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

The implementation of the proposed project would not induce population growth. However, levee repairs to accommodate a 100-year flood would be beneficial to the population and housing in Yuba County as a result of the decreased risk of future flooding within the affected areas, and the associated threat to lives and infrastructure.

- b. Would the project displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere, or*
- c. Would the project displace a substantial number of people, necessitating the construction of replacement housing elsewhere?*

Impact POP-1: Changes in Housing Supply as a Result of Removal or Relocation of the Mobile Home Park

Option 2 for Reach B would require the removal or relocation of a mobile home park and would result in minimal changes in housing options in this area. Approximately 10 units would need to be relocated or removed to accommodate the construction of relief wells. However, because the number of houses expected to be removed or relocated would be small, and because housing availability is increasing as a result of several new developments in southern Yuba County, there would not be an overall shortage of housing as a result of implementation of Options 2 and 3 for Reach B. Therefore, this impact is less than significant and no mitigation is required.

Public Services

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is a levee repair project; it will not result in any new or physically altered government facilities, nor will it result in an increased demand for public services. No impact on public services would occur.

Recreation

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIV. RECREATION. Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This chapter addresses impacts on recreation associated with construction of the proposed levee repairs. Where applicable, mitigation measures to reduce impacts are also discussed. Construction activities are the primary source of impacts on recreation associated with the project. Where significant impacts have been identified, mitigation measures to reduce these impacts have been identified.

Physical Setting

A recreation area, approximately 2 acres, is located northeast of the project area, on the waterside of Reach B. This informal recreation area is used for a number of activities, including fishing, boating, and off road vehicle use. The area is accessed via the levee crown and a paved road connecting the levee to the beach-like recreational area.

Yuba County

The Yuba County system of parks and recreational facilities is limited, and the county does not have a parks and recreation department (EDAW et al. 2003). However, the Yuba County General Plan has a goal to “set aside sufficient areas to meet future park and recreation needs.” The General Plan also states,

Privately owned park and recreation facilities shall be encouraged, including private campgrounds, hunting and fishing areas, sports centers, and private

picnicking areas, in order to reduce demands on public agencies. (Yuba County 1996).

CEQA Significance Criteria

Criteria for determining the significance of impacts on recreation were developed based on the environmental checklist form in State CEQA Guidelines Appendix G. In addition, an impact on recreation as a result of the proposed project would be considered significant if the project would:

- locate project facilities in a manner that would result in a substantial long-term disruption of any institutionally recognized recreational facilities or activities; or
- result in substantial inconsistency with local recreation plans and policies.

Impacts and Mitigation Measures

- a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

The implementation of the proposed project would not result in the increased use of other recreational facilities, or the construction of new facilities that would cause an adverse effect on the environment.

Impact REC-1: Temporary Disruption to Existing Recreational Facilities

Vehicles may access the beach area on the waterside of Reach B only by using the levee crown and a road connecting it to the beach area. During construction of the slurry wall in this portion of the levee, access along the levee crown will be prohibited. Construction of approximately 100 feet of slurry wall is expected to take approximately 1 day. Therefore, it is anticipated that access to the recreational area would be temporarily closed for no longer than 2 days (enough time to construct the wall in the location of access). Because this closure would be temporary and access would resume upon completion of the slurry wall in that portion of the levee, and because notice of the closure would be given before the start of construction as described in the Environmental Commitments section of Chapter 2, this impact is considered less than significant. No mitigation is required.

Transportation and Traffic

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC. Would the project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Introduction and Methods

This section presents the environmental and regulatory background necessary to analyze the traffic impacts associated with the proposed project.

Operation of the proposed project is not expected to generate a substantial number of vehicle trips and, therefore, is not expected to result in an impact on transportation and circulation. Consequently, operational impacts resulting from the proposed project are not addressed in this document. However, construction of the proposed project would generate vehicle trips and affect the operation of roadways in the immediate area surrounding the project site, which include SR 70 and Shad Pad Road. For Phase I construction activities, an excavator, two

to three dump trucks, and two loaders would be brought onto the site from SR 70. Phase II construction activities would include approximately 10,700 haul trips, as well as five compactors and five bulldozers brought on site from SR 70.

Implementation of the proposed project would affect the operation of roadways at and within the immediate area of the proposed project site. The primary effect of the proposed project would be to result in a temporary increase in the number of vehicles on the surrounding roadways.

Physical Setting

Project Area Transportation Network

The project site is located within the County of Yuba on the northern edge of the city of Linda. SR 70 runs through the project site. SR 70, North Beale Road, and Shad Pad Road provide regional access to the project area. It is assumed that trucks and other construction equipment would access the project areas from the main roadway onto smaller roadways within the area.

Criteria for Determination of Significance

The following significance criteria, in addition to *a-c* in the checklist above, were used in the determination of significance (ITE 1989). The proposed project would result in a significant impact if:

- based on guidance from the Institute of Traffic Engineers (ITE), the proposed project were to result in 100 *added* vehicle trips to peak hour traffic volumes; or
- the proposed project were to result in an overall level of service (LOS) D or worse on the City's local and major street systems.

During construction, the movement of crews, equipment, and material would result in temporary increases in traffic on the surrounding roadways. Locally, vehicles associated with construction activities are anticipated to travel on SR 70, North Beale Road, and Shad Pad Road. Construction-related traffic impacts are expected to be temporary, and the additional traffic would be minor (less than 100 trips) compared to existing daily and peak-hour traffic volumes on local roadways.

Regulatory Setting

The quality of service provided by a roadway is quantified in terms of LOS. This method uses a letter rating to describe the peak period driving conditions for a particular facility. The letters A–F represent progressively worse driving

conditions—generally, LOS A indicates a free-flowing operation with little or no delay, and LOS F denotes jammed flow with substantial delay. Table 3-10 summarizes typical LOS conditions.

Table 3-10. Level of Service Criteria for Freeways

Level of Service	Description	Volume/Capacity Ratio and Speed
A	Free-flow conditions with a high level of maneuverability.	0.00 to 0.28 65 mph
B	Free-flow conditions but presence of other vehicles is noticeable. Minor disruptions easily absorbed.	0.28 to 0.44 65 mph
C	Minor disruptions cause significant local deterioration	0.44 to 0.66 64 mph
D	Borders on unstable flow with ability to maneuver severely restricted because of congestion	0.66 to 0.84 61 mph
E	Conditions at or near capacity. Disruptions cannot be dissipated and cause queues to form	0.84 to 1.00 53 mph
F	Forced or breakdown flow with queues forming at locations where demand exceeds capacity.	Greater than 1.00 Variable

¹ Based on design speed of 65 miles per hour.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209 (Washington, DC, 1998), p. 3-11

Cities and counties use various criteria to determine acceptable LOS on their roadway systems. The Circulation Element of the Yuba County General Plan contains the following goal:

2CG: Maintain roadways level of service that recognize differences between urban and rural environments and minimize congestion.

The associated policy (21CP) states:

“On County roads in urban areas and within specific/community plan areas, Level of Service C shall be maintained during PM Peak Hour at signalized intersections.”

Impacts and Mitigation Measures

- a. Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a*

substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections), or

- b. Would the project cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?*

Impact TR-1: Increased Traffic and Exceedance of Level-of Service Standard during Construction

During construction, the movement of crews, equipment, and material would result in temporary increases in traffic on the surrounding roadways. Locally, vehicles associated with construction activities are anticipated to travel on SR 70, North Beale Road, and Shad Pad Road. For Phase I construction activities, an excavator, two to three dump trucks, and two loaders would be brought to the site from SR 70. Phase II construction activities would include approximately 10,700 haul trips, as well as five compactors and five bulldozers brought to the site from SR 70. Construction-related traffic impacts are expected to be temporary, and the additional traffic would be minor (less than 100 trips) compared to existing daily and peak-hour traffic volumes on local roadways. Because the amount of traffic anticipated to be generated by the proposed project is relatively minor, it is not anticipated to result in an overall LOS D or worse on the City's local and major street systems. However, constructing the project could result in an adverse effect on local traffic patterns. Therefore, this impact is considered significant. Implementation of Mitigation Measure TR-MM-1 and Mitigation Measure TR-MM-2 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-1: Coordinate Truck Routes

The project contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.

Mitigation Measure TR-MM-2: Develop and Implement a Traffic Control Plan

The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.

A traffic control plan describes the methods of traffic control to be used during construction. All on-street construction traffic would be required to comply with the local jurisdiction's standard construction specifications. The plan will reduce the effects of construction on the roadway system in the project area throughout the construction period. Construction contractors will follow the standard

construction specifications of affected jurisdictions and obtain the appropriate encroachment permits, if required. The conditions of the encroachment permit will be incorporated into the construction contract and will be enforced by the agency that issues the encroachment permit.

At least one lane of traffic will be maintained at all times along major streets. Proposed lane closures during the a.m. and p.m. commuting hours will be coordinated with the appropriate jurisdiction and minimized during the morning and evening peak traffic periods. Standard construction specifications also typically limit lane closures during commuting hours. Lane closures will be kept as short as possible. Safe pedestrian and bicyclist access, if any, will be maintained in or around the construction areas at all times. Construction areas will be secured as required by the applicable jurisdiction to prevent pedestrians and bicyclists from entering the work site, and all stationary equipment will be located as far away as possible from areas where bicyclists and pedestrians are present.

Impact TR-2: Degradation or Damage to Local Roads

During construction of the proposed projects, Shad Pad Road, and other local roads, not designed to accommodate the movement of large trucks, may be degraded or otherwise damaged. The movement of haul trucks, construction equipment, and crew vehicles could damage the roadways such as potholes or minor fractures. This impact is considered significant. Mitigation Measure TR-MM-3 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-3: Repair Damaged Roads Upon Completion of Each Phase

The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.

- c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

The proposed project would not affect air traffic patterns. There would be no impact.

- d. Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Impact TR-3: Increased Road Hazards during Construction

The proposed project does not have any design features that would result in hazardous traffic conditions. However, the ingress and egress onto and off of SR 70 at the project site would result in increased traffic hazards. These trucks would need to cross North Beale Road and would increase the traffic volume at this intersection and the potential for hazards in this area. This impact is considered significant. Implementation of Mitigation Measure TR-2, as described under Impact TR-1, would reduce this impact to a less than significant level.

e. Would the project result in inadequate emergency access?

Impact TR-4: Temporary Construction-Related Blockage of Emergency Access

Construction of the proposed project could result in inadequate emergency access by temporarily blocking emergency access through traffic delays attributable to slow-moving construction and haul vehicles entering and departing the site; loading and unloading of trucks and equipment; potential closure of pedestrian and/or bicycle rights-of-way; and other activities have the potential to result in inadequate emergency access. In addition, construction activities and the operation and storage of construction equipment and materials could result in inadequate emergency access. As a result, construction-related emergency access blockage may be significant. Implementation of Mitigation Measure TR-3 would reduce this impact to a less-than-significant level.

Mitigation Measure TR-MM-4: Notify and Consult with Emergency Service Providers.

The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.

f. Would the project result in inadequate parking capacity?

Impact TR-5: Temporary Inadequate Parking Capacity

Construction of the seepage cutoff walls and relief and monitoring wells is not labor intensive. Estimates of the number of pieces of equipment that would be required suggest that up to 20 workers would be needed to construct each reach. Existing street parking capacity in addition to parking at construction staging areas would accommodate commuters to the construction sites. Because

adequate parking is available at and in the vicinity of the levee, the effect on local parking capacity is considered less than significant. No mitigation is required.

g. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Construction of the proposed project would be temporary and would not conflict with any adopted policies, plans, or programs supporting alternative transportation. There would be no impact.

Utilities and Service Systems

	Potentially Significant Impact	Less-than- Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.				
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Physical Setting

There are very few utilities in or adjacent to the project area because it is rural in nature. However, there are approximately 10 utility poles supporting a power line that runs adjacent to the landside toe of the levee. Most of the poles are within 50 feet of the toe of the levee.

Impacts and Mitigation

- a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or*
- b. Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, or*
- c. Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, or*
- d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed, or*
- e. Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments, or*
- f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, or*
- g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

The proposed project would not create any new demand for utilities or public service systems. It would not exceed wastewater requirements, nor would it necessitate expansion of any wastewater treatment facilities or water supply entitlements. The project would comply with federal, state, and local regulations related to solid waste.

Impact UT-1: Relocation of Power Lines

The construction of a seepage berm or relief wells along all reaches of the project area would require the relocation of the existing power lines along the landside levee toe. The Authority has contacted the appropriate utilities to coordinate this

relocation. It is anticipated that the utilities have established procedures for power line relocation. The Authority will cooperate with the utilities and follow standard procedures to ensure minimal disruption to the power lines and services. Therefore, this impact would be less than significant. No mitigation is required.

Chapter 4

List of Preparers

Chapter 4

List of Preparers

This chapter lists the people who contributed to the preparation of this EIR. This list is consistent with the requirements set forth in CEQA (Public Resources Code § 15129).

Jones & Stokes

Name	Title
Gregg Roy	Project Director
Chris Elliott	Project Manager
Jennifer Ames	Project Coordinator
Laurel Arner	Biologist
Harry Oakes	Wildlife Biologist
Shannon Hatcher	Noise Analyst
Tim Rimpo	Air Quality Analyst
Shahira Ashkar	Cultural Resources Specialist
Scott Frazier	Soil Scientist
Corrine Ortega	Publications Specialist
John Durnan	Graphic Artist
Dianne Rose	Graphic Artist

Chapter 5

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Chapter 5

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Appendix A
CEQA Checklist

Appendix A

CEQA Checklist

1. **Project Title:** Yuba River Levee Repair Project
2. **Lead Agency Name and Address:** Three Rivers Levee Improvement Authority
3. **Contact Person and Phone Number:** Richard Webb (530) 742-0520
4. **Project Location:** Yuba River south levee
5. **Project Sponsor's Name and Address:** Same as Lead Agency
6. **General Plan Designation:** Valley Agriculture
7. **Zoning:**
8. **Description of Project:**
Please refer to Chapter 2, Project Description.
9. **Surrounding Land Uses and Setting:**
Please refer to Chapter 2, Project Description, and the resource sections in Chapter 3.
10. **Other Public Agencies whose Approval Is Required:**
State Lands Commission
State Reclamation Board
Central Valley Regional Water Quality Control Board
U.S. Fish and Wildlife Service

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

Determination:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have an impact on the environment that is “potentially significant” or “potentially significant unless mitigated” but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Date

Printed Name

For

Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - (a) Earlier Analysis Used. Identify and state where earlier analyses are available for review.
 - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - (a) the significance criteria or threshold, if any, used to evaluate each question; and
 - (b) the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
II.	AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
III.	AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> /beneficial
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS.					
	Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
	Would the project:				
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	■/beneficial	<input type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	■/beneficial	<input type="checkbox"/>
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
j.	Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
IX.	LAND USE AND PLANNING. Would the project:				
a.	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
X.	MINERAL RESOURCES. Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XI. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XII. POPULATION AND HOUSING.	Would the project:				
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> /beneficial
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XIV. RECREATION. Would the project:					
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC.	Would the project:				
a.	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please refer to Chapter 3 for a complete discussion of the environmental effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.					
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a 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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

With the environmental commitments and mitigation measures described in Chapters 2 and 3, all environmental effects would be reduced to a less-than-significant level. Please refer to Chapter 3 for a complete discussion of the environmental effects.

**Appendix B. Mitigation Monitoring Master
Checklist Table - Yuba River
Levee Repair Project**

Appendix B. Mitigation Monitoring Master Checklist Table - Yuba River Levee Repair Project

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
AESTHETICS				
none				
AGRICULTURAL RESOURCES				
none				
AIR QUALITY				
Implement Feasible Control Measures for Construction Emissions of Fugitive Dust.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
The Authority will prepare and implement a fugitive dust control plan and submit it to FRAQMD for approval.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
BIOLOGICAL RESOURCES				
Perform Preconstruction and Postconstruction Surveys for Elderberry Shrubs.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Avoid disturbance to valley elderberry longhorn beetle by establishing and maintaining, to the maximum extent feasible, a 20-foot (or wider) buffer around elderberry plants identified as suitable habitat.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Fence and flag all buffer areas and place signs every 50 feet along the edge of the avoidance area. The signs will be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction period. The signs will display the following information: "This area is habitat for the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment."	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
Train construction personnel to recognize elderberry plants and to determine the presence of valley elderberry longhorn beetle from exit holes on stems. All construction personnel will receive USFWS-approved environmental awareness training before beginning work at construction sites.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
Compensate for the loss and potential take by transplanting the elderberry plants that cannot be avoided to a USFWS-approved conservation area. Transplanting must comply with USFWS-approved transplanting procedure, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999).	CEQA-triggered mitigation measure	During construction	Contractor/Authority	Phase II

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Elderberry plants, including transplants and mitigation plantings, must be replaced and protected in perpetuity in a conservation area that is approved by USFWS. The level of replacement will range from 1:1 to 8:1, depending on the affected shrub's location, stem diameter, and the presence or absence of exit holes, as defined in the conservation guidelines for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1999). Site-specific mitigation ratios may be determined by USFWS on the basis of overall habitat value and location of habitat within the proposed project area. The elderberry compensation plantings will be incorporated into an on-site mitigation area or an off-site mitigation area, or valley elderberry longhorn beetle mitigation credits may be purchased from a USFWS-approved mitigation bank.	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Phase II
Preconstruction surveys for Swainson's hawk will be conducted at and adjacent to all locations to be disturbed by implementation of the proposed project to ensure that this species is not nesting in these locations.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
To the greatest extent practicable, major construction activities that would occur within ½ mile of an active Swainson's hawk nest will be avoided during the breeding season.	CEQA-triggered mitigation measure	During construction, only if construction would affect protected tree resources	Contractor/Authority	Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
Protective fencing will be used to protect nesting habitat outside the construction and maintenance areas.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Phase II
Removal of all woody and herbaceous vegetation from the proposed construction areas would occur during the nonbreeding season (September 1–February 1) to minimize effects on nesting birds.	CEQA-triggered mitigation measure	Prior to construction	Contractor	Phase II
In the event nesting or roosting raptors are identified, the Authority will coordinate with the California Department of Fish and Game (DFG) to identify measures to ensure raptors are not adversely affected.	environmental commitment	Prior to and during construction	Contractor/Authority	Both
CULTURAL RESOURCES				
Stop work and assess significance in the event cultural resources are unearthed during construction	environmental commitment	During construction	Contractor/Authority	Both
GEOLOGY AND SOILS				
Prepare and implement a Storm Water Pollution Prevention Plan.	environmental commitment	Prior to and during construction	Contractor/Authority	Both
HAZARDOUS MATERIALS				
Contractors will maintain areas subject to construction activities clear of combustible natural materials to the extent feasible.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
Contractors will equip any construction equipment that normally includes a spark arrester with an arrester in good working order.	CEQA-triggered mitigation measure	Prior to and during construction		Both

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
HYDROLOGY AND WATER QUALITY				
None				
LAND USE AND PLANNING				
None				
MINERAL RESOURCES				
None				
NOISE				
The Authority will ensure that construction does not occur outside the hours of 7:00 a.m. and 10:00 p.m. In addition, the construction contractor will employ noise-reducing construction practices.	environmental commitment	During construction	Contractor/Authority	Both
POPULATION AND HOUSING				
None				
PUBLIC SERVICES				
None				

Description of Measure	Type of Action	Implementation Schedule	Party Responsible for Implementation/ Verification	Phase Applicability
RECREATION				
The Authority shall ensure that the contractor posts notice of construction activities and intended days of access closure at least 10 days in advance of the closure.	environmental commitment	Prior to construction	Contractor/Authority	Both
TRANSPORTATION/TRAFFIC				
The project contractor will coordinate truck routes and construction activities with the appropriate City and County departments and restore roadways damaged by construction activities to preexisting conditions.	CEQA-triggered mitigation measure	Prior to construction	Contractor/Authority	Both
The Authority, in coordination with relevant City and County public works departments, will develop and implement traffic control plan(s) for the proposed project.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
The Authority will assess damage to roadways used during construction and will repair all potholes, fractures, or other damages.	CEQA-triggered mitigation measure	After construction	Contractor/Authority	Both
The Authority will notify and consult with emergency service providers to maintain emergency access and facilitate the passage of emergency vehicles on city streets.	CEQA-triggered mitigation measure	Prior to and during construction	Contractor/Authority	Both
UTILITIES AND SERVICE SYSTEMS				
None				



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Paul Brunner, Executive Director *PDB/jw*
Larry Dacus, Design Manager
SUBJECT: Yuba River Levee Repair Project (YRLRP) California Environmental Quality Act (CEQA) Addendum for Landside Slope Repair

Recommended Action:

Board Approval of the Yuba River Levee Repair Project CEQA Addendum(Attachment 1) and authorize the Executive Director to file a Notice of Determination (NOD)(Attachment 2).

Background:

The California Environmental Quality Act (CEQA) requires a detailed level of analysis for all projects having the ability to affect a variety of human interest factors. This analysis was conducted and concluded in the form of an Initial Study/Mitigated Negative Declaration (IS/MND) for the Yuba River Levee Repair Project (YRLRP) – Phase I and Phase II, and was approved by the TRLIA Board on August 24, 2004. The YRLRP area was defined in detail in the IS/MND and included, at the time, all foreseeable project activities. Minor project components that need to be added to the project and were not precisely addressed or listed in detail in the IS/MND may be addressed in an addendum to the IS/MND. An addendum is appropriate when there are changes or additions to a project that do not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Discussion:

A periodic inspection by the United States Army Corps of Engineers (USACE) discovered evidence of erosion on the landside of the Yuba levee that has resulted in a scarp formation just upstream of State Route 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved on the landside. The IS/MND did identify work to be done in this location but the work was of a slightly different nature. While the features of work were different, the impacts of these features in the proposed location were described and analyzed adequately in the IS/MND. The impacts identified and evaluated have not been significantly changed by these new features nor have new impacts been identified. To support this conclusion, an addendum to the 2004 IS/MND has been prepared which addresses the current impacts to the resources discussed in the original IS/MND.

Addendum Conclusions:

An addendum must contain a brief explanation of the agency's decision not to prepare a subsequent IS/MND under CEQA regulations, and this conclusion must be supported by substantial evidence. Consistent with this requirement, the addendum has concluded that the added new features:

- Would not result in any new significant environmental effects,
- Would not substantially increase the severity of previously identified effects,
- Would not result in mitigation measures or alternatives previously found to be infeasible becoming feasible, and
- Would not result in availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the previous document that would substantially reduce one or more significant effects on the environment.

There are no public review requirements for an IS/MND addendum: upon submittal of a Notice of Determination to the State Clearing House and the Office of Planning and Research, a 30 day statutory period of protest and/or challenge exists. The construction of these landside slope repairs are anticipated to begin late this summer and be completed prior to the fall after the CEQA process has been completed.

Fiscal Impact:

The Department of Water Resources has agreed that the proposed work should be a part of the Upper Yuba Levee Improvement Project EIP. The construction work that is analyzed in this addendum is addressed by the Prop 1 E funding agreement and included in the Upper Yuba Levee Improvement Project Budget.

Attachments:

1. Addendum to the Yuba River Levee Repair Project dated December 2011
2. Notice of Determination

**ADDENDUM TO THE YUBA RIVER LEVEE REPAIR PROJECT
PHASE I AND II (2004) AND PHASE 4 (2006)
INITIAL STUDIES/ MITIGATED NEGATIVE DECLARATIONS**

YUBA COUNTY, CALIFORNIA



State Clearinghouse #

2004082014 (2004)

2006062037 (2006)

Three Rivers Levee Improvement Authority

December 2011

Attachment 1



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

Date: December 9, 2011

To: Interested Parties

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

Subject: Addendum to the Yuba River Levee Repair Project Phase I and II (2004) and Phase 4 (2006) Adopted Initial Studies/ Mitigated Negative Declarations

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes and the State CEQA Guidelines.

Minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. Changes in a project may be addressed by a supplement to the negative declaration or an addendum, depending on whether such changes result in new or substantially more severe changes in environmental impacts. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that has resulted in a scarp formation just upstream of State Route (SR) 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. The potential impact of the proposed levee landside improvements are analyzed in this Addendum. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared this Addendum in accordance with Section 15164 of the State CEQA Guidelines.

This Addendum may be reviewed at TRLIA's Web site, <http://www.trlia.org/>. For questions regarding the Addendum and documents referenced in the IS/MND, contact Paul Brunner, P.E., Executive Director, TRLIA. Questions can be sent to Paul Brunner, P.E., Executive Director, TRLIA, 1114 Yuba Street, Suite 218, Marysville, CA 95901, fax (530) 749-6990, or by e-mail: pbrunner@co.yuba.ca.us.

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

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1 INTRODUCTION

1.1 BACKGROUND

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes (Public Resources Code [PRC] Sections 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). TRLIA is a joint powers authority composed of Yuba County and Reclamation District (RD) 784 that was formed to address funding and implementation of levee repairs for the RD 784 area.

Under the Yuba River Levee Repair Project – Phase I and II IS/MND, TRLIA proposed to enhance flood protection of properties within the RD 784 service area by repairing segments of the south levee of the Yuba River, just upstream of its confluence with the Feather River. These repairs addressed under- and through-seepage concerns on the Yuba River South Levee through a combination of treatments. These treatments included the construction of a slurry cutoff wall, relief wells, and a landside seepage berm. The treatment area was divided into five reaches for the purposes of the 2004 IS/MND analysis: Reaches A, B, C, D, and E. Construction of the project occurred in two phases: Phase I occurred in September through October 2004, and Phase II occurred during the summers of 2005 and 2006. Reach B covered the area from State Route (SR) 70 to Shad Road.

Under the Yuba River Levee Repair Project – Phase 4 IS/MND, TRLIA also proposed to enhance flood protection of properties within the RD 784 service area by repairing segments of the south levee of the Yuba River. These repairs addressed under- and through-seepage concerns on the Yuba River South Levee through a combination of treatments including constructing a slurry cutoff wall, a small landside seepage berm, and raising the height of a segment of the levee. The treatment area was divided into the same five reaches, Reaches A, B, C, D, and E, for the 2006 IS/MND analysis as the 2004 IS/MND. Construction of the Phase 4 project commenced in July 2006 and ended in November 2006. From 2004 through 2006, components of the Yuba River Levee Repair Project Phases I and II were constructed. These components consisted of the construction of a slurry wall and landside seepage berm in Reaches B, C, and D.

As is typical of conceptual planning and design processes, minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. The CEQA Guidelines state that changes in a project may be addressed by a supplement to the negative declaration or an addendum, depending on whether such changes result in new or substantially more severe changes in environmental impacts. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that

has resulted in a scarp formation just upstream of SR 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. The details of the proposed levee landside improvements are described in this Addendum. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared this Addendum in accordance with Section 15164 of the State CEQA Guidelines.

The proposed improvements are entirely located within Reach B as defined in the 2004 and 2006 IS/MNDs. Figure 1-1 shows the location and vicinity of Reach B and the proposed improvements. Figure 1-2 shows the proposed area, levee station number 5+80 to 9+00, where the proposed improvements would occur. In 2004 TRLIA constructed a 50-foot-deep slurry wall using the conventional slot trench method in Reach B. Although TRLIA proposed to construct relief wells in Reach B in 2005, no relief wells were constructed. In 2009 TRLIA flattened the waterside slope in Reach B in order to maintain a 3:1 slope.

1.2 REGULATORY CONTEXT

If, after adoption of a negative declaration (ND) or mitigated negative declaration (MND), altered conditions or changes or additions to a project occur, CEQA provides two mechanisms to address these changes: a subsequent negative declaration or an addendum to a negative declaration.

Section 15162 of the State CEQA Guidelines describes the conditions under which preparation of a subsequent negative declaration (or EIR) would be appropriate. When an ND or MND has been adopted (or an EIR has been certified) for a project, preparation of a subsequent ND or MND (or EIR) would be appropriate if the lead agency determines, on the basis of substantial evidence in light of the whole record, that one or more of the following conditions is met:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

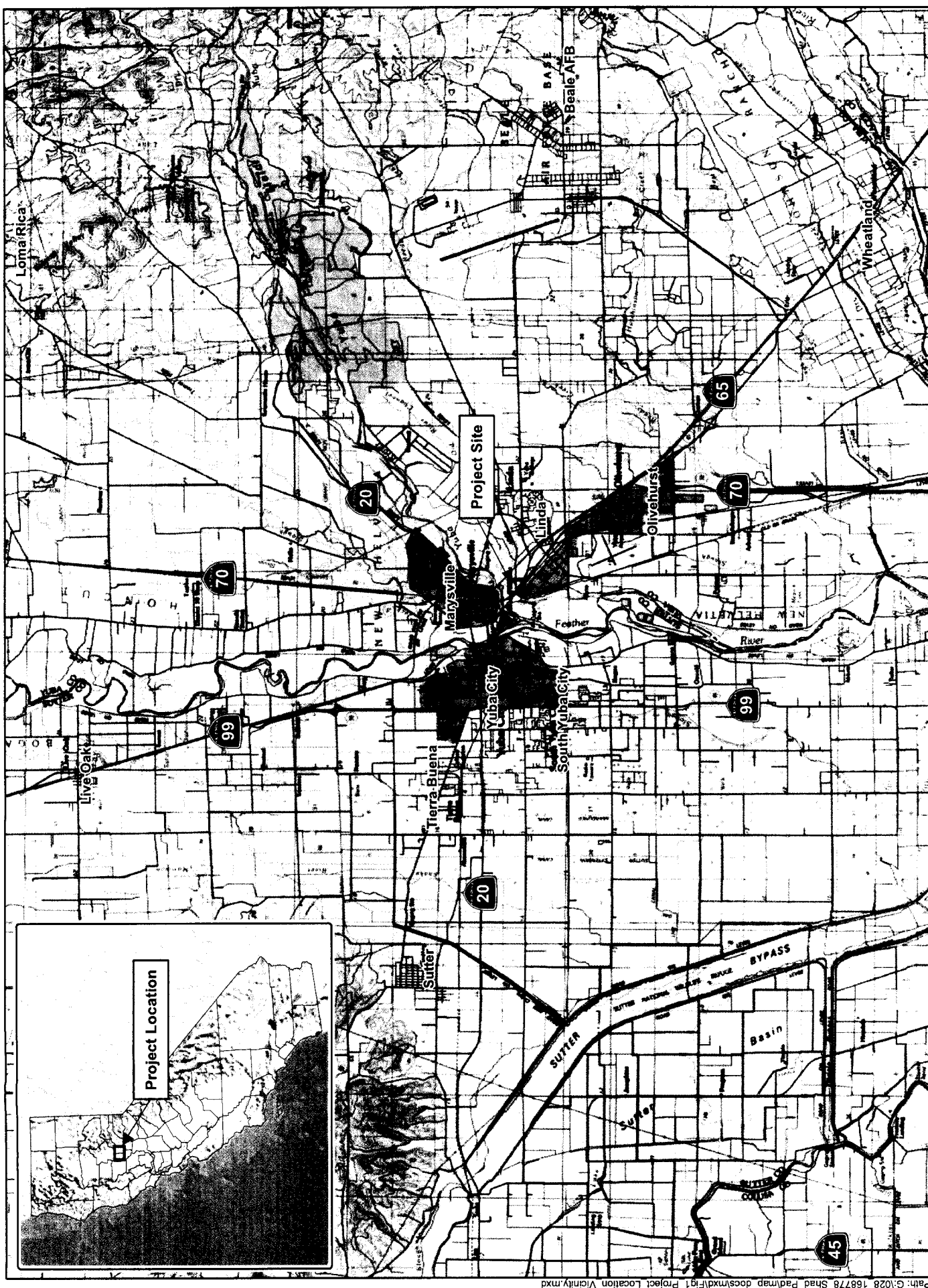


Figure 1-1 - Location and Vicinity Map



1 In = 3 Miles

Levee Landslide Improvements - Station 5+80 to 9+00



Figure 1-2 - Project Site
 Levee Landside Improvements - Station 5+80 to 9+00

0 50 100 150 200 Feet
 1 in = 200 feet



- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15164 of the State CEQA Guidelines states that a lead agency may prepare an addendum to an adopted negative declaration if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent negative declaration have occurred.

The analysis below will demonstrate that changes and additions to the 2004 and 2006 IS/MNDs since adoption of the mitigated negative declarations in August 24, 2004 and July 28, 2006, respectively:

- ▶ would not result in any new significant environmental effects, and
- ▶ would not substantially increase the severity of previously identified effects.

In addition, no new information of substantial importance has arisen that shows that:

- ▶ the project would have new significant effects,
- ▶ the project would have substantially more severe effects,
- ▶ mitigation measures previously found to be infeasible would in fact be feasible, or
- ▶ mitigation measures that are considerably different from those analyzed in the IS/MND would substantially reduce one or more significant effects on the environment.

Because none of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a subsequent negative declaration have occurred, an addendum to the 2004 and 2006 IS/MNDs, consistent with Section 15164 of the State CEQA Guidelines, is the appropriate mechanism to document the minor technical changes and additions to the Yuba River Levee Repair Project. The purpose of this addendum, therefore, is to provide the additional CEQA analysis necessary to address the minor changes to the project and provide documentation for the record that these changes are consistent with the 2004 and 2006 IS/MNDs.

2 CHANGES TO THE PROJECT

The primary change to the Yuba River Levee Repair Project is related to erosion that has occurred since completion of the project on the landside of the levee. This erosion has resulted in a scarp formation just upstream of SR 70 to Shad Road, approximately levee station number 5+80 to 9+00. As a result of this scarp, an approximate 320-foot long segment of the levee must be repaired. Although the details of this repair are not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs.

2.1 LEVEE LANDSIDE IMPROVEMENTS – STATION 5+80 TO 9+00

The proposed levee landside improvements from station number 5+80 to 9+00 include reconstructing the landside of the levee to a slope of 3 horizontal feet to 1 vertical foot (3H:1V), resurfacing the levee crown, and clearing of trees, structures, and fences for an operations and maintenance (O&M) corridor. The final levee crown elevation would not exceed the existing grades as a part of these improvements.

The landside levee slope and all areas to have fill placed on them would be cleared and grubbed of all vegetation and stripped to a depth of six inches. These surfaces would then be appropriately prepared (i.e., laid back, keyed, over excavated, etc.) to allow for effective placement of material and to allow for a fully integrated composite levee section when construction is complete. Material similar to that comprising the remaining portion of the levee would be placed in six inch maximum lifts and compacted to achieve appropriate density at optimum moisture content. The levee crown would then be repaved to match existing conditions and erosion resistant mulch with grass seed would be applied to the restored levee slope.

2.1.1 OPERATION AND MAINTENANCE CORRIDORS

To provide space for O&M of the levee and for possible flood fighting, TRLIA would acquire adjacent land to provide a 20-foot wide O&M corridor at the landside toe of the levee. Existing structures, fences, trees, and other obstructions within the O&M corridor area would be removed as a part of the clear and grub operation. The 20-foot O&M corridor would incorporate the 15-foot wide vegetation free zone along the landside levee toe as required by the United States Army Corps of Engineers (USACE).

All property acquisitions and relocations conducted as part of the proposed improvements would be in compliance with both the Federal Uniform Relocation Act and the California Relocation Assistance Law.

2.1.2 RELOCATION OF UTILITIES AND LEVEE PENETRATIONS

There are existing Pacific Gas and Electric Company (PG&E) facilities, power poles, and power lines, located within the footprint of the proposed landside levee improvements. To comply with requirements from USACE and Title 23 of the California Code of Regulations it is anticipated that these PG&E facilities would be relocated approximately 20-feet outside of the proposed landside levee toe. This work would be completed by PG&E. A new 30-foot wide easement would be obtained for the relocated PG&E facilities.

An existing septic tank is located within the footprint of the proposed improvements. This septic tank would be removed as a part of the clear and grub operation. Any existing sewer lines tied into the septic tank would be rerouted outside of the levee toe and O&M corridor.

2.1.3 EROSION PROTECTION AND STORMWATER POLLUTION PREVENTION

Where soil along the landside surface of the existing levee is disturbed during project implementation, an approved grass cover would be placed for erosion protection. Temporary erosion/runoff control measures would be implemented during construction to minimize stormwater pollution resulting from erosion and sediment migration from the construction and staging areas. These temporary control measures may include minimizing the amount of area disturbed at any one time; providing secondary containment for small quantity storage of construction equipment fuel and oil; and the management of stockpiles and disturbed areas by means of earth berms, diversion ditches, straw wattles, straw bales, silt fences, gravel filters, mulching, revegetation, and temporary covers as appropriate. Erosion and stormwater pollution control measures would be consistent with National Pollutant Discharge Elimination System (NPDES) permit requirements and would be included in a storm water pollution prevention plan (SWPPP).

After completion of construction activities, temporary facilities would be removed and disturbed areas would be restored and reclaimed as appropriate. Site restoration activities for areas disturbed by construction activities, including staging areas, may include grading, seeding, use of straw wattles and bales, application of straw mulch and/or hydro seed, and other measures deemed appropriate.

2.1.4 CONSTRUCTION EQUIPMENT

Mobile equipment for the proposed levee improvements is assumed to include the following typical equipment:

- ▶ One utility excavator
- ▶ One bulldozer
- ▶ One self-propelled sheepsfoot or tramping-foot roller
- ▶ One water truck
- ▶ 10 highway dump trucks
- ▶ One asphalt paver
- ▶ One lubricating truck
- ▶ One front-end loader
- ▶ One integrated tool carrier

Additional equipment would include: air compressors to operate tools and other equipment; welding equipment; pumps and piping; communications and safety equipment; erosion control materials; miscellaneous equipment customary to the mechanical and electrical crafts; and vehicles used to deliver and move equipment, materials, and personnel.

2.1.5 STAGING AREAS AND CONSTRUCTION TRAFFIC ACCESS

Prior to and during construction of the proposed levee improvements a staging area would be established to allow for efficient use and distribution of materials and equipment. Personnel, equipment, and

imported materials would reach the project area via SR 70, North Beale Road, and Shad Road, which are paved, all-weather roads, and suitable for the anticipated loads. At the project site, the primary construction corridor would include the crest of the existing levee and the area adjacent to the levee toe. The construction labor force is estimated to average approximately 15 persons over the construction period.

It is expected that approximately 10 trailer (“low-boy”) truck round trips would be required to transport the contractor’s equipment listed above to the project area. A similar number of round trips would be needed to remove the equipment from the site as the work is completed.

It is estimated that a net total of approximately 6,000 cubic yards (cu. yd.) of material would be required for the proposed improvements. It is anticipated that borrow material would be needed from local off-site sources. In addition, about 20 highway truckloads may be needed to carry construction debris and waste materials to a suitable landfill.

Within the construction area, the main source of construction traffic would be the movement of material for the reconstruction of the landside levee slope between the staging area and the levee slope. Dust control measures would be applied to roads and work areas on a systematic basis for dust suppression.

2.1.6 CONSTRUCTION SCHEDULING

A construction period of approximately six to eight weeks is planned for the landside levee improvements. Construction is anticipated to commence on or after August 1, 2012, beginning with contractor mobilization, and ending with clean-up and contractor demobilization. The proposed improvements would be constructed over the six to eight week period, working 15 hours per day. Schedule highlights are as follows:

- ▶ Mobilization: Mobilization would include setting up a staging area and transporting earthmoving equipment to the site. These activities may take approximately one week.
- ▶ Clearing, grubbing, stripping, and demolition operations.
- ▶ Utilities: Existing PG&E facilities, power poles, and power lines would be relocated.
- ▶ Landside levee slope improvements: The landside levee slope would be reconstructed to a 3:1 slope.
- ▶ O&M Corridor: Establish a 20-foot wide O&M corridor at the landside levee toe after the levee slope improvements are constructed.
- ▶ Demobilization: Demobilization would include removal of equipment and materials from the project site, disposal of excess materials at appropriate facilities, and restoration of the staging area to pre-project conditions. Demobilization activities would be completed in 2012.

3 ENVIRONMENTAL ANALYSIS

This section provides the analysis to verify that: (1) the minor technical changes and additions to the Yuba River Levee Repair Project described in Chapter 2 of this document do not meet any of the criteria in Sections 15162 of the State CEQA Guidelines for preparation of a subsequent negative declaration and meet the criteria of 15164 of the State CEQA Guidelines for preparation of an addendum to the adopted mitigated negative declarations; and, (2) the combined analyses in the 2004 and 2006 IS/MNDs and this Addendum are sufficient to meet CEQA requirements.

The evaluation below is provided in the form of a narrative discussion addressing each environmental issue area included in the 2004 and 2006 IS/MNDs (e.g., land use, transportation/traffic, air quality).

3.1 ANALYSIS BY RESOURCE TOPIC

With the exception of Biological Resources, Cultural Resources, and Greenhouse Gas Emissions) which are discussed below in sections 3.1.1, 3.1.2, and 3.1.3 respectively), Table 3-1 provides a qualitative comparison of overall project impacts identified in the 2004 and 2006 IS/MNDs versus the proposed improvements outlined in Section 2.0.

Table 3-1. Qualitative Comparison of Overall Project Impacts Identified in the 2004 and 2006 IS/MNDs versus the Proposed Improvements

Resource Area	Potential Impacts Identified in the 2004 and 2006 IS/MNDs	Adopted Avoidance, Minimization, and/or Mitigation Measures in the 2004 and 2006 IS/MNDs	New (Current) Impact Value
Aesthetics	Temporary disruption to the existing visual quality of the area during construction due to presence of construction equipment.	None required	The proposed improvements would not result in any new or substantially greater impacts to aesthetics.
Agriculture and Forestry Resources	No impacts to agricultural and forestry resources identified.	None required	The proposed improvements would not result in any new or substantially greater impacts to farmland or forestry resources.
Air Quality	The project would cause temporary (construction-related) emissions; No permanent impacts	Implement Feather River Air Quality Management District's recommended emissions reduction measures.	The proposed improvements would not result in any new or substantially greater impacts to air quality.
Geology/Soils	Temporary construction impacts related to soil disturbance and erosion would occur.	Prepare a Stormwater Pollution Prevention Plan and comply with other applicable erosion and sediment control/water quality regulations.	The proposed improvements would not result in any new or substantially greater impacts to geology and soils.
Hazardous Waste/Materials	Temporary construction impacts related to use of hazardous substances (i.e. fuel, solvents, and oils) and risk of accidental release and exposure of people or structures to risk of wildland fire.	Prepare a Stormwater Pollution Prevention Plan; comply with other applicable water quality regulations; employees training in safe handling and storage of hazardous materials; and, clear areas slated for construction using spark-producing or intense heat-producing equipment.	The proposed improvements would not result in any new or substantially greater impacts to hazardous waste/materials.

Resource Area	Potential Impacts Identified in the 2004 and 2006 IS/MNDs	Adopted Avoidance, Minimization, and/or Mitigation Measures in the 2004 and 2006 IS/MNDs	New (Current) Impact Value
Hydrology/Water Quality	Temporary construction impacts related to soil disturbance and erosion, use of hazardous substances (i.e. fuel, solvents, and oils), and changes in drainage patterns that affect the potential for flooding.	Prepare a Stormwater Pollution Prevention Plan; comply with other applicable water quality regulations; and, employees training in safe handling and storage of hazardous materials.	The proposed improvements would not result in any new or substantially greater impacts to hydrology and water quality.
Land Use	The project is consistent with the Yuba County General Plan. The project would not disrupt existing community character or cohesion.	None required	The proposed improvements would not result in any new or substantially greater impacts to land use.
Mineral Resources	The project would not result in the loss of availability of a known mineral resource or loss of availability of a locally important mineral resource recovery site.	None required	The proposed improvements would not result in any new or substantially greater impacts to mineral resources.
Noise	Temporary construction impacts related to periodic increases in noise levels in the project area.	Abide by the Yuba County Noise Ordinance.	The proposed improvements would not result in any new or substantially greater impacts to noise.
Population and Housing	The project would not induce substantial growth. Approximately 10 units at the mobile home park in Reach B would need to be relocated or removed to accommodate construction.	No mitigation is required because the number of houses expected to be removed or relocated would be small, and because there is plenty of housing available in southern Yuba County, therefore, there would not be an overall shortage of housing as a result of implementation of construction activities in Reach B.	The proposed improvements would not result in any new or substantially greater impacts to population and housing. Approximately five units at the mobile home park would be removed or relocated as a result of the proposed improvements.
Public Services	No impacts to public services identified.	None required.	The proposed improvements would not result in any new or substantially greater impacts to public services.
Recreation	The project would result in the temporary disruption of access to existing recreational facilities.	Temporary closure of access to existing recreational facilities, however, access would resume upon completion of construction activities, therefore no mitigation is required.	Recreational access to Shad Pad OHV Park along Shad Road would be maintained during construction activities. Therefore, the proposed improvements would not result in any new or substantially greater impacts to recreation.

Traffic/ Transportation	The project would cause only temporary (construction-related) roadway closures and impacts to traffic and transportation that could disrupt local circulation and result in limited emergency access.	Develop and implement a traffic safety plan; minimize the accumulation of mud and dirt on local roadways; assess damage to haul and access routes; and, notify and consult with emergency service providers and take measures necessary to maintain emergency access and facilitate the passage of emergency vehicles on local streets.	The proposed improvements would not result in any new or substantially greater impacts to traffic and transportation.
Utilities and Service Systems	The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. In addition, construction and operation of the project would not result in the long-term production of any solid wastes. Construction would result in the relocation of power and communication lines.	TRLIA would cooperate with the utilities and follow standard procedures to ensure minimal disruption for power lines and services; therefore, no mitigation is required.	The proposed improvements would not result in any new or substantially greater impacts to utilities and service systems.

3.1.1 BIOLOGICAL RESOURCES

The focus of this section is to describe the current biological conditions at the project site and to evaluate whether the proposed landside improvements, post adoption of the 2004 and 2006 IS/MNDs, would result in any new or substantially different significant impacts to biological resources that were evaluated in the 2004 and 2006 IS/MNDs. This section:

- describes the methods used to evaluate the potential impacts of the proposed improvements on biological resources;
- provides a description of current biological conditions and tree resources in the project site;
- evaluates potential impacts of the proposed improvements on biological resources;
- provides a comparison of current biological conditions, potential impacts to biological resources, and necessary mitigation measures for those impacts evaluated in the 2004 and 2006 IS/MNDs; and,
- provides an evaluation of potential impacts to biological resources per the CEQA standards of significance.

METHODS

For the purpose of performing the evaluations listed above, HDR conducted a review of special-status species with the potential to occur in the project site and be impacted by implementation of the proposed improvements. This review consisted of a database search, a biological reconnaissance survey of the project site, and an evaluation of the potential for regionally-occurring special-status species identified in the database search to occur in the project site and be impacted by the proposed improvements. The results of this review were then compared to the results of the biological resources evaluation in the 2004 and 2006 IS/MNDs to determine if the impacts to biological resources and proposed mitigation measures identified in these documents sufficiently analyzed the potential impacts to biological

resources of the proposed improvements and if the 2004 and 2006 IS/MNDs proposed adequate mitigation for those impacts to reduce them to a less-than-significant level.

Information on biological resources is based on a reconnaissance survey conducted on November 16, 2011 and database searches of regionally-occurring special-status species maintained by the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), and the California Native Plant Society (CNPS). The database search consisted of reviewing the CDFG's Natural Diversity Database (CNDDDB) for reported occurrences of special-status species on the Yuba City and Olivehurst United States Geological Survey (USGS) 7.5 minute quadrangles (quads), the USFWS list of federal endangered and threatened species that occur in or may be affected by projects in the Yuba City and Olivehurst USGS 7.5 minute quads and Yuba County, and the CNPS list of rare plant species (plant species designated with a California rare plant rank by the CNPS) reported on the Yuba City and Olivehurst USGS 7.5 minute quads.

Prior to conducting the reconnaissance survey, the database search was conducted to compile a list of special-status species with the potential to occur in the project site or be adversely affected by the proposed improvements. The database search was conducted primarily for the purpose of identifying any special-status species with the potential to occur in the project site or immediate vicinity that would not have been evaluated in the 2004 and 2006 IS/MNDs due to a variety of reasons (including a species recently attaining federal or state listing status, a recent change in the listing status of a species, or a newly reported occurrence of a special-status species in the project site or vicinity). During the reconnaissance survey, an HDR biologist identified and characterized biological resources and tree species present in the project site by walking the levee, adjacent mobile home park, and other adjacent areas.

The reconnaissance survey included the following elements:

- ▶ an evaluation of current habitat conditions in the project site, including plant and wildlife species observed;
- ▶ an evaluation of the potential for occurrence in the project site of sensitive natural communities including potential waters of the U.S. that would be subject to Corps jurisdiction under Section 404 of the Clean Water Act (CWA);
- ▶ an identification of numbers and species of trees occurring in the project site;
- ▶ a search for special-status species or their habitats that may be present in the project site; and,
- ▶ a search for nests of raptors or other migratory birds.

RESULTS

The project site consists of an existing levee and a mobile home park adjacent to the landside levee toe. The levee crown has a paved access road and lacks vegetation. The waterside and landside slopes of the existing levee are vegetated with ruderal herbaceous vegetation. A mix of horticultural and native trees occurs along the landside levee toe and throughout the mobile home park. No potential waters of the U.S. that would potentially be subject to Corps jurisdiction under Section 404 of the CWA occur in the project site. No sensitive natural communities as defined by CDFG occur in the project site. Plant

species observed on the levee slopes during the reconnaissance survey include several species of non-native grasses (*Avena* sp., *Bromus* sp., *Hordeum* sp, and *Vulpia* sp.) and a variety of herbaceous plant species typical of disturbed areas including storksbill (*Erodium botrys*), bedstraw (*Galium aparine*), chickweed (*Stellaria media*), beggar's tick (*Torilis arvensis*), and milk thistle (*Silybum marianum*). Wildlife species observed during the reconnaissance survey consisted of a few bird species commonly observed in the region including Anna's hummingbird (*Calypte anna*), American goldfinch (*Carduelis tristis*), American crow (*Corvus brachyrhynchos*), and ruby-crowned kinglet (*Regulus calendula*). All tree species occurring in the project site were identified and counted. Table 3-2 below identifies the common name, species name, and number of individuals of each tree species occurring within the project site.

Table 3-2. Trees Occurring within the Project Site

Common Name	Scientific Name	Number of Individuals in the Project Site
White Mulberry	<i>Morus alba</i>	8
Incense Cedar	<i>Calocedrus decurrens</i>	15
California fan palm	<i>Washingtonia filifera</i>	1
Tree of heaven	<i>Ailanthus altissima</i>	2
Fremont cottonwood	<i>Populus fremontii</i>	1
Eucalyptus	<i>Eucalyptus</i> sp.	15
Oregon ash	<i>Fraxinus latifolia</i>	2
Western sycamore	<i>Platanus racemosa</i>	1
Total		45

Special-status species with the potential to occur in the project site and/or be impacted by the proposed improvements were determined by comparing the habitat requirements of the regionally-occurring special-status species identified during the database search to the habitats present in the project site. A total of 11 federally-listed species were identified by USFWS as having the potential to occur on the Yuba City and Olivehurst USGS 7.5 minute quads, consisting of four invertebrates, four fishes, one amphibian, and one bird species. The CNDDDB and CNPS database identified two sensitive natural communities (riparian habitats) and nine additional state listed species and state species of concern with reported occurrences on the Yuba City and Olivehurst quads including four bird species, four plant species, and one invertebrate species. Of these twenty regionally-occurring special-status species, 17 were precluded from having the potential to occur in the project site due to a lack of suitable habitat. The following special-status species were determined to have the potential to occur in the project site and/or be impacted by the proposed improvements: Valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), Swainson's hawk (*Buteo swainsonii*), white-tailed kite (*Elanus leucurus*) and other raptors, and migratory birds.

No special-status plant or wildlife species were observed in the project site. Although the reconnaissance survey was conducted outside of the blooming season of regionally-occurring special-status plants, the project site is highly unlikely to support special-status plant species due to the lack of natural habitat and routine levee maintenance practices. Two blue elderberry (*Sambucus mexicana*)

shrubs, the host plant for the VELB, were observed in the project vicinity on the waterside of the levee, but are located more than 100 feet from the project limits and would not be disturbed as a result of the proposed improvements. Therefore, no impacts to VELB are anticipated as a result of the proposed improvements.

No Swainson's hawk, white-tailed kite, or other raptor or migratory bird nests were observed in the project site. However, the reconnaissance survey was conducted outside of the typical nesting season for raptors and migratory birds of February 1 through August 31. It is unlikely that raptors, including Swainson's hawk and white-tailed kite, would nest in the project site due to consistent human disturbance. However, potential nest trees occur in the project site and adjacent areas. Swainson's hawk, white-tailed kite, and other raptors and migratory birds could potentially begin nesting in or adjacent to the project site prior to commencement of construction. Construction related activities could potentially result in disturbance of nesting Swainson's hawk, white-tailed kite or other raptors and migratory birds if they were nesting in the project site or vicinity at the time of project construction. Construction related disturbances to nesting raptors and migratory birds could potentially lead to mortality of young as a result of nest abandonment or forced fledging. This would result in a significant impact.

The habitat conditions in the project site do not appear to have changed since the 2004 and 2006 IS/MNDs were adopted. The 2004 and 2006 IS/MNDs identify potential impacts to VELB, Swainson's hawk, white-tailed kite and other raptors, and breeding and roosting habitat for migratory birds. No special-status species were identified as having the potential to occur in the project site and/or be impacted by the proposed improvements other than species already evaluated in the 2004 and 2006 IS/MNDs. The 2004 and 2006 IS/MNDs provide mitigation measures to reduce impacts to these species to a less-than-significant level. Pertinent mitigation measures for potential impacts to biological resources would be implemented as described in the 2004 and 2006 IS/MNDs. The following mitigation measures identified in the 2004 and 2006 IS/MNDs would be implemented in order to reduce potential impacts to biological resources: minimization and avoidance measures for elderberry shrubs, preconstruction surveys for nesting Swainson's hawks prior to construction, avoidance and minimization of construction-related disturbances within one-half mile of active Swainson's hawk nest sites, and avoidance and minimization of effects on migratory birds.

The following mitigation measures from the 2004 and 2006 IS/MNDs are not anticipated to be necessary for the proposed improvements: performance of pre-construction and post-construction surveys for elderberry shrubs and compensation for unavoidable impacts on elderberry shrubs.

With the implementation of the proposed mitigation measures identified above, potential impacts to VELB, Swainson's hawk, white-tailed kite, and other raptors and migratory birds would be reduced to a less-than-significant level. No additional mitigation is necessary.

The project is not expected to:

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrologic interruption or other means;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and,
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.1.2 CULTURAL RESOURCES

On November 16, 2011, HDR archaeologist Dawn Ramsey Ford, M.A., conducted a pedestrian survey of the additional acreage to the project area in an effort to identify cultural resources. Two cultural resources were identified, the previously recorded south levee of the Yuba River (P-58-1353H) and a stone and mortar wall with an embedded iron hitching ring (CA-YUB-1690H). The levee has been previously determined “not eligible” for listing on the California Register of Historic Resources (CRHR). The stone wall is described and evaluated in the technical report *Supplemental Cultural Resources Investigations for the Yuba River Levee Repair Project, Yuba County, California* (Ramsey Ford 2011).

Archival research was conducted to ascertain historical background on the stone wall. Archives from the Yuba County Library Local History section failed to produce any information about the wall, nor did review of Bureau of Land Management General Land Office maps, other historic maps, or document searches. The Marysville City Historian was also consulted with on November 30, 2011, which resulted in no new findings related to the wall.

Native American tribes were contacted in 2004 and 2006 to ascertain whether they would like to participate in the project, of which none responded. Additionally, no prehistoric or historic sites related to Native Americans were identified during the supplemental investigations. For these reasons, no further tribal consultation was conducted.

Based on the historic assessment and review of archival records, the property does not meet the eligibility criteria for being listed on the CRHR. The property does not demonstrate sufficient historic integrity to be listed, based on evaluation of the location, design, setting, workmanship, materials, feeling and association. The setting has had significant changes as the wall is surrounded by a mobile home park and there have been significant changes to the structure itself as well. The design, materials, and workmanship of the wall are not exemplary as they relate to construction methods and architectural details. The inability of the property to meet the eligibility criteria for being listed on the CRHR, and the lack of historic integrity, indicates that the resource is not historically significant. Consequently, implementation of the project would result in a less than significant impact to historical resources.

3.1.3 GREENHOUSE GAS EMISSIONS

At the time that the 2004 and 2006 IS/MNDs were adopted the CEQA Guidelines did not require that Greenhouse Gas Emissions (GHG) be evaluated in CEQA documents. However, in 2009 the CEQA Guidelines were amended due to Executive Order S-3-05, the passage of Assembly Bill 32 (AB 32), and

further direction under Executive Order S-20-06. CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that the cumulative impacts of GHGs, even additions that are relatively small on a global basis, need to be considered. Because of the cumulative nature of the climate change problem, even relatively small contributions may be potentially considerable (and therefore, significant).

Section 15064.4 of the 2009 adopted CEQA Guidelines states:

“(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or,

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project (CEQA 2009).

At the time of the analysis conducted for the proposed improvements, no state or local air quality regulatory agency in California, including the Feather River Air Quality Management District (FRAQMD), has identified a significance threshold for GHG emissions generated by a proposed project, or a methodology for analyzing impacts related to GHG emissions or global climate change. Therefore, to make the determination whether the incremental impacts of the proposed improvements are

“cumulatively considerable” the incremental impacts of the proposed improvements must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

GHGs generated by the proposed improvements would be primarily in the form of carbon dioxide (CO₂) from construction equipment exhaust. Although emissions of other GHGs such as methane and nitrous oxide are important with respect to global climate change, the emissions levels of these GHGs for the sources associated with construction are nominal compared with CO₂ emissions, even considering their higher global warming potential. Therefore, all GHG emissions for construction and operation are evaluated as CO₂ emissions.

Emissions factors and calculation methods for estimating GHG emissions associated with infrastructure projects have not been formally adopted for use by the state, FRAQMD, or any other air district. Construction activities associated with the proposed improvements would occur over an approximately six to eight week period in 2012. During this time, a net increase in GHG emissions would result from construction activities. Construction-related GHG emissions would be associated with engine exhaust from heavy-duty construction equipment, transport trucks hauling materials (e.g., soil), and worker commute trips. Although any increase in GHG emissions would add to the quantity of emissions that contribute to global climate change, it is noteworthy that emissions associated with construction of the proposed improvements would occur over a finite period of time (i.e., six-eight weeks). After full project buildout, all construction emissions would cease.

The proposed improvements would contribute directly to emissions of GHGs from the combustion of fossil fuels from construction equipment. CO₂ accounts for 92 percent of all greenhouse gas emissions; electric utilities are the primary source of anthropogenic CO₂, followed by transportation. The California Energy Commission estimates that in 2005, gross adjusted CO₂ emissions in California were 395 million metric tons of CO₂ equivalents (Department of Energy/Energy Information Administration (DOE/EIA) 2005). Construction activities associated with the proposed improvements would emit a negligible amount of CO₂ when compared to the California state CO₂ emissions. Therefore, the proposed improvements would contribute an insignificant amount of CO₂ towards statewide GHG inventories.

Because construction-related emissions would be temporary and finite and would have a negligible cumulative contribution towards statewide GHG emissions they would not have a considerable contribution to the cumulative global impact. In addition, the proposed improvements would not conflict with the objectives of AB 32 or any other applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. In fact, the proposed improvements would improve continued reliance on flood protection facilities in Yuba County if the frequency, and possibly the magnitude, of future flood events increases due to climate change. Therefore, the proposed improvements would meet local policies and plans for improved flood protection in the RD 784 service area due in part to climate change.

3.2 CONCLUSIONS

As described in the preceding sections, the proposed improvements evaluated in this Addendum would not change any of the impact conclusions of the 2004 and 2006 IS/MNDs and would not result in new or substantially more severe environmental impacts.

Based on the analysis of the categories of environmental impacts evaluated above, implementing the proposed improvements described in this Addendum would result in none of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a subsequent negative declaration. In summary, there are no altered circumstances or new information of substantial importance since adoption of the 2004 and 2006 IS/MNDs, and the proposed minor technical changes and additions evaluated in this Addendum:

- ▶ would not result in any new significant environmental effects,
- ▶ would not substantially increase the severity of previously identified effects,
- ▶ would not result in mitigation measures or alternatives previously found to be infeasible becoming feasible, and
- ▶ would not result in availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the previous document that would substantially reduce one or more significant effects on the environment.

These conclusions confirm that this Addendum to the 2004 and 2006 IS/MNDs is the appropriate CEQA document to evaluate and record the project minor technical changes and additions described in this document.

4 REFERENCES

- California Environmental Quality Act. 2009. *Adopted Text of the CEQA Guidelines Amendments*. Available online: <<http://ceres.ca.gov/ceqa/guidelines/>>. Adopted December 30, 2009. Accessed December 2, 2011.
- Department of Energy/Energy Information Administration. 2005. *State Carbon Dioxide Emissions, Emissions Detail by State, California*. Available online: <http://www.eia.doe.gov/oiaf/1605/state/state_emissions.html>. Accessed on December 1, 2011.
- Ramsey Ford. 2011. *Supplemental Cultural Resources Investigations for the Yuba River Levee Repair Project, Yuba County, California*. December 2011.

Notice of Determination

Appendix D

To:

☐ Office of Planning and Research

For U.S. Mail:

P.O. Box 3044

Sacramento, CA 95812-3044

Street Address:

1400 Tenth St.

Sacramento, CA 95814

☒ County Clerk

County of: Yuba

Address: 915 Eighth Street, Suite 107

Marysville, CA 95901

From:

Public Agency: Three Rivers Levee Improvement Authority

Address: 1114 Yuba Street, Suite 218

Marysville, CA 95901

Contact: Paul Brunner, Executive Director

Phone: (530) 749-5679

Lead Agency (if different from above):

Address:

Contact:

Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2004082014 and 2006062037

Project Title: Addendum to Yuba River Levee Repair Project Phase I and II (2004) and Phase 4 Initial Studies/ Mitigated Negative Declarations (2006)

Project Location (include county): Between State Route 70 and Shad Road, near the community of Linda in Yuba County, CA

Project Description:

(See attached sheet)

This is to advise that the Three Rivers Levee Improvement Authority has approved the above described project on

☒ Lead Agency or ☐ Responsible Agency

January 17, 2012

(Date)

and has made the following determinations regarding the above described project:

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: the Three Rivers Levee Improvement Authority offices at the address listed above.

Signature (Public Agency) _____ Title Executive Director

Date _____

Date Received for filing at OPR _____

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes and the State CEQA Guidelines.

Minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that has resulted in a scarp formation just upstream of State Route 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared an Addendum in accordance with Section 15164 of the State CEQA Guidelines.



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
Yuba County Government Center, Board Chambers
915 Eighth Street, Suite 109A
Marysville, California

AMENDED AGENDA JANUARY 17, 2012 – 2:00 P.M.

Welcome to the Three Rivers Levee Improvement Authority (TRLIA) meeting. As a courtesy to others, please turn off cell phones, pagers, or other electronic devices which might disrupt the meeting. Thank you.

- I **ROLL CALL** – Directors Rick Brown, Jerry Crippen, Don Graham, Mary Jane Griego, John Nicoletti
- II **PUBLIC COMMUNICATIONS:** Any person may speak about any subject of concern provided it is within the jurisdiction of the Levee Improvement Authority and is not already on today's agenda. The total amount of time allotted for receiving such public communication shall be limited to a total of 15 minutes and each individual or group will be limited to no more than 5 minutes. Prior to this time, speakers are requested to fill out a "Request to Speak" card and submit it to the Clerk of the Board of Supervisors.
- III **CONSENT AGENDA:** All matters listed under the consent agenda are considered to be routine and can be enacted by one motion.
- A. Approve minutes of the meetings of January 3 and 10, 2012.
- B. Approve Amendment 2 to agreement with David T. Williams and Associates, Engineers, LLC, Donald H. Babbitt, and AMEC Geomatrix, Inc. for Board of Senior Consultant Engineering services and authorize the Executive Director to execute same.
- C. Approve Amendment 3 to agreement with CTA Engineering and Surveying for engineering services and authorize the Executive Director to execute same.
- IV **ACTION ITEMS**
- A. Approve Amendment 2 to agreement with MHM Inc. in the amount of \$30,000 for engineering and surveying services and authorize the Executive Director to execute same.
- B. Approve Addendum to Yuba River Levee Repair Project Phase I, II, and IV Initial Studies/Mitigated Negative Declarations and authorize the Executive Director to file Notice of Determination.
- C. Approve selection of AECOM as most qualified contractor for environmental consultant for Goldfields Analysis, authorize the Executive Director to negotiate agreement in an amount not to exceed \$100,000, and to execute same upon review and approval of Counsel.
- V **BOARD AND STAFF MEMBERS' REPORTS**
- A. Right-of-way efforts along Yuba River associated with Shad Road
- B. Other Reports
- VI **CLOSED SESSION**
- Conference with real estate negotiators pursuant to Government Code §54956.8 – Property: APN 014-360-011, -013
Negotiating Parties: TRLIA/Max Steinheimer/Bob Morrison
- VII **ADJOURN**

The complete agenda is available at the Yuba County Government Center, 915 8th Street, Suite 109 Marysville, and www.trlia.org. Any disclosable public record related to an open session item on the agenda and distributed to all or a majority of the Board less than 72 hours prior to the meeting is available at Suite 109 during normal business hours. In compliance with the Americans with Disabilities Act, the meeting room is wheelchair accessible and disabled parking is available. If you have a disability and need disability-related modifications or accommodations to participate in this meeting, please contact the Clerk of the Board's office at (530) 749-7510 or (530) 749-7353 (fax). Requests must be made one full business day before the start of the meeting.



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

JANUARY 3, 2012

MINUTES

A meeting of the Board of Directors of the Three Rivers Levee Improvement Authority (TRLIA) was held on the above date, commencing at 3:30 p.m., within the Government Center, Marysville, California, with a quorum being present as follows: Directors Rick Brown, Jerry Crippen, Don L. Graham, Mary Jane Griego, and John Nicoletti. Also present were Executive Director Paul Brunner, Counsel Scott Shapiro, and Deputy Clerk of the Board of Supervisors Rachel Ferris. Chair Griego presided.

I ROLL CALL – Directors Rick Brown, Jerry Crippen, Don Graham, Mary Jane Griego, John Nicoletti – All present

II ELECTION OF OFFICERS – Chair and Vice Chair

Director Brown nominated Director Griego for the office of 2012 Chair for TRLIA.

No further nominations were received.

MOTION: Move to cast unanimous ballot for Director Griego as 2012 Chair of TRLIA

MOVED: Jerry Crippen SECOND: Rick Brown

AYES: Rick Brown, Jerry Crippen, Don Graham, Mary Jane Griego, John Nicoletti

NOES: None ABSTAIN: None ABSENT: None

Director Nicoletti nominated Director Brown for the office of 2012 Vice Chair for TRLIA.

No further nominations were received.

MOTION: Move to cast unanimous ballot for Director Brown as 2012 Vice Chair of TRLIA

MOVED: John Nicoletti SECOND: Jerry Crippen

AYES: Rick Brown, Jerry Crippen, Don Graham, Mary Jane Griego, John Nicoletti

NOES: None ABSTAIN: None ABSENT: None

III PUBLIC COMMUNICATIONS: No one came forward.

IV CONSENT AGENDA: All matters listed under the consent agenda are considered to be routine and can be enacted by one motion.

MOTION: Move to approve MOVED: John Nicoletti SECOND: Jerry Crippen

AYES: Jerry Crippen, Rick Brown, Don Graham, Mary Jane Griego, John Nicoletti

NOES: None ABSTAIN: None ABSENT: None

A. Approve minutes of the meetings of December 6, 2011. Approved as written.

V ACTION ITEMS

- A. Approve Amendment No. 2 to agreement with Seth Wurzel Consulting Inc. in the amount of \$175,000 for financial consulting and authorize the Executive Director to execute same. Executive Director Paul Brunner recapped amendment.

MOTION: Move to approve MOVED: Jerry Crippen SECOND: Rick Brown
AYES: Jerry Crippen, Rick Brown, Don Graham, Mary Jane Griego, John Nicoletti
NOES: None ABSTAIN: None ABSENT: None

- B. Approve Amendment No. 17 to agreement with MBK Engineers in the amount of \$1,421,140 for project management and hydraulic analysis and authorize the Executive Director to execute same. Executive Director Paul Brunner provided a recap and responded to Board inquiries.

MOTION: Move to approve MOVED: Jerry Crippen SECOND: John Nicoletti
AYES: Jerry Crippen, Rick Brown, Don Graham, Mary Jane Griego, John Nicoletti
NOES: None ABSTAIN: None ABSENT: None

VI BOARD AND STAFF MEMBERS' REPORTS

Executive Director Paul Brunner:

- Independent Audit Report dated June 30, 2011
- State Local Levee Authority Application turned in to the State
- Prop 1E State Early Implementation (EIP) funding
- Upper Yuba Levee Project
- KVIE documentary

Counsel Scott Shapiro: Draft Central Valley Flood Protection Plan delivered to Central Valley Flood Protection Board

Program Manager Rick Reinhardt: Draft Central Valley Flood Protection Plan

VII CLOSED SESSION: The Board retired into closed session at 4:27 p.m.

- A. Conference with Counsel - Anticipated litigation/Significant exposure pursuant to Government Code §54956.9(b)

The Board returned from closed session at 5:25 p.m. with all present as indicated above.

Special Counsel Scott Shapiro announced "the Board approved an amendment to the real estate plan for the sole purpose of budgeting additional funds to cover survey, title, escrow and other consultants to try to develop a compromise position between the land owners in segment three and State of California which would allow those landowners to continue to use as much of the property as they have been using and believe they own as possible."

VIII ADJOURN: 5:26 p.m. by Chair Griego.

Chair

ATTEST: DONNA STOTTLEMEYER
CLERK OF THE BOARD OF SUPERVISORS
AND SECRETARY OF THE PUBLIC AUTHORITY

Rachel Ferris, Deputy Clerk

Approved: _____



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

JANUARY 10, 2012

MINUTES

A special meeting of the Board of Directors of the Three Rivers Levee Improvement Authority (TRLIA) was held on the above date, commencing at 2:02 p.m., within the Government Center, Marysville, California, with a quorum being present as follows: Directors Rick Brown, Jerry Crippen, Don L. Graham, Mary Jane Griego, and John Nicoletti. Also present were Executive Director Paul Brunner, Counsel Scott McElhern and Deputy Clerk of the Board of Supervisors Rachel Ferris. Chair Griego presided.

I ROLL CALL – Directors Rick Brown, Jerry Crippen, Don Graham, Mary Jane Griego, John Nicoletti – All present

II CLOSED SESSION: The Board retired into closed session at 2:02 p.m. to consider the following:

A. Conference with Counsel - Anticipated litigation/Significant exposure pursuant to Government Code §54956.9(b)

The Board returned from closed session at 2:47 p.m. with all members as indicated above.

Counsel Scott McElhern reported: "With respect to the real estate plan for segment three there has been an amendment. With respect to funding for a proposed and preferred resolution to a property line issue that for the documentation and surveying to implementation, the preferred resolution that the local share of 30% for the payment would be in addition to that TRLIA would pay, the 70 percent of the State's share - should that become necessary - we will continue to discuss that issue with the State and advocate for their payment but if it should become necessary for the local share to pay that 70 percent, then TRLIA will do that."

III ADJOURN: 2:48 p.m. by Chair Griego.

Chair

ATTEST: DONNA STOTTLEMEYER
CLERK OF THE BOARD OF SUPERVISORS
AND SECRETARY OF THE PUBLIC AUTHORITY

Rachel Ferris, Deputy Clerk

Approved: _____



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Paul Brunner, Executive Director *PB*
Larry Dacus, Design Manager
SUBJECT: Consider Approval of Amendment 2 to Contracts with the UYLIP Board of Senior Consultants to Provide Engineering Services for TRLIA Levee Improvement Program

Recommended Action:

Approve a contract amendment (Amendment 2) with David T. Williams & Associates, Engineers, LLC, Donald H. Babbitt, and AMEC Geomatrix, Inc. (Attached) for engineering services and authorize TRLIA Executive Director to sign and execute once General Counsel has reviewed and approved.

Discussion:

These amendments just extend the termination date. There is no dollar increase to the contracts.

TRLIA established a Board of Senior Consultants (BOSC) to assist in the Safety Assurance Review for the Upper Yuba Levee Improvement Project (UYLIP). When the initial contracts were signed it was thought that the BOSC efforts would be complete by December 31, 2010. However delays in project implementation for the UYLIP pushed construction into 2011 with completion scheduled in 2012. The Safety Assurance Review will need to continue through this year. This requires an amendment to each consultants contract to extend the termination date to December 31, 2012. The original budgets in the contracts will remain the same.

The BOSC has provided excellent service in their reviews and is needed to complete the Safety Assurance Review required by the Corps of Engineers.

Fiscal Impact:

No impact.

Attachments:

David T. Williams & Associates, Engineers, LLC Amendment 2

Donald H. Babbitt Amendment 2

AMEC Geomatrix, Inc. Amendment 2

SECOND AMENDMENT
TO
AGREEMENT BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
AND
DAVID T. WILLIAMS & ASSOCIATES, ENGINEERS, LLC

THIS SECOND AMENDATORY AGREEMENT is made and entered into this ____ day of _____, 2012, by and between the THREE RIVERS LEVEE IMPROVEMENT AUTHORITY, a Joint Powers Authority, ("TRLIA") and DAVID T. WILLIAMS & ASSOCIATES, ENGINEERS, LLC. ("CONSULTANT").

RECITALS:

WHEREAS, TRLIA and CONSULTANT entered into an agreement to provide Engineering and Surveying Services dated September 15, 2009 ("AGREEMENT");

WHEREAS, a FIRST AMENDATORY AGREEMENT, executed November 16, 2010, extended the contract termination date to December 31, 2011; and

WHEREAS, Article C.24 of the AGREEMENT, states that modifications or amendments to the terms of the AGREEMENT shall be in writing and executed by both parties:

WHEREAS, TRLIA and CONSULTANT desire to amend the AGREEMENT;

NOW, THEREFORE, TRLIA and CONSULTANT agree as follows:

1. Operative Provision 2 of the AGREEMENT shall be revised to change the Termination Date from December 31, 2011 to December 31, 2012.

All other terms and conditions contained in the Agreement shall remain in full force and effect.

This AMENDED AGREEMENT is hereby executed on this ____ day of _____ 2012.

THREE RIVERS LEVEE
IMPROVEMENT AUTHORITY

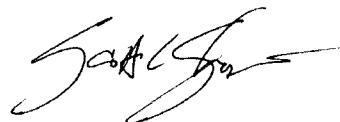
DAVID T. WILLIAMS & ASSOCIATES,
ENGINEERS, LLC

Paul G. Brunner
Executive Director

David T. Williams
President

ATTEST:
DONNA STOTTLEMEYER,
SECRETARY

APPROVED AS TO FORM:
SCOTT L. SHAPIRO
THREE RIVERS LEVEE IMPROVEMENT
AUTHORITY, GENERAL COUNSEL



SECOND AMENDMENT
TO
AGREEMENT BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
AND
DONALD H. BABBITT

THIS SECOND AMENDATORY AGREEMENT is made and entered into this ____ day of _____, 2012, by and between the THREE RIVERS LEVEE IMPROVEMENT AUTHORITY, a Joint Powers Authority, ("TRLIA") and DONALD H. BABBITT. ("CONSULTANT").

RECITALS:

WHEREAS, TRLIA and CONSULTANT entered into an agreement to provide Engineering and Surveying Services dated September 15, 2009 ("AGREEMENT");

WHEREAS, a FIRST AMENDATORY AGREEMENT, executed November 16, 2010, extended the contract termination date to December 31, 2011; and

WHEREAS, Article C.23 of the AGREEMENT, states that modifications or amendments to the terms of the AGREEMENT shall be in writing and executed by both parties:

WHEREAS, TRLIA and CONSULTANT desire to amend the AGREEMENT;

NOW, THEREFORE, TRLIA and CONSULTANT agree as follows:

1. Operative Provision 2 of the AGREEMENT shall be revised to change the Termination Date from December 31, 2011 to December 31, 2012.

All other terms and conditions contained in the Agreement shall remain in full force and effect.

This AMENDED AGREEMENT is hereby executed on this ____ day of _____ 2012.

THREE RIVERS LEVEE
IMPROVEMENT AUTHORITY

DONALD H. BABBITT

Paul G. Brunner
Executive Director

Donald H. Babbitt

ATTEST:
DONNA STOTTLEMEYER,
SECRETARY

APPROVED AS TO FORM:
SCOTT L. SHAPIRO

THREE RIVERS LEVEE IMPROVEMENT
AUTHORITY GENERAL COUNSEL



SECOND AMENDMENT
TO
AGREEMENT BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
AND
AMEC GEOMATRIX, INC.

THIS SECOND AMENDATORY AGREEMENT is made and entered into this ____ day of _____, 2012, by and between the THREE RIVERS LEVEE IMPROVEMENT AUTHORITY, a Joint Powers Authority, ("TRLIA") and AMEC GEOMATRIX, INC. ("CONSULTANT").

RECITALS:

WHEREAS, TRLIA and CONSULTANT entered into an agreement to provide Engineering and Surveying Services dated September 15, 2009 ("AGREEMENT");

WHEREAS, a FIRST AMENDATORY AGREEMENT, executed November 16, 2010, extended the contract termination date to December 31, 2011; and

WHEREAS, Article C.24 of the AGREEMENT, states that modifications or amendments to the terms of the AGREEMENT shall be in writing and executed by both parties:

WHEREAS, TRLIA and CONSULTANT desire to amend the AGREEMENT;

NOW, THEREFORE, TRLIA and CONSULTANT agree as follows:

1. Operative Provision 2 of the AGREEMENT shall be revised to change the Termination Date from December 31, 2011 to December 31, 2012.

All other terms and conditions contained in the Agreement shall remain in full force and effect.

This AMENDED AGREEMENT is hereby executed on this ____ day of _____ 2012.

THREE RIVERS LEVEE
IMPROVEMENT AUTHORITY

AMEC GEOMATRIX, INC.

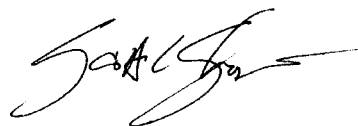
Paul G. Brunner
Executive Director

Faiz Makdisi
Vice President

ATTEST:
DONNA STOTTLEMEYER,
SECRETARY

APPROVED AS TO FORM:
SCOTT L. SHAPIRO

THREE RIVERS LEVEE IMPROVEMENT
AUTHORITY GENERAL COUNSEL





THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Board
FROM: Paul Brunner, Executive Director
Larry Dacus, Design Manager
SUBJECT: Consider Approval of Third Contract Amendment to CTA Engineering
and Surveying Professional Services Contract

Recommended Action:

Approve a contract amendment #3 (attached) to the basic CTA Engineering and Surveying (CTA) contract for engineering services and authorize Executive Director to sign and execute upon review of General Counsel.

Discussion:

This amendment only extends the contract termination date and does not increase the contract budget

TRLIA entered into a professional services contract with CTA to perform surveying services for the Yuba, Feather and Bear levee repairs land acquisition actions and has amended the contract two times. The current contract termination date is December 31, 2011.

The TRLIA Team continues with numerous real estate actions to provide toe access corridors as required by the different encroachment permits issued for TRLIA levee repairs. These additional acquisition actions will occur along the WPIC West Levee, the Upper Bear North Levee, the Feather East Levee Segments 1 and 3, and along the lower Yuba South Levee (Hwy 70 to Simpson Lane). Associated survey tasks also continue.

CTA has been providing these services in a timely and professional manner but efforts are not complete. However the last amendment to the CTA contract established a termination date of December 31, 2011 and this termination date needs to be extended. CTA is knowledgeable of survey conditions in Yuba County and has provided the needed services in an expedient manner and at a reasonable cost.

Fiscal Impact:

No Impact

Attachment:
CTA Engineering and Surveying Amendment 3

AMENDMENT NO. 3

AGREEMENT FOR PROFESSIONAL SERVICES
FOR
ENGINEERING SERVICES
BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY AND
CTA ENGINEERING AND SURVEYING

THIS THIRD AMENDATORY AGREEMENT is made effective January _____, 2012, by and between Three Rivers Levee Improvement Authority ("TRLIA") and CTA Engineering and Surveying ("the Consultant"), who agree as follows:

1. **Recitals.** This Amendment is made with reference to the following background recitals:
 - 1.1. Effective March 2, 2010 the parties entered into an Agreement for Professional Services relating to Surveying Services for TRLIA's Construction Program.
 - 1.2. Effective August 3, 2010 the parties entered into the first Amendatory Agreement.
 - 1.3. Effective February 15, 2011 the parties entered into the second Amendatory Agreement.
 - 1.4. Article C.24 of the AGREEMENT, states that modifications or amendments to the terms of the AGREEMENT shall be in writing and executed by both parties;
 - 1.5. TRLIA and the CONSULTANT desire to amend the AGREEMENT;

NOW, THEREFORE, TRLIA and the CONSULTANT agree as follows.

2. **Third Amendment to Agreement.** The Professional Services Agreement is hereby amended as follows:
 - 2.1. The Termination Date in Clause 2 and A.2 is amended to extend to December 31, 2012.
3. **No Effect on Other Provisions.** Except for the amendment in Section 2, the remaining provisions of the Professional Services Agreement as amended shall be unaffected and remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on
_____, 2012.

THREE RIVERS LEVEE
IMPROVEMENT AUTHORITY

CTA ENGINEERING AND
SURVEYING

Paul G. Brunner
Executive Director

Kevin A. Heeney
Vice-President

ATTEST:
DONNA STOTTLEMEYER
CLERK OF THE BOARD OF DIRECTORS

APPROVED AS TO FORM:
SCOTT L. SHAPIRO
GENERAL COUNSEL





THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Paul Brunner, Executive Director *PBB/hc*
Larry Dacus, Design Manager
SUBJECT: Consider Approval of Amendment 2 to Contract with MHM Inc. to
Provide Engineering and Surveying Services for TRLIA Levee
Improvement Program

Recommended Action:

Approve a contract amendment (Amendment 2) with MHM Inc. (Attached) for engineering and surveying services and authorize TRLIA Executive Director to sign and execute once General Counsel has reviewed and approved.

Discussion:

TRLIA entered into a contract with MHM in October 2009 for surveying and engineering services. Work continues for some of the Tasks included in that contract. Task 5 allows MHM to provide general surveying services for miscellaneous items that develop as TRLIA completes the levee repairs. This task has allowed MHM to perform monitoring surveys and construction surveys in the Goldfields. The budget for this task has been expended and it is very advantageous to have the ability to request survey assistance from MHM for these tasks which occur from time to time

The request is to increase this task budget by \$30,000 over the original budget of \$25,000 to a total Task amount of \$55,000. This task increase will increase the total contract amount from \$176,700 to \$206,700

As a local surveying and engineering firm with knowledge of the area, MHM has unique knowledge that allows them to perform these miscellaneous survey tasks efficiently. This contract with MHM provides TRLIA with resources to perform unanticipated surveying tasks with a quick turnaround.

This amendment will also extend the contract with MHM to December 31, 2012.

Fiscal Impact:

The MHM Contract will be increased by \$30,000 for services on a time-and-expenses basis, to a maximum amount not to exceed a total contract amount of \$206,700. The funding for these tasks associated with the Feather and UYLIP projects will be cost shared by the State. Tasks not associated with the EIP projects will be funded with local funds. Once a funding agreement is completed with the State for the Goldfields work, the State will then provide a cost share. Local funds are available.

Attachment:
MHM Amendment 2

SECOND AMENDMENT
TO
AGREEMENT BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
AND
MHM, Inc.

THIS SECOND AMENDATORY AGREEMENT is made and entered into this ____ day of _____, 2012, by and between the THREE RIVERS LEVEE IMPROVEMENT AUTHORITY, a Joint Powers Authority, ("TRLIA") and MHM, Inc. ("CONSULTANT").

RECITALS:

WHEREAS, TRLIA and CONSULTANT entered into an agreement to provide Engineering and Surveying Services dated October 13, 2009 ("AGREEMENT");

WHEREAS, TRLIA and CONSULTANT entered into the First Amendatory Agreement dated November 16, 2010;

WHEREAS, Article C.24 of the AGREEMENT, states that modifications or amendments to the terms of the AGREEMENT shall be in writing and executed by both parties:

WHEREAS, TRLIA and CONSULTANT desire to amend the AGREEMENT;

NOW, THEREFORE, TRLIA and CONSULTANT agree as follows:

1. Operative Provision 2 – TERM – shall be revised to change the Termination Date to December 31, 2012
2. Article B.1 of the AGREEMENT shall be revised to increase the maximum contract fee from \$176,700 to \$206,700

All other terms and conditions contained in the Agreement shall remain in full force and effect.

This AMENDED AGREEMENT is hereby executed on this ____ day of _____ 2012.

THREE RIVERS LEVEE
IMPROVEMENT AUTHORITY

MHM, INC.

Paul G. Brunner
Executive Director

John Michael Smith
Principal

ATTEST:
DONNA STOTTLEMEYER,
SECRETARY

APPROVED AS TO FORM:
SCOTT L. SHAPIRO
THREE RIVERS LEVEE IMPROVEMENT
AUTHORITY GENERAL COUNSEL





THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Paul Brunner, Executive Director *PDB/jw*
Larry Dacus, Design Manager
SUBJECT: Yuba River Levee Repair Project (YRLRP) California Environmental Quality Act (CEQA) Addendum for Landside Slope Repair

Recommended Action:

Board Approval of the Yuba River Levee Repair Project CEQA Addendum(Attachment 1) and authorize the Executive Director to file a Notice of Determination (NOD)(Attachment 2).

Background:

The California Environmental Quality Act (CEQA) requires a detailed level of analysis for all projects having the ability to affect a variety of human interest factors. This analysis was conducted and concluded in the form of an Initial Study/Mitigated Negative Declaration (IS/MND) for the Yuba River Levee Repair Project (YRLRP) – Phase I and Phase II, and was approved by the TRLIA Board on August 24, 2004. The YRLRP area was defined in detail in the IS/MND and included, at the time, all foreseeable project activities. Minor project components that need to be added to the project and were not precisely addressed or listed in detail in the IS/MND may be addressed in an addendum to the IS/MND. An addendum is appropriate when there are changes or additions to a project that do not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Discussion:

A periodic inspection by the United States Army Corps of Engineers (USACE) discovered evidence of erosion on the landside of the Yuba levee that has resulted in a scarp formation just upstream of State Route 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved on the landside. The IS/MND did identify work to be done in this location but the work was of a slightly different nature. While the features of work were different, the impacts of these features in the proposed location were described and analyzed adequately in the IS/MND. The impacts identified and evaluated have not been significantly changed by these new features nor have new impacts been identified. To support this conclusion, an addendum to the 2004 IS/MND has been prepared which addresses the current impacts to the resources discussed in the original IS/MND.

Addendum Conclusions:

An addendum must contain a brief explanation of the agency's decision not to prepare a subsequent IS/MND under CEQA regulations, and this conclusion must be supported by substantial evidence. Consistent with this requirement, the addendum has concluded that the added new features:

- Would not result in any new significant environmental effects,
- Would not substantially increase the severity of previously identified effects,
- Would not result in mitigation measures or alternatives previously found to be infeasible becoming feasible, and
- Would not result in availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the previous document that would substantially reduce one or more significant effects on the environment.

There are no public review requirements for an IS/MND addendum: upon submittal of a Notice of Determination to the State Clearing House and the Office of Planning and Research, a 30 day statutory period of protest and/or challenge exists. The construction of these landside slope repairs are anticipated to begin late this summer and be completed prior to the fall after the CEQA process has been completed.

Fiscal Impact:

The Department of Water Resources has agreed that the proposed work should be a part of the Upper Yuba Levee Improvement Project EIP. The construction work that is analyzed in this addendum is addressed by the Prop 1 E funding agreement and included in the Upper Yuba Levee Improvement Project Budget.

Attachments:

1. Addendum to the Yuba River Levee Repair Project dated December 2011
2. Notice of Determination

**ADDENDUM TO THE YUBA RIVER LEVEE REPAIR PROJECT
PHASE I AND II (2004) AND PHASE 4 (2006)
INITIAL STUDIES/ MITIGATED NEGATIVE DECLARATIONS**

YUBA COUNTY, CALIFORNIA



State Clearinghouse #

2004082014 (2004)

2006062037 (2006)

Three Rivers Levee Improvement Authority

December 2011

Attachment 1



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

Date: December 9, 2011

To: Interested Parties

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

Subject: Addendum to the Yuba River Levee Repair Project Phase I and II (2004) and Phase 4 (2006) Adopted Initial Studies/ Mitigated Negative Declarations

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes and the State CEQA Guidelines.

Minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. Changes in a project may be addressed by a supplement to the negative declaration or an addendum, depending on whether such changes result in new or substantially more severe changes in environmental impacts. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that has resulted in a scarp formation just upstream of State Route (SR) 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. The potential impact of the proposed levee landside improvements are analyzed in this Addendum. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared this Addendum in accordance with Section 15164 of the State CEQA Guidelines.

This Addendum may be reviewed at TRLIA's Web site, <http://www.trlia.org/>. For questions regarding the Addendum and documents referenced in the IS/MND, contact Paul Brunner, P.E., Executive Director, TRLIA. Questions can be sent to Paul Brunner, P.E., Executive Director, TRLIA, 1114 Yuba Street, Suite 218, Marysville, CA 95901, fax (530) 749-6990, or by e-mail: pbrunner@co.yuba.ca.us.

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

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1 INTRODUCTION

1.1 BACKGROUND

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes (Public Resources Code [PRC] Sections 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). TRLIA is a joint powers authority composed of Yuba County and Reclamation District (RD) 784 that was formed to address funding and implementation of levee repairs for the RD 784 area.

Under the Yuba River Levee Repair Project – Phase I and II IS/MND, TRLIA proposed to enhance flood protection of properties within the RD 784 service area by repairing segments of the south levee of the Yuba River, just upstream of its confluence with the Feather River. These repairs addressed under- and through-seepage concerns on the Yuba River South Levee through a combination of treatments. These treatments included the construction of a slurry cutoff wall, relief wells, and a landside seepage berm. The treatment area was divided into five reaches for the purposes of the 2004 IS/MND analysis: Reaches A, B, C, D, and E. Construction of the project occurred in two phases: Phase I occurred in September through October 2004, and Phase II occurred during the summers of 2005 and 2006. Reach B covered the area from State Route (SR) 70 to Shad Road.

Under the Yuba River Levee Repair Project – Phase 4 IS/MND, TRLIA also proposed to enhance flood protection of properties within the RD 784 service area by repairing segments of the south levee of the Yuba River. These repairs addressed under- and through-seepage concerns on the Yuba River South Levee through a combination of treatments including constructing a slurry cutoff wall, a small landside seepage berm, and raising the height of a segment of the levee. The treatment area was divided into the same five reaches, Reaches A, B, C, D, and E, for the 2006 IS/MND analysis as the 2004 IS/MND. Construction of the Phase 4 project commenced in July 2006 and ended in November 2006. From 2004 through 2006, components of the Yuba River Levee Repair Project Phases I and II were constructed. These components consisted of the construction of a slurry wall and landside seepage berm in Reaches B, C, and D.

As is typical of conceptual planning and design processes, minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. The CEQA Guidelines state that changes in a project may be addressed by a supplement to the negative declaration or an addendum, depending on whether such changes result in new or substantially more severe changes in environmental impacts. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that

has resulted in a scarp formation just upstream of SR 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. The details of the proposed levee landside improvements are described in this Addendum. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared this Addendum in accordance with Section 15164 of the State CEQA Guidelines.

The proposed improvements are entirely located within Reach B as defined in the 2004 and 2006 IS/MNDs. Figure 1-1 shows the location and vicinity of Reach B and the proposed improvements. Figure 1-2 shows the proposed area, levee station number 5+80 to 9+00, where the proposed improvements would occur. In 2004 TRLIA constructed a 50-foot-deep slurry wall using the conventional slot trench method in Reach B. Although TRLIA proposed to construct relief wells in Reach B in 2005, no relief wells were constructed. In 2009 TRLIA flattened the waterside slope in Reach B in order to maintain a 3:1 slope.

1.2 REGULATORY CONTEXT

If, after adoption of a negative declaration (ND) or mitigated negative declaration (MND), altered conditions or changes or additions to a project occur, CEQA provides two mechanisms to address these changes: a subsequent negative declaration or an addendum to a negative declaration.

Section 15162 of the State CEQA Guidelines describes the conditions under which preparation of a subsequent negative declaration (or EIR) would be appropriate. When an ND or MND has been adopted (or an EIR has been certified) for a project, preparation of a subsequent ND or MND (or EIR) would be appropriate if the lead agency determines, on the basis of substantial evidence in light of the whole record, that one or more of the following conditions is met:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

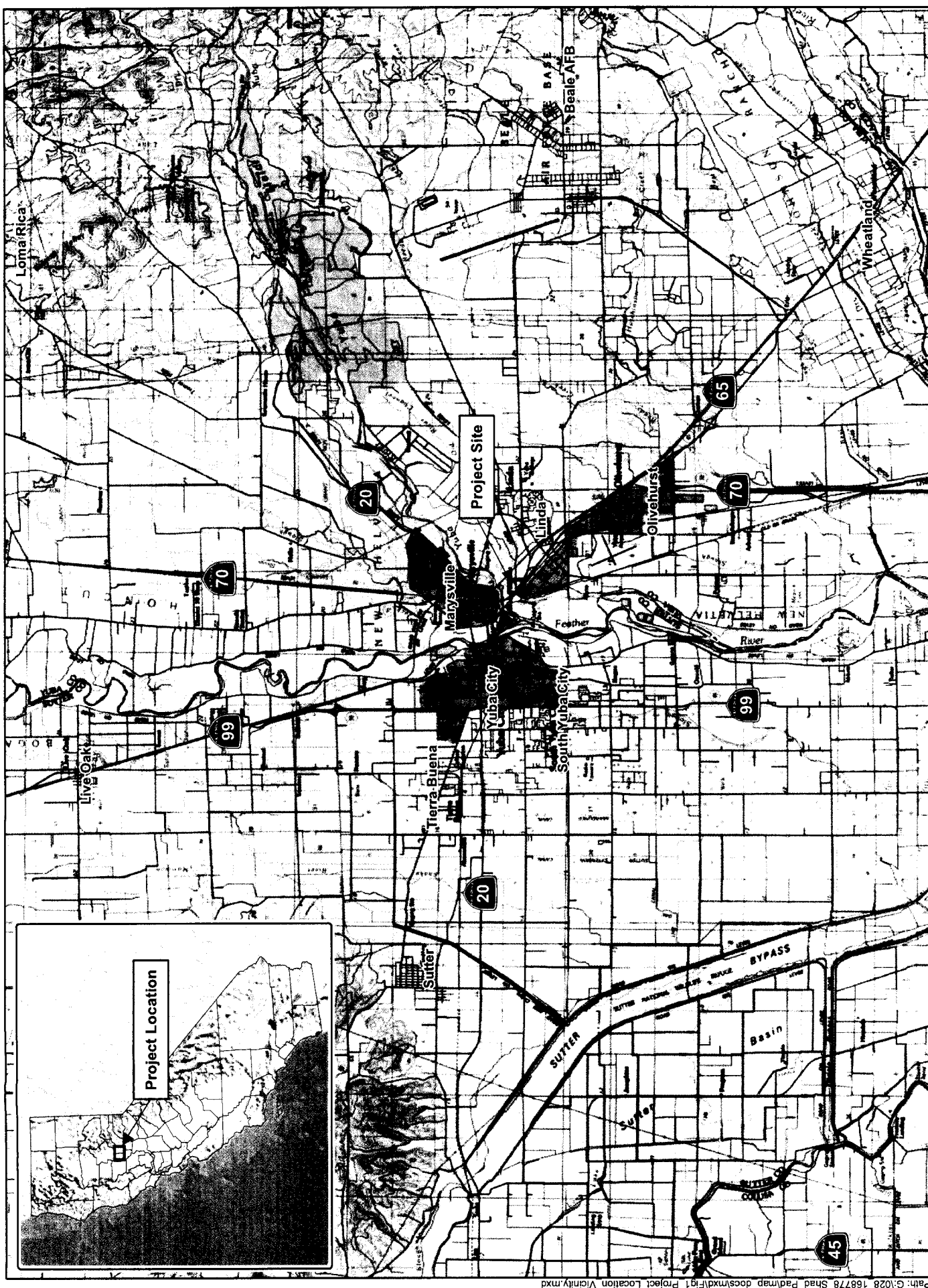


Figure 1-1 - Location and Vicinity Map

Levee Landslide Improvements - Station 5+80 to 9+00

0 0.5 1 2 3 4 5 Miles
1 In = 3 Miles





Figure 1-2 - Project Site

Levee Landside Improvements - Station 5+80 to 9+00

0 50 100 150 200 Feet
1 in = 200 feet



- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15164 of the State CEQA Guidelines states that a lead agency may prepare an addendum to an adopted negative declaration if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent negative declaration have occurred.

The analysis below will demonstrate that changes and additions to the 2004 and 2006 IS/MNDs since adoption of the mitigated negative declarations in August 24, 2004 and July 28, 2006, respectively:

- ▶ would not result in any new significant environmental effects, and
- ▶ would not substantially increase the severity of previously identified effects.

In addition, no new information of substantial importance has arisen that shows that:

- ▶ the project would have new significant effects,
- ▶ the project would have substantially more severe effects,
- ▶ mitigation measures previously found to be infeasible would in fact be feasible, or
- ▶ mitigation measures that are considerably different from those analyzed in the IS/MND would substantially reduce one or more significant effects on the environment.

Because none of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a subsequent negative declaration have occurred, an addendum to the 2004 and 2006 IS/MNDs, consistent with Section 15164 of the State CEQA Guidelines, is the appropriate mechanism to document the minor technical changes and additions to the Yuba River Levee Repair Project. The purpose of this addendum, therefore, is to provide the additional CEQA analysis necessary to address the minor changes to the project and provide documentation for the record that these changes are consistent with the 2004 and 2006 IS/MNDs.

2 CHANGES TO THE PROJECT

The primary change to the Yuba River Levee Repair Project is related to erosion that has occurred since completion of the project on the landside of the levee. This erosion has resulted in a scarp formation just upstream of SR 70 to Shad Road, approximately levee station number 5+80 to 9+00. As a result of this scarp, an approximate 320-foot long segment of the levee must be repaired. Although the details of this repair are not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs.

2.1 LEVEE LANDSIDE IMPROVEMENTS – STATION 5+80 TO 9+00

The proposed levee landside improvements from station number 5+80 to 9+00 include reconstructing the landside of the levee to a slope of 3 horizontal feet to 1 vertical foot (3H:1V), resurfacing the levee crown, and clearing of trees, structures, and fences for an operations and maintenance (O&M) corridor. The final levee crown elevation would not exceed the existing grades as a part of these improvements.

The landside levee slope and all areas to have fill placed on them would be cleared and grubbed of all vegetation and stripped to a depth of six inches. These surfaces would then be appropriately prepared (i.e., laid back, keyed, over excavated, etc.) to allow for effective placement of material and to allow for a fully integrated composite levee section when construction is complete. Material similar to that comprising the remaining portion of the levee would be placed in six inch maximum lifts and compacted to achieve appropriate density at optimum moisture content. The levee crown would then be repaved to match existing conditions and erosion resistant mulch with grass seed would be applied to the restored levee slope.

2.1.1 OPERATION AND MAINTENANCE CORRIDORS

To provide space for O&M of the levee and for possible flood fighting, TRLIA would acquire adjacent land to provide a 20-foot wide O&M corridor at the landside toe of the levee. Existing structures, fences, trees, and other obstructions within the O&M corridor area would be removed as a part of the clear and grub operation. The 20-foot O&M corridor would incorporate the 15-foot wide vegetation free zone along the landside levee toe as required by the United States Army Corps of Engineers (USACE).

All property acquisitions and relocations conducted as part of the proposed improvements would be in compliance with both the Federal Uniform Relocation Act and the California Relocation Assistance Law.

2.1.2 RELOCATION OF UTILITIES AND LEVEE PENETRATIONS

There are existing Pacific Gas and Electric Company (PG&E) facilities, power poles, and power lines, located within the footprint of the proposed landside levee improvements. To comply with requirements from USACE and Title 23 of the California Code of Regulations it is anticipated that these PG&E facilities would be relocated approximately 20-feet outside of the proposed landside levee toe. This work would be completed by PG&E. A new 30-foot wide easement would be obtained for the relocated PG&E facilities.

An existing septic tank is located within the footprint of the proposed improvements. This septic tank would be removed as a part of the clear and grub operation. Any existing sewer lines tied into the septic tank would be rerouted outside of the levee toe and O&M corridor.

2.1.3 EROSION PROTECTION AND STORMWATER POLLUTION PREVENTION

Where soil along the landside surface of the existing levee is disturbed during project implementation, an approved grass cover would be placed for erosion protection. Temporary erosion/runoff control measures would be implemented during construction to minimize stormwater pollution resulting from erosion and sediment migration from the construction and staging areas. These temporary control measures may include minimizing the amount of area disturbed at any one time; providing secondary containment for small quantity storage of construction equipment fuel and oil; and the management of stockpiles and disturbed areas by means of earth berms, diversion ditches, straw wattles, straw bales, silt fences, gravel filters, mulching, revegetation, and temporary covers as appropriate. Erosion and stormwater pollution control measures would be consistent with National Pollutant Discharge Elimination System (NPDES) permit requirements and would be included in a storm water pollution prevention plan (SWPPP).

After completion of construction activities, temporary facilities would be removed and disturbed areas would be restored and reclaimed as appropriate. Site restoration activities for areas disturbed by construction activities, including staging areas, may include grading, seeding, use of straw wattles and bales, application of straw mulch and/or hydro seed, and other measures deemed appropriate.

2.1.4 CONSTRUCTION EQUIPMENT

Mobile equipment for the proposed levee improvements is assumed to include the following typical equipment:

- ▶ One utility excavator
- ▶ One bulldozer
- ▶ One self-propelled sheepsfoot or tramping-foot roller
- ▶ One water truck
- ▶ 10 highway dump trucks
- ▶ One asphalt paver
- ▶ One lubricating truck
- ▶ One front-end loader
- ▶ One integrated tool carrier

Additional equipment would include: air compressors to operate tools and other equipment; welding equipment; pumps and piping; communications and safety equipment; erosion control materials; miscellaneous equipment customary to the mechanical and electrical crafts; and vehicles used to deliver and move equipment, materials, and personnel.

2.1.5 STAGING AREAS AND CONSTRUCTION TRAFFIC ACCESS

Prior to and during construction of the proposed levee improvements a staging area would be established to allow for efficient use and distribution of materials and equipment. Personnel, equipment, and

imported materials would reach the project area via SR 70, North Beale Road, and Shad Road, which are paved, all-weather roads, and suitable for the anticipated loads. At the project site, the primary construction corridor would include the crest of the existing levee and the area adjacent to the levee toe. The construction labor force is estimated to average approximately 15 persons over the construction period.

It is expected that approximately 10 trailer (“low-boy”) truck round trips would be required to transport the contractor’s equipment listed above to the project area. A similar number of round trips would be needed to remove the equipment from the site as the work is completed.

It is estimated that a net total of approximately 6,000 cubic yards (cu. yd.) of material would be required for the proposed improvements. It is anticipated that borrow material would be needed from local off-site sources. In addition, about 20 highway truckloads may be needed to carry construction debris and waste materials to a suitable landfill.

Within the construction area, the main source of construction traffic would be the movement of material for the reconstruction of the landside levee slope between the staging area and the levee slope. Dust control measures would be applied to roads and work areas on a systematic basis for dust suppression.

2.1.6 CONSTRUCTION SCHEDULING

A construction period of approximately six to eight weeks is planned for the landside levee improvements. Construction is anticipated to commence on or after August 1, 2012, beginning with contractor mobilization, and ending with clean-up and contractor demobilization. The proposed improvements would be constructed over the six to eight week period, working 15 hours per day. Schedule highlights are as follows:

- ▶ Mobilization: Mobilization would include setting up a staging area and transporting earthmoving equipment to the site. These activities may take approximately one week.
- ▶ Clearing, grubbing, stripping, and demolition operations.
- ▶ Utilities: Existing PG&E facilities, power poles, and power lines would be relocated.
- ▶ Landside levee slope improvements: The landside levee slope would be reconstructed to a 3:1 slope.
- ▶ O&M Corridor: Establish a 20-foot wide O&M corridor at the landside levee toe after the levee slope improvements are constructed.
- ▶ Demobilization: Demobilization would include removal of equipment and materials from the project site, disposal of excess materials at appropriate facilities, and restoration of the staging area to pre-project conditions. Demobilization activities would be completed in 2012.

3 ENVIRONMENTAL ANALYSIS

This section provides the analysis to verify that: (1) the minor technical changes and additions to the Yuba River Levee Repair Project described in Chapter 2 of this document do not meet any of the criteria in Sections 15162 of the State CEQA Guidelines for preparation of a subsequent negative declaration and meet the criteria of 15164 of the State CEQA Guidelines for preparation of an addendum to the adopted mitigated negative declarations; and, (2) the combined analyses in the 2004 and 2006 IS/MNDs and this Addendum are sufficient to meet CEQA requirements.

The evaluation below is provided in the form of a narrative discussion addressing each environmental issue area included in the 2004 and 2006 IS/MNDs (e.g., land use, transportation/traffic, air quality).

3.1 ANALYSIS BY RESOURCE TOPIC

With the exception of Biological Resources, Cultural Resources, and Greenhouse Gas Emissions) which are discussed below in sections 3.1.1, 3.1.2, and 3.1.3 respectively), Table 3-1 provides a qualitative comparison of overall project impacts identified in the 2004 and 2006 IS/MNDs versus the proposed improvements outlined in Section 2.0.

Table 3-1. Qualitative Comparison of Overall Project Impacts Identified in the 2004 and 2006 IS/MNDs versus the Proposed Improvements

Resource Area	Potential Impacts Identified in the 2004 and 2006 IS/MNDs	Adopted Avoidance, Minimization, and/or Mitigation Measures in the 2004 and 2006 IS/MNDs	New (Current) Impact Value
Aesthetics	Temporary disruption to the existing visual quality of the area during construction due to presence of construction equipment.	None required	The proposed improvements would not result in any new or substantially greater impacts to aesthetics.
Agriculture and Forestry Resources	No impacts to agricultural and forestry resources identified.	None required	The proposed improvements would not result in any new or substantially greater impacts to farmland or forestry resources.
Air Quality	The project would cause temporary (construction-related) emissions; No permanent impacts	Implement Feather River Air Quality Management District's recommended emissions reduction measures.	The proposed improvements would not result in any new or substantially greater impacts to air quality.
Geology/Soils	Temporary construction impacts related to soil disturbance and erosion would occur.	Prepare a Stormwater Pollution Prevention Plan and comply with other applicable erosion and sediment control/water quality regulations.	The proposed improvements would not result in any new or substantially greater impacts to geology and soils.
Hazardous Waste/Materials	Temporary construction impacts related to use of hazardous substances (i.e. fuel, solvents, and oils) and risk of accidental release and exposure of people or structures to risk of wildland fire.	Prepare a Stormwater Pollution Prevention Plan; comply with other applicable water quality regulations; employees training in safe handling and storage of hazardous materials; and, clear areas slated for construction using spark-producing or intense heat-producing equipment.	The proposed improvements would not result in any new or substantially greater impacts to hazardous waste/materials.

Resource Area	Potential Impacts Identified in the 2004 and 2006 IS/MNDs	Adopted Avoidance, Minimization, and/or Mitigation Measures in the 2004 and 2006 IS/MNDs	New (Current) Impact Value
Hydrology/Water Quality	Temporary construction impacts related to soil disturbance and erosion, use of hazardous substances (i.e. fuel, solvents, and oils), and changes in drainage patterns that affect the potential for flooding.	Prepare a Stormwater Pollution Prevention Plan; comply with other applicable water quality regulations; and, employees training in safe handling and storage of hazardous materials.	The proposed improvements would not result in any new or substantially greater impacts to hydrology and water quality.
Land Use	The project is consistent with the Yuba County General Plan. The project would not disrupt existing community character or cohesion.	None required	The proposed improvements would not result in any new or substantially greater impacts to land use.
Mineral Resources	The project would not result in the loss of availability of a known mineral resource or loss of availability of a locally important mineral resource recovery site.	None required	The proposed improvements would not result in any new or substantially greater impacts to mineral resources.
Noise	Temporary construction impacts related to periodic increases in noise levels in the project area.	Abide by the Yuba County Noise Ordinance.	The proposed improvements would not result in any new or substantially greater impacts to noise.
Population and Housing	The project would not induce substantial growth. Approximately 10 units at the mobile home park in Reach B would need to be relocated or removed to accommodate construction.	No mitigation is required because the number of houses expected to be removed or relocated would be small, and because there is plenty of housing available in southern Yuba County, therefore, there would not be an overall shortage of housing as a result of implementation of construction activities in Reach B.	The proposed improvements would not result in any new or substantially greater impacts to population and housing. Approximately five units at the mobile home park would be removed or relocated as a result of the proposed improvements.
Public Services	No impacts to public services identified.	None required.	The proposed improvements would not result in any new or substantially greater impacts to public services.
Recreation	The project would result in the temporary disruption of access to existing recreational facilities.	Temporary closure of access to existing recreational facilities, however, access would resume upon completion of construction activities, therefore no mitigation is required.	Recreational access to Shad Pad OHV Park along Shad Road would be maintained during construction activities. Therefore, the proposed improvements would not result in any new or substantially greater impacts to recreation.

Traffic/ Transportation	The project would cause only temporary (construction-related) roadway closures and impacts to traffic and transportation that could disrupt local circulation and result in limited emergency access.	Develop and implement a traffic safety plan; minimize the accumulation of mud and dirt on local roadways; assess damage to haul and access routes; and, notify and consult with emergency service providers and take measures necessary to maintain emergency access and facilitate the passage of emergency vehicles on local streets.	The proposed improvements would not result in any new or substantially greater impacts to traffic and transportation.
Utilities and Service Systems	The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. In addition, construction and operation of the project would not result in the long-term production of any solid wastes. Construction would result in the relocation of power and communication lines.	TRLIA would cooperate with the utilities and follow standard procedures to ensure minimal disruption for power lines and services; therefore, no mitigation is required.	The proposed improvements would not result in any new or substantially greater impacts to utilities and service systems.

3.1.1 BIOLOGICAL RESOURCES

The focus of this section is to describe the current biological conditions at the project site and to evaluate whether the proposed landside improvements, post adoption of the 2004 and 2006 IS/MNDs, would result in any new or substantially different significant impacts to biological resources that were evaluated in the 2004 and 2006 IS/MNDs. This section:

- ▶ describes the methods used to evaluate the potential impacts of the proposed improvements on biological resources;
- ▶ provides a description of current biological conditions and tree resources in the project site;
- ▶ evaluates potential impacts of the proposed improvements on biological resources;
- ▶ provides a comparison of current biological conditions, potential impacts to biological resources, and necessary mitigation measures for those impacts evaluated in the 2004 and 2006 IS/MNDs; and,
- ▶ provides an evaluation of potential impacts to biological resources per the CEQA standards of significance.

METHODS

For the purpose of performing the evaluations listed above, HDR conducted a review of special-status species with the potential to occur in the project site and be impacted by implementation of the proposed improvements. This review consisted of a database search, a biological reconnaissance survey of the project site, and an evaluation of the potential for regionally-occurring special-status species identified in the database search to occur in the project site and be impacted by the proposed improvements. The results of this review were then compared to the results of the biological resources evaluation in the 2004 and 2006 IS/MNDs to determine if the impacts to biological resources and proposed mitigation measures identified in these documents sufficiently analyzed the potential impacts to biological

resources of the proposed improvements and if the 2004 and 2006 IS/MNDs proposed adequate mitigation for those impacts to reduce them to a less-than-significant level.

Information on biological resources is based on a reconnaissance survey conducted on November 16, 2011 and database searches of regionally-occurring special-status species maintained by the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), and the California Native Plant Society (CNPS). The database search consisted of reviewing the CDFG's Natural Diversity Database (CNDDDB) for reported occurrences of special-status species on the Yuba City and Olivehurst United States Geological Survey (USGS) 7.5 minute quadrangles (quads), the USFWS list of federal endangered and threatened species that occur in or may be affected by projects in the Yuba City and Olivehurst USGS 7.5 minute quads and Yuba County, and the CNPS list of rare plant species (plant species designated with a California rare plant rank by the CNPS) reported on the Yuba City and Olivehurst USGS 7.5 minute quads.

Prior to conducting the reconnaissance survey, the database search was conducted to compile a list of special-status species with the potential to occur in the project site or be adversely affected by the proposed improvements. The database search was conducted primarily for the purpose of identifying any special-status species with the potential to occur in the project site or immediate vicinity that would not have been evaluated in the 2004 and 2006 IS/MNDs due to a variety of reasons (including a species recently attaining federal or state listing status, a recent change in the listing status of a species, or a newly reported occurrence of a special-status species in the project site or vicinity). During the reconnaissance survey, an HDR biologist identified and characterized biological resources and tree species present in the project site by walking the levee, adjacent mobile home park, and other adjacent areas.

The reconnaissance survey included the following elements:

- ▶ an evaluation of current habitat conditions in the project site, including plant and wildlife species observed;
- ▶ an evaluation of the potential for occurrence in the project site of sensitive natural communities including potential waters of the U.S. that would be subject to Corps jurisdiction under Section 404 of the Clean Water Act (CWA);
- ▶ an identification of numbers and species of trees occurring in the project site;
- ▶ a search for special-status species or their habitats that may be present in the project site; and,
- ▶ a search for nests of raptors or other migratory birds.

RESULTS

The project site consists of an existing levee and a mobile home park adjacent to the landside levee toe. The levee crown has a paved access road and lacks vegetation. The waterside and landside slopes of the existing levee are vegetated with ruderal herbaceous vegetation. A mix of horticultural and native trees occurs along the landside levee toe and throughout the mobile home park. No potential waters of the U.S. that would potentially be subject to Corps jurisdiction under Section 404 of the CWA occur in the project site. No sensitive natural communities as defined by CDFG occur in the project site. Plant

species observed on the levee slopes during the reconnaissance survey include several species of non-native grasses (*Avena* sp., *Bromus* sp., *Hordeum* sp, and *Vulpia* sp.) and a variety of herbaceous plant species typical of disturbed areas including storksbill (*Erodium botrys*), bedstraw (*Galium aparine*), chickweed (*Stellaria media*), beggar's tick (*Torilis arvensis*), and milk thistle (*Silybum marianum*). Wildlife species observed during the reconnaissance survey consisted of a few bird species commonly observed in the region including Anna's hummingbird (*Calypte anna*), American goldfinch (*Carduelis tristis*), American crow (*Corvus brachyrhynchos*), and ruby-crowned kinglet (*Regulus calendula*). All tree species occurring in the project site were identified and counted. Table 3-2 below identifies the common name, species name, and number of individuals of each tree species occurring within the project site.

Table 3-2. Trees Occurring within the Project Site

Common Name	Scientific Name	Number of Individuals in the Project Site
White Mulberry	<i>Morus alba</i>	8
Incense Cedar	<i>Calocedrus decurrens</i>	15
California fan palm	<i>Washingtonia filifera</i>	1
Tree of heaven	<i>Ailanthus altissima</i>	2
Fremont cottonwood	<i>Populus fremontii</i>	1
Eucalyptus	<i>Eucalyptus</i> sp.	15
Oregon ash	<i>Fraxinus latifolia</i>	2
Western sycamore	<i>Platanus racemosa</i>	1
Total		45

Special-status species with the potential to occur in the project site and/or be impacted by the proposed improvements were determined by comparing the habitat requirements of the regionally-occurring special-status species identified during the database search to the habitats present in the project site. A total of 11 federally-listed species were identified by USFWS as having the potential to occur on the Yuba City and Olivehurst USGS 7.5 minute quads, consisting of four invertebrates, four fishes, one amphibian, and one bird species. The CNDDDB and CNPS database identified two sensitive natural communities (riparian habitats) and nine additional state listed species and state species of concern with reported occurrences on the Yuba City and Olivehurst quads including four bird species, four plant species, and one invertebrate species. Of these twenty regionally-occurring special-status species, 17 were precluded from having the potential to occur in the project site due to a lack of suitable habitat. The following special-status species were determined to have the potential to occur in the project site and/or be impacted by the proposed improvements: Valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), Swainson's hawk (*Buteo swainsonii*), white-tailed kite (*Elanus leucurus*) and other raptors, and migratory birds.

No special-status plant or wildlife species were observed in the project site. Although the reconnaissance survey was conducted outside of the blooming season of regionally-occurring special-status plants, the project site is highly unlikely to support special-status plant species due to the lack of natural habitat and routine levee maintenance practices. Two blue elderberry (*Sambucus mexicana*)

shrubs, the host plant for the VELB, were observed in the project vicinity on the waterside of the levee, but are located more than 100 feet from the project limits and would not be disturbed as a result of the proposed improvements. Therefore, no impacts to VELB are anticipated as a result of the proposed improvements.

No Swainson's hawk, white-tailed kite, or other raptor or migratory bird nests were observed in the project site. However, the reconnaissance survey was conducted outside of the typical nesting season for raptors and migratory birds of February 1 through August 31. It is unlikely that raptors, including Swainson's hawk and white-tailed kite, would nest in the project site due to consistent human disturbance. However, potential nest trees occur in the project site and adjacent areas. Swainson's hawk, white-tailed kite, and other raptors and migratory birds could potentially begin nesting in or adjacent to the project site prior to commencement of construction. Construction related activities could potentially result in disturbance of nesting Swainson's hawk, white-tailed kite or other raptors and migratory birds if they were nesting in the project site or vicinity at the time of project construction. Construction related disturbances to nesting raptors and migratory birds could potentially lead to mortality of young as a result of nest abandonment or forced fledging. This would result in a significant impact.

The habitat conditions in the project site do not appear to have changed since the 2004 and 2006 IS/MNDs were adopted. The 2004 and 2006 IS/MNDs identify potential impacts to VELB, Swainson's hawk, white-tailed kite and other raptors, and breeding and roosting habitat for migratory birds. No special-status species were identified as having the potential to occur in the project site and/or be impacted by the proposed improvements other than species already evaluated in the 2004 and 2006 IS/MNDs. The 2004 and 2006 IS/MNDs provide mitigation measures to reduce impacts to these species to a less-than-significant level. Pertinent mitigation measures for potential impacts to biological resources would be implemented as described in the 2004 and 2006 IS/MNDs. The following mitigation measures identified in the 2004 and 2006 IS/MNDs would be implemented in order to reduce potential impacts to biological resources: minimization and avoidance measures for elderberry shrubs, preconstruction surveys for nesting Swainson's hawks prior to construction, avoidance and minimization of construction-related disturbances within one-half mile of active Swainson's hawk nest sites, and avoidance and minimization of effects on migratory birds.

The following mitigation measures from the 2004 and 2006 IS/MNDs are not anticipated to be necessary for the proposed improvements: performance of pre-construction and post-construction surveys for elderberry shrubs and compensation for unavoidable impacts on elderberry shrubs.

With the implementation of the proposed mitigation measures identified above, potential impacts to VELB, Swainson's hawk, white-tailed kite, and other raptors and migratory birds would be reduced to a less-than-significant level. No additional mitigation is necessary.

The project is not expected to:

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrologic interruption or other means;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and,
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.1.2 CULTURAL RESOURCES

On November 16, 2011, HDR archaeologist Dawn Ramsey Ford, M.A., conducted a pedestrian survey of the additional acreage to the project area in an effort to identify cultural resources. Two cultural resources were identified, the previously recorded south levee of the Yuba River (P-58-1353H) and a stone and mortar wall with an embedded iron hitching ring (CA-YUB-1690H). The levee has been previously determined “not eligible” for listing on the California Register of Historic Resources (CRHR). The stone wall is described and evaluated in the technical report *Supplemental Cultural Resources Investigations for the Yuba River Levee Repair Project, Yuba County, California* (Ramsey Ford 2011).

Archival research was conducted to ascertain historical background on the stone wall. Archives from the Yuba County Library Local History section failed to produce any information about the wall, nor did review of Bureau of Land Management General Land Office maps, other historic maps, or document searches. The Marysville City Historian was also consulted with on November 30, 2011, which resulted in no new findings related to the wall.

Native American tribes were contacted in 2004 and 2006 to ascertain whether they would like to participate in the project, of which none responded. Additionally, no prehistoric or historic sites related to Native Americans were identified during the supplemental investigations. For these reasons, no further tribal consultation was conducted.

Based on the historic assessment and review of archival records, the property does not meet the eligibility criteria for being listed on the CRHR. The property does not demonstrate sufficient historic integrity to be listed, based on evaluation of the location, design, setting, workmanship, materials, feeling and association. The setting has had significant changes as the wall is surrounded by a mobile home park and there have been significant changes to the structure itself as well. The design, materials, and workmanship of the wall are not exemplary as they relate to construction methods and architectural details. The inability of the property to meet the eligibility criteria for being listed on the CRHR, and the lack of historic integrity, indicates that the resource is not historically significant. Consequently, implementation of the project would result in a less than significant impact to historical resources.

3.1.3 GREENHOUSE GAS EMISSIONS

At the time that the 2004 and 2006 IS/MNDs were adopted the CEQA Guidelines did not require that Greenhouse Gas Emissions (GHG) be evaluated in CEQA documents. However, in 2009 the CEQA Guidelines were amended due to Executive Order S-3-05, the passage of Assembly Bill 32 (AB 32), and

further direction under Executive Order S-20-06. CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that the cumulative impacts of GHGs, even additions that are relatively small on a global basis, need to be considered. Because of the cumulative nature of the climate change problem, even relatively small contributions may be potentially considerable (and therefore, significant).

Section 15064.4 of the 2009 adopted CEQA Guidelines states:

“(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or,

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project (CEQA 2009).

At the time of the analysis conducted for the proposed improvements, no state or local air quality regulatory agency in California, including the Feather River Air Quality Management District (FRAQMD), has identified a significance threshold for GHG emissions generated by a proposed project, or a methodology for analyzing impacts related to GHG emissions or global climate change. Therefore, to make the determination whether the incremental impacts of the proposed improvements are

“cumulatively considerable” the incremental impacts of the proposed improvements must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

GHGs generated by the proposed improvements would be primarily in the form of carbon dioxide (CO₂) from construction equipment exhaust. Although emissions of other GHGs such as methane and nitrous oxide are important with respect to global climate change, the emissions levels of these GHGs for the sources associated with construction are nominal compared with CO₂ emissions, even considering their higher global warming potential. Therefore, all GHG emissions for construction and operation are evaluated as CO₂ emissions.

Emissions factors and calculation methods for estimating GHG emissions associated with infrastructure projects have not been formally adopted for use by the state, FRAQMD, or any other air district. Construction activities associated with the proposed improvements would occur over an approximately six to eight week period in 2012. During this time, a net increase in GHG emissions would result from construction activities. Construction-related GHG emissions would be associated with engine exhaust from heavy-duty construction equipment, transport trucks hauling materials (e.g., soil), and worker commute trips. Although any increase in GHG emissions would add to the quantity of emissions that contribute to global climate change, it is noteworthy that emissions associated with construction of the proposed improvements would occur over a finite period of time (i.e., six-eight weeks). After full project buildout, all construction emissions would cease.

The proposed improvements would contribute directly to emissions of GHGs from the combustion of fossil fuels from construction equipment. CO₂ accounts for 92 percent of all greenhouse gas emissions; electric utilities are the primary source of anthropogenic CO₂, followed by transportation. The California Energy Commission estimates that in 2005, gross adjusted CO₂ emissions in California were 395 million metric tons of CO₂ equivalents (Department of Energy/Energy Information Administration (DOE/EIA) 2005). Construction activities associated with the proposed improvements would emit a negligible amount of CO₂ when compared to the California state CO₂ emissions. Therefore, the proposed improvements would contribute an insignificant amount of CO₂ towards statewide GHG inventories.

Because construction-related emissions would be temporary and finite and would have a negligible cumulative contribution towards statewide GHG emissions they would not have a considerable contribution to the cumulative global impact. In addition, the proposed improvements would not conflict with the objectives of AB 32 or any other applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. In fact, the proposed improvements would improve continued reliance on flood protection facilities in Yuba County if the frequency, and possibly the magnitude, of future flood events increases due to climate change. Therefore, the proposed improvements would meet local policies and plans for improved flood protection in the RD 784 service area due in part to climate change.

3.2 CONCLUSIONS

As described in the preceding sections, the proposed improvements evaluated in this Addendum would not change any of the impact conclusions of the 2004 and 2006 IS/MNDs and would not result in new or substantially more severe environmental impacts.

Based on the analysis of the categories of environmental impacts evaluated above, implementing the proposed improvements described in this Addendum would result in none of the conditions described in Section 15162 of the State CEQA Guidelines calling for preparation of a subsequent negative declaration. In summary, there are no altered circumstances or new information of substantial importance since adoption of the 2004 and 2006 IS/MNDs, and the proposed minor technical changes and additions evaluated in this Addendum:

- ▶ would not result in any new significant environmental effects,
- ▶ would not substantially increase the severity of previously identified effects,
- ▶ would not result in mitigation measures or alternatives previously found to be infeasible becoming feasible, and
- ▶ would not result in availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the previous document that would substantially reduce one or more significant effects on the environment.

These conclusions confirm that this Addendum to the 2004 and 2006 IS/MNDs is the appropriate CEQA document to evaluate and record the project minor technical changes and additions described in this document.

4 REFERENCES

- California Environmental Quality Act. 2009. *Adopted Text of the CEQA Guidelines Amendments*. Available online: <<http://ceres.ca.gov/ceqa/guidelines/>>. Adopted December 30, 2009. Accessed December 2, 2011.
- Department of Energy/Energy Information Administration. 2005. *State Carbon Dioxide Emissions, Emissions Detail by State, California*. Available online: <http://www.eia.doe.gov/oiaf/1605/state/state_emissions.html>. Accessed on December 1, 2011.
- Ramsey Ford. 2011. *Supplemental Cultural Resources Investigations for the Yuba River Levee Repair Project, Yuba County, California*. December 2011.

Notice of Determination

Appendix D

To:

☐ Office of Planning and Research

For U.S. Mail:

P.O. Box 3044

Sacramento, CA 95812-3044

Street Address:

1400 Tenth St.

Sacramento, CA 95814

☒ County Clerk

County of: Yuba

Address: 915 Eighth Street, Suite 107

Marysville, CA 95901

From:

Public Agency: Three Rivers Levee Improvement Authority

Address: 1114 Yuba Street, Suite 218

Marysville, CA 95901

Contact: Paul Brunner, Executive Director

Phone: (530) 749-5679

Lead Agency (if different from above):

Address:

Contact:

Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2004082014 and 2006062037

Project Title: Addendum to Yuba River Levee Repair Project Phase I and II (2004) and Phase 4 Initial Studies/ Mitigated Negative Declarations (2006)

Project Location (include county): Between State Route 70 and Shad Road, near the community of Linda in Yuba County, CA

Project Description:

(See attached sheet)

This is to advise that the Three Rivers Levee Improvement Authority has approved the above described project on

☒ Lead Agency or ☐ Responsible Agency

January 17, 2012

(Date)

and has made the following determinations regarding the above described project:

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: the Three Rivers Levee Improvement Authority offices at the address listed above.

Signature (Public Agency) _____ Title Executive Director

Date _____

Date Received for filing at OPR _____

On August 3, 2004, the Three Rivers Levee Improvement Authority (TRLIA) distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase I and Phase II (2004 IS/MND). All comments received on the 2004 IS/MND were considered and incorporated into the Final 2004 IS/MND. The Final 2004 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2004 IS/MND and approval of the project by TRLIA took place on August 24, 2004. The Draft and Final 2004 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the California Environmental Quality Act (CEQA) Statutes and the State CEQA Guidelines.

On June 9, 2006, TRLIA distributed to public agencies and the public the Draft Initial Study/Mitigated Negative Declaration for the Yuba River Levee Repair Project – Phase 4 (2006 IS/MND). All comments received on the 2006 IS/MND were considered and incorporated into the Final 2006 IS/MND. The Final 2006 IS/MND was accompanied by a Mitigation Monitoring and Reporting Plan. Adoption of the 2006 IS/MND and approval of the project by TRLIA took place on July 28, 2006. The Draft and Final 2006 IS/MND were prepared on behalf of TRLIA in accordance with the requirements of the CEQA Statutes and the State CEQA Guidelines.

Minor changes to the project have occurred since adoption of the 2004 and 2006 IS/MNDs. Since adoption of the 2004 and 2006 IS/MNDs, there is evidence of erosion on the landside of the levee that has resulted in a scarp formation just upstream of State Route 70 to Shad Road. As a result, an approximate 320-foot long segment of the levee must be improved. Although the details of this improvement were not included in the 2004 and 2006 IS/MNDs, the project goals and objectives to provide flood protection to the area have not changed and the project area for the improvements was thoroughly analyzed and evaluated in the 2004 and 2006 IS/MNDs. TRLIA, lead agency for the project under CEQA, has determined that these levee landside improvements constitute minor technical changes or additions to the 2004 and 2006 IS/MNDs and has prepared an Addendum in accordance with Section 15164 of the State CEQA Guidelines.



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Paul Brunner, Executive Director *RB/jw*
SUBJECT: Selection of Environmental Consultant for Goldfields Analysis

Recommended Action:

Select AECOM as the most qualified contractor to identify important environmental resources within the Goldfields and along the south training wall of the Yuba River and assist in the evaluation of alternatives for flood protection as part of the Goldfields High Ground Evaluation Project (if necessary, AECOM will prepare CEQA and NEPA documents and associated environmental permits for a selected alternative); and authorize Executive Director to negotiate initial contract amount not to exceed \$100,000, sign, and then execute a contract once General Counsel has reviewed and approved.

Background:

TRLIA has begun an evaluation of the Yuba Goldfields to determine weak areas in the Goldfields that prevent them from serving as high ground for the termination of the Sacramento River Flood Control Project. Alternatives will be developed to address these weak areas and improvements made to assure flood protection for the RD 784 area. An environmental consultant is needed as part of the evaluation team to identify important environmental resources within the Goldfields and along the south training wall of the Yuba River and to assist in the evaluation of alternatives in the Goldfields for flood protection. If necessary, the consultant will prepare CEQA and NEPA documents and associated environmental permits for a selected alternative. TRLIA prepared a Request for Qualifications (RFQ) which was issued to a group of known potential candidates on November 18, 2011. In addition to the release to known candidates, the request for RFQ was published on the TRLIA website. The RFQ proposals were due on December 9, 2011.

Discussion:

TRLIA received three responses to the RFQ. Proposals were submitted by AECOM, ICF International, and HDR.

Criteria used to make a selection included: understanding of the scope of work; experience with the Goldfields and knowledge of regulatory requirements of the Goldfields; experience in preparing CEQA and NEPA documents; ability to meet project schedule and stay within a negotiated budget; and team member experience, expertise and composition.

After an evaluation of the proposals submitted, it was determined that two of the teams would be invited to oral interviews to further discuss their qualifications. These teams were AECOM and

ICF International. Interviews were conducted on January 5, 2012. The interview panel included; Paul Brunner, Andrea Clark, and Larry Dacus.

Each team was asked to provide additional discussion of its experience in the Goldfields as well as their team expertise and structure. Both teams are highly qualified and could provide adequate service to TRLIA for the Goldfields evaluation. After consideration of all aspects, the interview team recommends the selection of AECOM as the most qualified candidate to serve as TRLIA's environmental consultant for the Goldfields evaluation pending a successful negotiation of a final contract.

The panel determined that AECOM stood out in the following areas:

- Team depth and expertise.
- Ability to produce quality documents in a short period of time.
- Resource agency knowledge and relationships.

In addition, AECOM has recently served very successfully as a TRLIA team member on other projects that are part of the flood protection program.

TRLIA staff will develop an initial scope of work for environmental efforts in the Goldfields for negotiation of the initial contract. This scope will expand as environmental requirements for Goldfields alternatives become better known.

Fiscal Impact:

Initial efforts will be funded with local funds identified for the Goldfields efforts. This initial effort is expected to be for approximately \$100,000. Final amount will be known after negotiations and initial scope of work are finalized. TRLIA is pursuing State Grant monies through several efforts and hope to be successful in obtaining State cost share funds.



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

1114 Yuba Street, Suite 218

Marysville, CA 95901

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

January 17, 2012

TO: Three Rivers Levee Improvement Authority Board
FROM: Bob Morrison, Right of Way Manager
Scott McElhern, TRLIA Counsel
SUBJECT: Update of ongoing Right of Way Efforts along Yuba River

Recommended Action

No recommended action. This is simply an update on ongoing right of way efforts associated with proposed Yuba River levee improvements adjacent to Shad Road.

Background

A recent United States Army Corp of Engineers (USACE) review of the RD 784 levees found a levee slope erosion scarp and possible stability issue between State Route 70 and Shad Road on the land side levee slope. This is adjacent to the initial TRLIA Phase 1 work completed in 2004.

The proposed improvements impact one parcel. A review of the right of way adjacent to the toe of the levee along the erosion area showed major encroachments on the levee. Further investigation found that the existing levee toe extends beyond the existing levee right of way. In addition, a retaining wall was constructed by the property owner (on his property), cutting into the levee in order to create Recreational Vehicle (RV) plots. Trees were planted behind the retaining wall on the levee slope, and have grown over 40 feet tall.

In addition to fixing the erosion problem, the engineering team is recommending that the trees and retaining wall be removed. A 20 foot toe access corridor is also recommended for long term operation and maintenance.

Discussion - Relocation Efforts

The Property is approximately 34,848 square feet and includes one single family residence (SFR), 13 RV parking spaces, and one storage area. The SFR is a two-bedroom, two bath unit that was recently remodeled and has a living area of approximately 1,184 square feet, including a finished garage. The RV parking spaces each include an area for the RV and two additional vehicles, and some also have storage areas. As a result of the acquisition of the Property, there may be up to 15 potential permanent displacements. The following table summarizes residential and non-residential occupants:

Tenant-Occupied SFR	1	
Owner-Occupied RVs	9	
Tenant-Occupied RVs	2	
Storage Areas (Personal Property Only)		3

Pursuant to State relocation guidelines, a relocation plan must be completed for any project with 10 or more potential displacees. The draft relocation plan must be published for comment for 30 days. Once the comment period is closed, the final plan will need to be adopted by the governing agency. The purpose of a relocation plan is to assess the relocation needs of the potential displacees, determine if there is availability in the real estate market for the displacees, and outline the State and Federal requirements the agency must follow in relocating any potential displacee.

The "Draft Relocation Impact Statement and Last Resort Housing Plan for the Upper Yuba River Levee Improvement Project" was published on the TRLIA website on January 17, 2012. The comment period will close on February 16, 2012. Staff will present the final plan to the TRLIA board for consideration at the February 21, 2012, meeting.

Discussion - Property Acquisition Efforts

The following is a proposed schedule for the right of way acquisition portion of the Yuba River Levee Improvements at Shad Road:

February 6, 2012 - Complete the Appraisal
 February 20, 2012 - Present Offer to the Property Owner
 February 21, 2012 – Board consider adoption of Relocation Plan
 February 27, 2012 - Begin Relocation Efforts

Levee Construction is proposed to begin in Summer 2012.