



# ENVIRONMENTAL ASSESSMENT/INITIAL STUDY

## RECLAMATION DISTRICT 2091 LEVEE IMPROVEMENT PROJECT

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Prepared For



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## ACRONYMS

ACHP	Advisory Council on Historic Preservation
A.D.	Anno Domini
ADPA	Archaeological Data Preservation Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
ASCE	American Society of Civil Engineers
B.C.	Before Christ
BMP	Best Management Practices
BO	Biological Opinion
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCIC	Central California Information Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	California Endangered
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGC	California Government Code
CGS	California Geological Society
CHRIS	California Historical Resources Information System
CHSC	California Health and Safety Code
CMP	Construction Management Plan
CNDDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
CT	California Threatened
CUPA	Certified Unified Program Agency
CVFPB	Central Valley Flood Protection Board

CVP	Central Valley Project
CWA	Clean Water Act
dB	Decibel
dba	A Weighted Decibel
DD	Doubling Distance
DMC	Delta Mendota Canal
DPWD	Del Puerto Water District
DTSC	Department of Toxic Substances
DWR	California Department of Water Resources
EA/IS	Environmental Assessment/Initial Study
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zones
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FP	Fully Protected
FR	Federal Register
FSRP	Flood System Repair Project
FT	Federally Threatened
FWCA	Fish and Wildlife Coordination Act
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
I-5	Interstate 5
L <sub>dn</sub>	Day Night Noise Level
L <sub>eq</sub>	Equivalent Noise Level
L <sub>max</sub>	Maximum Noise Level
LM	Levee Mile
LOS	Level of Service
LRA	Local Responsibility Area
m	Meters
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MUTCD	Manual on Uniform Traffic Control Devices
NAGPRA	Native American Graves Protection and Repatriation Act

NAHC	Native American Heritage Commission
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NVRRWP	North Valley Regional Recycled Water Program
Parus	Parus Consulting, Inc.
PM	Particulate Matter
ppm	Parts per Million
PRC	Public Resources Code
PSM	Process Safety Management
O <sub>3</sub>	Ozone
RD	Reclamation District
ROG	Reactive Organic Gas
RQ	Reportable Quantities
RWQCB	Regional Water Quality Control Board
SCC	South County Corridor
SCERHMD	Stanislaus County Environmental Resources Hazardous Materials Division
SDC	Seismic Design Category
SEL	Single Event Noise Level
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SO <sub>2</sub>	Sulfur Dioxide
SPAL	Small Project Analysis Level
SPFC	State Plan of Flood Control
SRC	State Resources Code
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plant

SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TQ	Threshold Quantities
TRRP	Tuolumne River Regional Park
µg/m <sup>3</sup>	Micrograms per Cubic Meter
USC	United States Code
USFWS	United States Fish and Wildlife Services
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program
WL	Watch List

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# 1 PROJECT PURPOSE AND NEED FOR ACTION

## 1.1 Proposed Action

Reclamation District 2091 (RD2091) is responsible for operation and maintenance of the State Plan of Flood Control (SPFC) facilities located in the San Joaquin River system. Under Flood System Repair Project (FSRP) guidelines, RD2091 is an eligible local maintaining agency for implementing flood risk reduction projects with State cost share.

The California Department of Water Resources (DWR) Flood System Sustainability Branch repairs significant levee damage due to erosion, seepage, and/or stability deficiencies. Damaged levee sections were identified during levee inspections throughout the San Joaquin River Flood Control System. RD2091 is proposing levee repair construction to address seepage and boil damage on the San Joaquin River at five Levee Mile locations in Stanislaus County that threaten the stability of the existing levee. The RD2091 Levee Repair Project (proposed project) will repair seepage and stability issues at the five sites which total approximately 11,038 feet.

The proposed project repairs, in accordance with DWR Division of Flood Management Rural Levee Repair Guidelines, would include clearing, grubbing, and stripping of berm before placing a drainage system that includes a minimum of a 12-inch filter layer, a 12-inch drain rock layer, followed by a geotextile to prevent movement of material into the drain rock.

## 1.2 Project Location

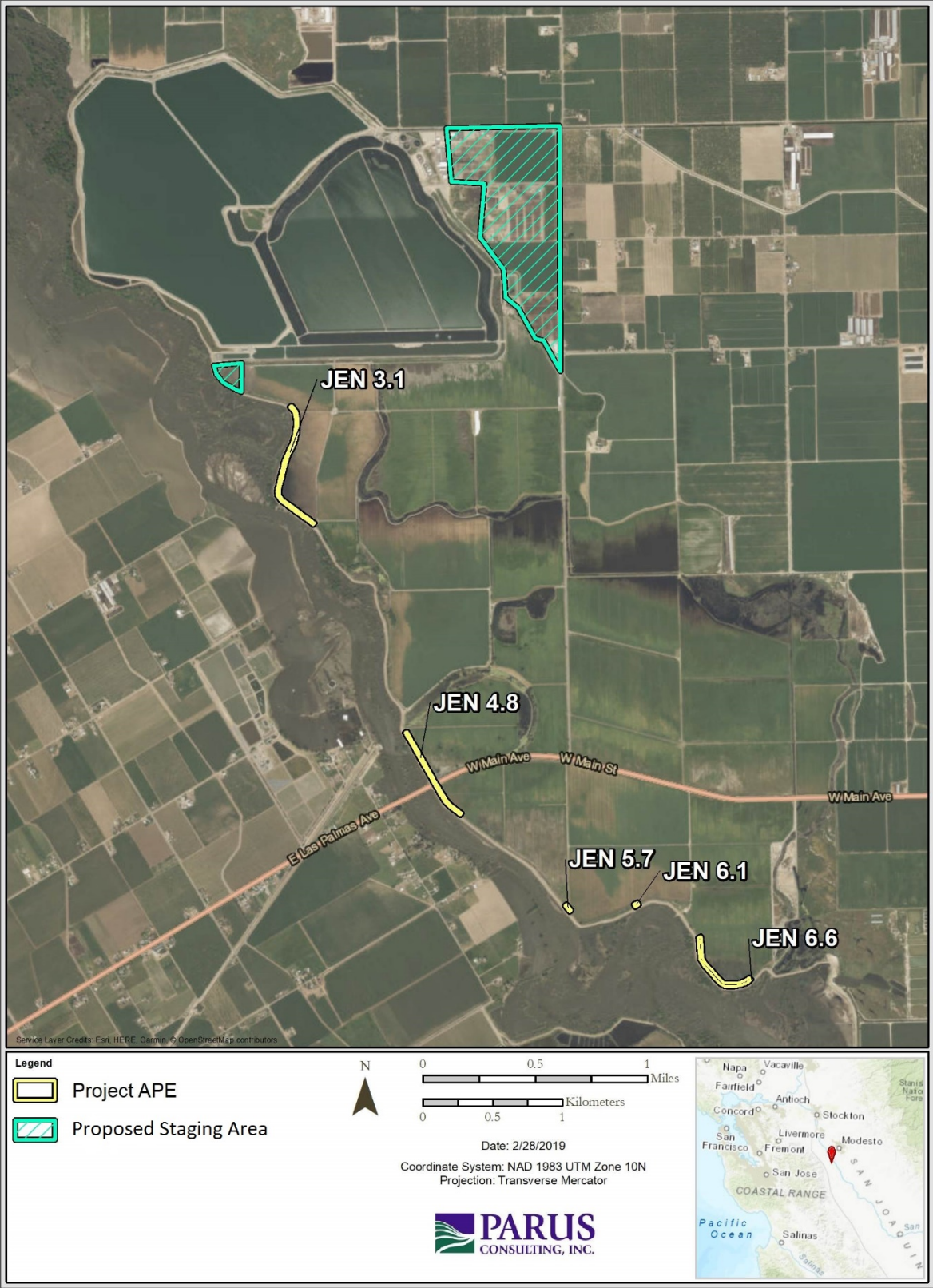
The five repair sites, or area of potential effect (APE), addressed in this document are located within Stanislaus County and encompass approximately 11.5 acres. The project is located east of Interstate 5 (I-5), approximately 3.2 miles east of the City of Patterson, and is bounded by the San Joaquin River on the west, the San Joaquin River East Levee on the north, Vivian Road, S. Carpenter Road and Crows Landing Road on the east, and Linwood Avenue and Simmons Road to the south. A location map of the project APE and the proposed staging areas are presented in Figure 1.

## 1.1 Authority

RD 2091 is responsible for operation and maintenance of the State Plan of Flood Control facilities located in the San Joaquin River system in California's Central Valley. Under FSRP guidelines, RD 2091 is an eligible local maintaining agency for implementing flood risk reduction projects with State cost share.

RD 2091 identified five levee sites in need of repair in order to reduce the risk of flooding in the surrounding neighborhoods. Repair sites are defined for the purpose of this review as sites at risk as the result of seepage or boils during floods and/or normal conditions. Sites are designated as *critical* and *potentially critical* based upon past experience with levees and known mechanics of the particular river. All five sites in the proposed project have been designated *critical* for seepage and boils.

Figure 1: Location of Project Area



## **1.2 Purpose of the EA/IS**

This document is a joint Environmental Assessment/Initial Study (EA/IS) and is intended to satisfy the requirements of both the National Environmental Policy Act (NEPA) as well as the California Environmental Quality Act (CEQA) for determining environmental effects and recommended mitigation measures. By preparing a single document that complies with both NEPA and CEQA requirements, the involved agencies have been able to avoid unnecessary duplication. While similar, NEPA and CEQA are not identical. Where they differ, the more stringent of the regulations are followed.

## **1.3 Decisions Needed**

The primary purpose of this EA/IS is to determine whether the proposed action would have a significant impact on the environment, and therefore require the preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS). If the findings of this study show less than significant impacts on the environment, then a Finding of No Significant Impact (FONSI) and a Negative Declaration will be prepared as required by NEPA and CEQA respectively. If they show a significant impact on the environment, then an EIR/EIS will be prepared.

## **2 ALTERNATIVES**

### **2.1 Alternatives Eliminated from Further Consideration**

As part of the proposed project design process, multiple methods of approach were considered for repair of the project sites. The criteria for evaluating each alternative included the identification of the primary cause of the seepage and boils, slope stability, surrounding land use as well as determining the ability of each design to remedy the levee deficiency. Other factors included construction cost and long-term maintenance requirements.

#### **2.1.1 Construction of Slurry Wall Alternative**

This alternative would consist of constructing slurry walls. Slurry walls are designed to reduce levee through and under-seepage by providing a barrier of low-permeability material in the levee and the levee foundation. Slurry walls are generally installed to depths needed to limit under-seepage. The most common construction materials consist of a soil-bentonite mix, cement-bentonite mix, or soil-cement-bentonite mix using conventional trench methods, deep soil mixing method, trench remixing deep techniques, and one pass trench techniques. This approach was eliminated as an alternative, as it would widen the area of repair of the levee sites with possible encroachment into surrounding agricultural lands. Acquiring the lands could take several years, leaving the surrounding areas vulnerable to levee failure.

## **2.2 No Action Alternative**

Under this alternative, no action would be taken to repair the levee at the seepage sites. Forces causing seepage would persist and current seepage sites would likely grow. Allowing continued seepage within the levee system would increase the risk of levee failure or possible flooding of surrounding areas. Existing conditions would not be changed, and normal development and agricultural activities would still occur.

Should levee failure result from the No Action Alternative, resultant emergency measures would likely be of a nature that limits the ability to properly implement best management practices (BMP), site-specific mitigation, and other measures that would minimize impacts to surrounding communities.

## **3 PROPOSED ACTION**

This section describes the proposed action. This includes the discussion of features, construction equipment, staging areas, disposal of excess materials, construction schedule, and long-term maintenance of the project.

### **3.1 Features**

The proposed project consists of the implementation of the construction of seepage stability berms to prevent ongoing seepage and increase levee stability. Repairs to each levee site will be completed as directed by the Rural Levee Repair Guidelines.

The project area lies on the landside of the east San Joaquin River levee and would not encroach into the channel geometry or affect channel hydraulics of the San Joaquin river. No slope protection would be placed on the waterside levee slopes. Proposed construction activities would not, therefore, have an impact on waterside levee characteristics, and no change to in-water structure would occur.

Vegetation along the approximately 3.5-mile repair section is primarily ruderal and abuts irrigated cropland. Repairs at the seepage sites would involve minimal loss of ruderal and non-native vegetation and vegetation communities. These vegetation types are typically dominated by short-lived annual and biennial, introduced grasses and broad-leaved forbs that are adapted to periodic disturbance as well as valley oaks that have been isolated from the adjacent riparian areas. Construction would be conducted in a manner that minimizes disturbance to existing vegetation wherever possible.

Repair measures will be implemented at each of the five sites and, in total, the overall Project would consist of: (1) clearing, grubbing, and stripping of berm; (2) placement of at least a 12-inch filter layer; (3) placement of at least a 12-inch layer of drain rock; (4) placement of a geotextile to prevent movement of berm materials into the drain rock. Construction at all five sites occur from the landside and are located at Levee Miles (LM) 3.18, 4.80, 5.73, 6.08, and 6.63.



#### ***Site JEN3.1 RD2091\_01\_0199\_LM03.18***

This site extends from LM 2.87 to LM 3.94 and covers approximately 3.67 acres. It has experienced severe seepage and several boils running clear 30 feet from the landside toe. The length of the repair will be approximately 5,718 feet and would require approximately 16,403 cubic yards of material.

#### ***Site JEN4.8 RD2091\_01\_0199\_LM04.80***

This site extends from LM 4.50 to 5.10 and covers approximately 3.6 acres. It has experienced severe seepage and boils carrying material during past high-water events. In 1997, crushed rock and filter fabric were placed on an existing landside berm to control seepage and sandbags were used to control the boils about 25 feet from the toe. This area sees high amounts of seepage and boils during every high-water event. The length of the repair will be approximately 2,370 feet, requiring approximately 22,284 cubic yards of material.

#### ***Site JEN5.7 RD2091\_01\_0199\_LM05.73***

This site extends from LM 5.70 to 5.75, covers approximately .33 acres and has experienced several boils carrying a small amount of material about 25 feet from the landside toe. Seepage and boils have occurred during every high-water event. The length of the repair will be approximately 542 feet and will require approximately 2,138 cubic yards of material.

#### ***Site JEN6.1 RD2091\_01\_0199\_LM06.08***

The site at LM 6.08 has a 5-inch diameter boil that carries material during high flows. A sandbag ring has been placed around the boil during rain events. Rock and filter fabric have been used in the past to control seepage and boils carrying material. The repair length is approximately 253 feet, with approximately 570 cubic yards of material required.

#### ***Site JEN6.6 RD2091\_01\_0199\_LM06.63***

This site extends from LM 6.38 to 6.88, and covers approximately 4.03 acres. It has experienced a total of 17 boils, some of which run clear and some which carry materials. Severe seepage was noted in 1997. The site has experienced seepage and boils carrying material or running clear during past high-water events. Sandbag rings were used to control boils while rocks and fabrics were used to control seepage. The repair will be approximately 2,155 feet long, requiring approximately 21,514 cubic yards of material.

## **Construction Details**

### **3.1.1 Access and Staging**

Jennings Wastewater Treatment Facility is the designated staging area for the proposed project. This area will be the sole location used for staging of vehicles, plant materials, and other associated construction equipment. The staging areas (Figure 1) have been subject to the same environmental and cultural review as the project footprint, to ensure that any potential resources will not be adversely affected.

Construction materials would be delivered to the site and stored in a designated area in the Jennings Wastewater Treatment Facility. Deliveries would be made by concrete trucks, flatbed trucks and tractor-trailer rigs. An estimated 1,258 truckloads of material would be delivered to the site, with each load containing 50 cubic yards of materials. Truck hauling routes would follow West Main street and Jennings Road onto the Jennings Wastewater Treatment Facility. If temporary lane closures occur, construction signs would be posted along the haul routes and flaggers would be used, as necessary, to minimize traffic problems and ensure public safety near the construction sites.

### **3.1.2 Site Preparation**

Prior to construction, all construction areas, including staging area, would be fenced off to limit access onsite. Ruderal vegetation, along with the few solitary valley oaks, would be removed, as necessary, to facilitate movement of equipment and levee repair operations. In addition, any onsite trash or concrete rubble would be removed and disposed of at an appropriate facility. Temporary erosion control methods would be used as needed to prevent soil from encroaching onto adjacent property. Disturbed areas would be seeded and mulched to prevent erosion following completion of project.

### **3.1.3 Construction Sequencing and Equipment**

Construction work will occur during one construction season. The work would begin with mobilization and site preparation including transporting equipment like, tractors, compactors, backhoes, dump trucks, scrapers, and graders to the site, and clearing and grubbing. Mobilization would take approximately one week. The construction period would begin with levee degradation followed by excavation and installation of filter and drainage rock finishing with geotextile material. The rebuilding of the levee crown and road would require an additional week. Demobilization would include removal of equipment and materials from the project site, disposal of excess materials at appropriate facilities, and restoration of staging areas and temporary access roads to pre-project conditions. Demobilization activities would take an additional week to complete.

### **3.1.4 Construction Equipment**

All construction will be conducted from only the landside of the east San Joaquin River levee and would not encroach into the channel geometry or affect channel hydraulics of the San Joaquin river. As such, no slope protection would be placed on the waterside levee slopes.

The following equipment is likely to be used for construction at each repair site:

- Scraper
- Compactor
- Grader
- Excavator
- Dump trucks
- Pickup trucks
- Loader
- Dozer

## 3.2 Restoration and Cleanup

Upon completion of construction activity, all equipment and excess materials would be transported off site using the same routes used for set up. Levee slopes would be seeded to promote re-vegetation and minimize soil erosion. Any damage caused from construction activities to the levee road or surrounding areas would be repaired. The staging area would then be cleaned of any rubbish and all parts of the work area would be left in its original condition.

### 3.2.1 Borrow and Disposal Sites

Procurement of construction materials would be the responsibility of the contractor. Materials would be from a permitted source that could include approved borrow sites or commercial sources.

An estimated 62,909 cubic yards of material would be required for the proposed project and levee crown reconstruction. The reuse of excavated materials from the project site would be used whenever possible to reduce the need for borrow materials.

An estimated 21,000 cubic yards of material would be excavated from the sites. The reuse of the excavated materials would occur to the extent possible in the proposed improvements.

The estimated disposable material is approximately 13,000 cubic yard and the material would be temporarily stockpiled at the staging area before being transported from the project area to approved disposal sites by haul trucks via identified access routes.

### 3.2.2 Operation and Maintenance

Upon completion of the project, responsibility would be turned over to RD 2091 which would then be responsible for the operation and maintenance of the levee. Regular maintenance activities could include rodent control, clearance of levee roads, and levee inspections.

## 4 ENVIRONMENTAL EFFECTS AND AFFECTED RESOURCES

This chapter describes the potential effects on the resources within the project area, as well as the potential effects of the alternatives on those resources. Effects can be either positive or negative and may include direct or indirect effects. Each section contains a discussion of methods used to analyze effects and identifies any significant adverse effects. When needed, mitigation measures are proposed to avoid, minimize or mitigate significant effects for each resource.

The following terminology is used to describe the levels of significance for impacts identified for each resource area discussed in Chapter 4.

- A conclusion of **no impact** is used when it is determined that the proposed project would have no impact on the resource area under evaluation.
- A conclusion of **less than significant impact** is used when it is determined that the proposed project's adverse impacts to a resource area would not exceed established thresholds of significance.

- A conclusion of **less than significant impact with mitigation** is used when it is determined that mitigation measures would be required to reduce the proposed project's adverse impacts below established thresholds of significance.
- A conclusion of **potentially significant impact** is used when it is determined that the proposed project's adverse impacts to a resource area potentially cannot be mitigated to a level that is less than significant.

## 4.1 Resources Eliminated from Detailed Analysis

### 4.1.1 Climate

The proposed project would repair the existing levee structures at 5 locations along the San Joaquin River. All activities with the potential to emit airborne contaminants associated with climate change would be restricted to the relatively brief construction window. This project would not result in any appreciable changes to climate; therefore, climate is not discussed in this document.

### 4.1.2 Environmental Justice

Environmental Justice is defined in California law (California Code of Regulations [CCR] §65040.12.e) as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of all environmental laws, regulations and policies.”

Under NEPA, social and economic factors related to effects on the natural or physical environment must be considered. CEQA requires analysis of a proposed project's potential impacts on population growth and housing supply and allows for a discussion of social and environmental changes that may result from a change to the physical environment. Environmental justice is intended to ensure that federal actions and policies do not result in disproportionately high adverse effects on minority or low-income populations.

The proposed project consists of the repair of existing levees and would not result in substantial population growth in the project area, the construction of additional housing, or the removal of obstacles to population growth. The proposed project would not displace any existing housing or people, nor would it divide an established community. Rather, it would benefit the community as a whole by reducing the potential for levee failure and flooding.

The sites to be repaired were selected based on the severity of seepage and the threat of levee failure, not on the demographics of the communities in which they occur. Contractors would be hired following standard procedures and would not be disadvantaged by such factors as race or national origin. The proposed action would not result in adverse impacts as they relate to environmental justice; therefore, further analysis for the proposed project is not warranted.

### **4.1.3 Land Use**

Land Use analysis considers the potential impacts on the surrounding community and looks at any potential conflicts with established land use plans and policies. The analysis is based on review of local plans and policies and site visits.

The levees that comprise the repair sites are existing structures, built to contain the San Joaquin River and prevent flooding. The proposed repair work would not result in any new levee development. All repair work would be conducted on the landside of the levee and extend only as far as necessary to prevent continued seepage.

A preliminary site reconnaissance was conducted on September 19, 2016 with a follow up visit on May 21, 2018. The proposed project begins at levee mile 2.78 near the Jennings Wastewater Treatment Facility. Much of the surrounding land use to the east is agricultural in nature. The areas directly adjacent to the west of the proposed project boundaries supports riparian habitat. Vegetation on the landside levee slopes in the area is ruderal in nature.

The proposed project would be in compliance with Federal, state, and local land use policies. It would not result in a conflict with existing or surrounding land use, divide a community, result in adverse conditions for adjacent property, conflict with habitat conservation plans, nor diminish or prevent agricultural use on adjacent lands. The proposed project therefore, would have no impact on the overall existing land use and planning issues and therefore a detailed land use analysis for the project is not warranted.

### **4.1.4 Mineral Resources**

The proposed project is located on the levee of the San Joaquin River in an agricultural setting. There are no known mineral resources of value within the proposed project area, and the proposed project would not result in the loss of important mineral resources. Furthermore, no mining occurs within this area. Therefore, there will be no impact to mineral resources and a detailed analysis is not warranted.

### **4.1.5 Population and Housing**

Population and housing are not expected to change as a result of the proposed project. No direct or indirect population growth is expected to be induced by the proposed project. The proposed project will not involve construction of new housing or businesses, nor will it add to roads or other infrastructure.

The proposed project would restore flood protection to design levels within the area but would not increase the level of flood protection that would facilitate growth. The proposed project would benefit the community over all by reducing the level of flood risk.

Furthermore, the proposed project will not displace any existing housing or people, nor would it disrupt or divide an established community.

Therefore, the proposed project would not have an impact on population or housing and a detailed analysis on the subject is not warranted.

#### **4.1.6 Public Services**

The existing public services: police protection, fire protection, schools, parks or other public facilities, will remain unchanged as a result of the proposed project. The proposed project does not include proposals for new housing. Therefore, the proposed project would not generate students or increase demands for school services or facilities. Emergency response services would remain unchanged during project construction and operation. The proposed project would use existing public services and no additional services or changes to existing services would be required. The proposed project would have no effect on public services. As a result, a detailed public services analysis for the proposed project is not warranted.

#### **4.1.7 Utility and Service Systems**

Utilities and service systems are not expected to change as a result of the proposed project. The Project would not result in exceeding the requirements of the Regional Water Quality Control Board wastewater treatment. It would not involve the construction of any facilities that would generate new sources of wastewater nor generate additional storm water runoff, requiring the need for new storm water drainage facilities.

Any storm related site water runoff caused from construction will be addressed by the contractor who will prepare a Storm Water Pollution Prevention Plan (SWPPP). Therefore, the Project would not result in the construction or expansion of wastewater treatment facilities or storm water drainage facilities.

The Project Area is served by a landfill with sufficient permitted capacity to accommodate the proposed Project's solid waste disposal needs and comply with federal, state, and local statutes and regulations related to solid waste. The proposed project is not expected to affect public utilities and a detailed public utility analysis for the Project is not warranted.

### **4.2 Aesthetics/Visual Resources**

The aesthetic value of an area is a measure of the character and quality of the visual resource, combined with viewer response to these conditions. Aesthetic value is subjectively determined and based upon an individual's experience with the environment, the extent and nature of the change, the proximity of the individual to the site, and the duration of the views. An impact to aesthetic resources occurs when there are changes in viewer response as a result of project construction or operation.

The value of aesthetic resources is generally based on the scenic attractiveness and integrity, landscape visibility, and regional concern levels. Scenic attractiveness is a measure of the landscape's uniqueness including landform, vegetation patterns, water characteristics, and cultural features. Landscape visibility is determined relative to the importance and sensitivity of the area, as determined through consideration of travel ways, use areas, and the regional and national importance of the location, and the use of the site.

Scenic resources can include natural open spaces, topographic formations, and built environments. For the purposes of defining these resources, the concepts of viewshed and sensitive receptor are often employed. “Viewsheds” constitute the range of vision in which scenic resources may be observed. Viewsheds are defined by the physical features that frame the boundaries or context to one or more scenic resources. In the context of visual resources, “sensitive receptors” are defined as individuals that are especially sensitive to changes in aesthetic qualities, which could include changes in lighting, shadows, or surrounding visual character.

An evaluation of the project impacts to aesthetic resources as defined by the criteria outlined in CEQA is presented in Table 1.

**Table 1: CEQA Checklist: Aesthetics**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
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 within a state 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.2.1 Environmental Setting

The proposed project lies east of I-5 and is adjacent to agricultural fields, the Jennings Wastewater Treatment Facility, and the Stanislaus Regional Training Division within RD 2091. The project area provides views of the levee, riparian corridors (opposite project site), and the Jennings Wastewater Treatment Facility). The project does not contain any designated visual resources within or near the project site. The San Joaquin River is not designated as a Federal or State Wild and Scenic River within the proposed project.

Immediate viewers of the proposed project would be farmers and the employees of the Jennings Wastewater Treatment Facility. Access to the site by the public is very limited. Permission is needed from the Jennings Wastewater Treatment Facility and the only road that would carry through traffic terminates at the Jennings Wastewater Treatment Facility. Therefore, it would be unaffected by any

view change. Other members of the general public viewing the proposed project would be anglers and those with views of the area from boats. However, the site view is generally obstructed by a riparian corridor.

Levee roads are restricted to utility and inspection vehicles; therefore, only a small number of the general public, limited to those with bird watching permission, and visiting anglers would be viewers of the property.

#### **4.2.2 Regulatory Setting**

##### ***Federal and State Regulations***

###### ***National and State Wild and Scenic Rivers Acts***

The National Wild and Scenic Rivers Act provides federal protection for certain free-flowing rivers. The goal of the Act is to preserve scenic rivers and their immediate environments for the use and enjoyment of present and future generations. Eligible rivers can be designated as Wild River Areas, Scenic River Areas, or Recreational Rivers. Section 10 of the Act includes management direction and states that the primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeologic, and scientific features.

The California Wild and Scenic Rivers Act states that certain rivers that possess extraordinary scenic, recreational, fishery, or wildlife values shall be preserved in their free-flowing state, together with their immediate environments, for the benefit and enjoyment of the people of the state. Similar to the national system, rivers protected under the state act can be designated as Wild Rivers, Scenic Rivers, or Recreational Rivers. The Act has been amended to provide protection for river segments without formally identifying them as part of the state Wild and Scenic Rivers System. In contrast to the national system, the state system prohibits state approval or permits for new dams on protected rivers.

###### ***California Scenic Highway Program***

The California Scenic Highway Program, established in 1963 by the State Legislature, is managed by the California Department of Transportation (Caltrans). The program establishes the State's responsibility for the protection and enhancement of identified scenic roadways from changes that would degrade the aesthetic quality of lands adjacent to highways. The proposed project would not affect a designated Scenic Highway.

##### ***Local Laws and Regulations***

###### ***Stanislaus County General Plan***

Stanislaus County has identified the following goals and policies in the conservation element of the General Plan:

Goal One: encourage the protection and preservation of natural and scenic areas throughout the county.



### **4.2.3 Environmental Effects**

#### ***No Action Alternative***

Under this alternative, no action would be taken to halt seepage. Aesthetics of the site would remain unchanged for the immediate future. Risk of levee failure would persist. Should levee failure occur, mud, debris, and structural damage would be expected to degrade the visual quality of the project area.

#### ***Proposed Project***

The proposed project would require minimal removal of ruderal vegetation and disturbance of site soils. Construction equipment including excavators, graders, and haul trucks would be visible during construction. Construction activities would be conducted during daylight hours; therefore, construction would not require artificial lighting. The presence of construction equipment would degrade the visual quality of the site for the period of construction. Due to the limited duration of construction, and the passive quality of site views, the effects of the construction on the visual quality of the site would be less than significant.

Following construction, views of the site would not be significantly changed and no change would be noticeable from the waterside of the project location.

### **4.2.4 Mitigation**

Implementation of the proposed project would have a less than significant impact on aesthetics. Therefore, no mitigation would be required.

## **4.3 Recreation**

The following section describes the environmental setting for recreational uses within the project vicinity and evaluates the potential impacts related to recreational use that may result from the execution of the proposed project. An evaluation of the project impacts to recreational resources as defined by the criteria outlined in CEQA is presented in Table 2.

### **4.3.1 Environmental Setting**

The proposed project is located adjacent to agricultural fields, the Jennings Wastewater Treatment Facility, and the Stanislaus Regional Training Division. There is no vehicular access for recreational purposes to the general public nor is there any official pedestrian access. However, both Jennings Wastewater Treatment Facility (including the Stanislaus Audubon Society) and the Stanislaus Regional Training Division have access to the site.

#### ***Stanislaus Regional Training Division***

Stanislaus County Sheriff's department, in conjunction with the Modesto Police Department, operate the Stanislaus Regional Training Division located within the project area at levee mile 6.6.

**Table 2: CEQA Checklist: Recreation**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>

Coordination with the Modesto Police Department will need to occur in order to complete the repairs located at levee mile 6.

### ***Stanislaus Regional Audubon Society***

The ponds located on the Jennings Plant Pump Station, which acts as the staging area for the proposed project, attract a large number of migratory birds, although public access is restricted. The Stanislaus County Audubon Society organizes bird watching tours at the facility twice monthly (Stanislaus Audubon).

## **4.3.2 Regulatory Setting**

### ***Federal Policies and Regulations***

#### ***San Joaquin River National Wildlife Refuge Comprehensive Conservation Plan***

The San Joaquin River National Wildlife Refuge was established in order to protect wintering habitat for Aleutian Canadian goose (*Branta canadensis leucopareia*) as well as other threatened and endangered species that depend on wetlands and riparian floodplain habitat.

The San Joaquin River NWR Comprehensive Conservation Plan was developed to guide the management of the San Joaquin River NWR for the next several years. The San Joaquin River NWR provides protection for wildlife species of California's Central Valley. The goals of the San Joaquin River NWR CCP include providing opportunities for environmental education about native California habitats and wildlife and their conservation and restoration, providing the public with wildlife viewing and photographic opportunities, and providing other recreational activities such as waterfowl hunting and fishing.

## ***Local Laws and Regulations***

### ***Stanislaus County***

Stanislaus County has identified the following goals and policies in the Conservation Element of the General Plan:

GOAL 1: Encourage the protection and preservation of natural and scenic areas throughout the County.

Policy 1: Maintain the natural environment in areas dedicated as parks and open spaces.

Policy 2: Assure compatibility between natural areas and development.

GOAL 4: Provide for the open-space recreational needs of the residents of the County.

Policy 15: Coordinate the provision of recreation needs with the other providers such as the United States Army Corp of Engineers (USACE), the State Resources Agency, school districts, river rafters, horse stable operators, and private organizations such as the Sierra Club and Audubon Society.

### ***City of Modesto***

One of the goals of the City of Modesto's Urban General Plan is to preserve the natural river corridors in Modesto for recreational and open space opportunities.

## **4.3.3 Environmental Effects**

### ***No Action Alternative***

Under the no-action alternative, no action to halt seepage would be taken at the 5 repair sites. The repair sites and recreational uses would remain unchanged from current conditions for the immediate future. The repair sites would be subject to continued seepage and risk of levee failure. Failure of the levee at a seepage site would result in potentially significant impacts to recreational resources and public safety.

### ***Proposed Project***

The proposed project would require the coordination between the Stanislaus Regional Training Division (firing range) and may impede upon the times and dates the division operates in order to maintain safety for all involved. Due to the relatively limited amount of time of construction activities there would be a less than significant impact to recreation. Following construction, the site would not be significantly changed and no change would be noticeable or impede the use of surrounding areas.

#### **4.3.4 Mitigation**

The Following measures will be taken to ensure the safety of the public as well as construction crews:

- Warning signs restricting access will be posted before and during construction as needed.
- Fences will be erected to prevent access to the project locations.

Due to the proximity of the proposed project to the Stanislaus Regional Training Division close coordination and open communication will need to occur in order to ensure a safe environment for construction crews.

Any effects to recreational activities would be temporary and therefore considered less than significant. No mitigation would be required.

#### **4.4 Cultural Resources**

Archaeological sites, historic buildings and structures, landscapes, and objects are the fabric of our national heritage. Collectively known as cultural resources (or sometimes heritage assets), they are our tangible links with the past. This section describes the cultural (historical, archaeological, and paleontological) resources present, or potentially present on the repair sites. A more detailed and comprehensive evaluation of the cultural background of the region, the projects potential impacts to cultural resources, and recommendations for project impact mitigation can be found in the Cultural Resources Assessment for this project, presented as Appendix A.

##### ***Cultural Resources Record Search***

To determine whether prehistoric or historic cultural resources were previously recorded within the project area, an archival and literature review of an area encompassing a ¼-mile radius around the project APE was performed. A cultural resource records search of the Central California Information Center (CCIC) of the California Historic Resources Information System (CHRIS) was requested on February 4<sup>th</sup>, 2019. No cultural resources studies have been conducted directly within the project APE. One cultural resources study does cross one of the proposed staging locations for the project, and 10 additional studies have been conducted within a ¼ mile of the project APE. A summary of the cultural resource studies conducted within a ¼-mile of the project APE is presented in Table 3.

No previously recorded cultural resources are located within the project APE. Seven cultural resources are present within the a ¼-mile of the project APE. Two of the resources are prehistoric occupation sites. Both sites are located adjacent to the San Joaquin River. Site CA-STA-122, originally recorded in 1956, and again in 2003, reported the presence of human remains and an obsidian blade that had been partially disturbed by mechanized equipment. CA-STA-171, although recorded as destroyed, documented the presence of human remains, ground and flaked stone artifacts, quartz crystals, and rectangular shell beads. A summary of all the cultural resources recorded within a ¼-mile of the project APE are presented in Table 4.

**Table 3: Previous Cultural Resource Studies with 1/4-mile of Project APE**

Report #	Authors	Title	Date
ST-00859	D. Chavez	An Archaeological Reconnaissance of the Robert's Ferry Reservoir and Water Extraction and Conveyance Systems, Stanislaus County, California: Phase II.	1976
ST-03482	Peak and Associates, Inc.	Cultural Resources Assessment of the Proposed Improvements of the City of Patterson Wastewater Treatment Facilities, Stanislaus County, California.	1998
ST-03630	T. Nave	Cultural Resources Survey for the Turlock Irrigation District Westside Transmission Line Project, Stanislaus and Merced Counties, California	1999
ST-04318	W. Self	Cultural Background Research for the +/- 34,000-Acre Modesto Wastewater Study Area and Archaeological Survey Assessment of the 327-acre 'Ho" Property within the Study Area, Stanislaus County, California.	2001
ST-04955	EDAW, Inc.	Archaeological Inventory of the Patterson Wastewater Treatment Facility Expansion Project, Stanislaus County, California.	2002
ST-06950	ESA*	Patterson Irrigation District Fish Screen Project, Cultural Resources Inventory Report.	2006
ST-06713	M. Clark	Archaeological Reconnaissance and Initial Cultural Resources Evaluation for Phase 1A. Improvements at the City of Modesto Jennings Road Wastewater Treatment Plant, Stanislaus County, California	2008
ST-06713A	W. Wong	Initial Study/ Mitigated Negative Declaration	2008
ST-07277	M.R. Clark	Section 106 Cultural Resources Inventory for the City of Modesto Phase 2 BNR/Tertiary Wastewater Treatment Project, Stanislaus County, California	2010
ST-07484	ESA	Patterson Irrigation District Fish Screen Project, Expanded Phase I Identification and Survey Report	2011
ST-08341	Basin Research Associates	Historic Property Survey Report North Valley Regional Recycled Water Program (NVRWP) Vicinity of Patterson, Stanislaus County	2014

\*Endangered Species Act

**Table 4: Previously Recorded Cultural Resources within 1/4-mile of Project APE**

Primary #	Trinomial	Description	Recorded
P-50-000207	CA-STA-122	Prehistoric site	1956/2003
P-50-000256	CA-STA-171	Prehistoric site	1971
P-50-001718	NA	Historic palm tree lined area	1999
P-50-001879	NA	Historic scatter of glass and ceramic bottle fragments	2002
P-50-002012	NA	Patterson Pump Station	2009
P-50-002045	NA	Isolated prehistoric human mandible	2011
P-50-002179	NA	Patterson Lift Irrigation System	2014

### ***Native American Consultation***

Parus Consulting, Inc. (Parus) cultural resources staff contacted the Native American Heritage Commission (NAHC) on January 22<sup>nd</sup>, 2019 requesting a search of their Sacred Lands File (SLF) for traditional cultural resources within or near the APE. The reply from the NAHC, dated January 29<sup>th</sup>, 2019, states that the search failed to indicate the presence of Native American sacred lands or traditional cultural properties in the immediate vicinity of the project area. However, the NAHC did provide contact information for seven possible tribes that may hold vested interests in the project and its location. Letters to the Calaveras Band of Mi-Wuk Indians, California Valley Miwok Tribe, Sheep Rancheria of Me-Wuk Indians of California, Northern Valley Yokuts Tribe, Southern Sierra Miwuk Nation, Tule River Indian Tribe, Tuolumne Band of Me-Wuk Indians were sent on February 15<sup>th</sup>, 2019.

On February 19<sup>th</sup>, 2019 a response was received from the Tuolumne Band of Me-Wuk Indians stating that they were not aware of any cultural resources within the study area, but that they would like to be contacted should any cultural materials be identified during the course of the project.

Follow up phone calls were placed to the remaining six tribal contacts on February 28<sup>th</sup>, 2019, and no response has been received indicating further interest in this project. Any responses received by Parus for further tribal consultation on this project will be forwarded to Kleinfelder and DWR immediately upon receipt.

A previous SLF search and Native American consultation was conducted by Parus cultural resources staff in November and December of 2016. This search also yielded a negative finding from the NAHC. The North Valley Yokuts and Southern Sierra Miwuk tribes were also contacted at this time, and no response was received.

## Field Methodology

Parus senior archaeologist Heather MacInnes MA, RPA, conducted the archaeological field survey of the APE on January 24th, 2019. The project area was accessed through the Secondary/Tertiary Waste Water Treatment Facility for the City of Modesto, located off of Jennings Road approximately 11 miles (by road) northeast of Patterson, California.

The project area consists of five sections along the earthen levee on the east bank of the San Joaquin River and is abutted by agricultural fields. Pedestrian surveys, consistent with the Secretary of Interior standards and guidelines, were conducted along the entire APE using 15 meter transects. Ground surface visibility was good, 90-100 percent, throughout the entire APE, as the levee is kept free of vegetation. However, the levee is covered with non-native fractured rock which could potentially obscure small cultural materials on the ground surface.

In addition to the current survey of the project APE, it had been previously surveyed by former Parus archaeologists Andrew Miller, MA on September 23rd, 2016, and Alex Walton on May 21st, 2018. No cultural resources were identified during the current or past surveys of the project APE. An evaluation of the project impacts to cultural resources as defined by the criteria outlined in CEQA is presented in Table 5.

**Table 5: CEQA Checklist: Cultural Resources**

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

### 4.4.1 Environmental Setting

The project area is located in San Joaquin Valley in Stanislaus County along the San Joaquin River. The project area runs adjacent to agricultural fields, with riparian habitat on the opposite bank of the river. The San Joaquin Valley is characterized by a Mediterranean climate with hot, dry summers and cool, wet winters.

### ***Prehistoric Cultural Period***

Stanislaus County lies within the San Joaquin Valley, which in turn makes up the southern half the Central Valley. The archaeological record of this area is understood in the context of the Central Valley region as a whole. Five time periods will be used to order the local archaeological record in this report: Paleo Indian (11,500 to 8550 B.C.), Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), Upper Archaic (550 B.C. to 1100 A.D.), and Emergent (1100 A.D. to Historic) (Rosenthal, White, and Sutton 2007). The following summary describes the chronological sequence and cultural patterns observed in the Central Valley.

#### ***Paleo Indian (11,500 to 8,550 B.C.)***

The Paleo-Indian period is characterized by big game hunting by highly mobile native populations. As a result of heavy deposition of alluvial sediments, there exists little archaeological evidence of human occupation of the Central Valley during this time period (Moratto 1984). The earliest evidence comes from basally thinned and fluted projectile points found from scattered surface deposits, with three of these localities located within the southern portion of the San Joaquin Valley (Rosenthal, White, and Sutton 2007).

#### ***Lower Archaic (8,550 to 5,550 B.C.)***

Similar to the Paleo Indian period, archaeological evidence of occupation within the Central Valley is limited to isolated finds due to high sedimentation rates in the early and middle Holocene. Stemmed points, chipped stone crescents, and other flaked stone artifacts are common for the period along the shore of the ancient Tulare Lake, in the southern portion of the San Joaquin Valley (Rosenthal, White, and Sutton 2007).

Archaeological evidence of plants and foods and associated processing tools are all but absent from valley floor sites. However, milling slabs, handstones, and cobble-core tools are all commonly found in both the Sierra and Coast Range foothills during this period. Later in the Middle Archaic, distinctive settlement and subsistence patterns were observed between the foothills and the valley floor, but the relationship between these regions is not well understood in the Lower Archaic. Therefore, it is possible that the valley floor populations either heavily favored hunting large mammals, such as artiodactyls, as their primary food source; or that these sites are expressions of a seasonally structured settlement patterns (Rosenthal, White, and Sutton 2007).

#### ***Middle Archaic (5,550 to 550 B.C.)***

Cultural deposits associated with the early Middle Archaic, as with the Paleo-Indian and Lower Archaic periods, remain relatively few in the valley floor due to high sedimentation rates of the middle Holocene. The earliest sites in the San Joaquin Valley date to 4950 to 3050 B.C. (Rosenthal, White, and Sutton 2007).



However, the late Middle Archaic is well represented within the Central Valley, and reflects a shift towards more settled ways of life. The Windmill cultural pattern is considered representative of this period. This pattern is characterized by an increased emphasis on acorns, more intensive procurement practices, and the use of mortars and pestles in addition to a continuation of hunting and fishing activities (Rosenthal, White, and Sutton 2007; Stevens et al. 2009). Increasing residential stability is exemplified by increased presence of nonutilitarian artifacts such as an abundance of trade objects, ground and polished charm stones, twined basketry, baked-clay artifacts, and worked shell and bone. Additionally, ventrally or dorsally extended burials, and sophisticated material wealth as grave goods is particularly indicative of the Windmill Pattern (Rosenthal, White, and Sutton 2007).

#### *Upper Archaic (550 B.C. to 1100 A.D.)*

Sociopolitical complexity continued to increase through the Upper Archaic Period. This period coincides with the late Holocene and the onset of a much cooler, wetter, and stable climate (Rosenthal, White, and Sutton 2007). Formalized and regular sustained trade between groups are demonstrated for the first time. This period is most often associated with the Berkeley pattern. This pattern is distinguished by: distinctive bone, stone, and shell artifacts; heavy reliance on acorns as a food source; increased use and refinement of the mortar and pestle; stemless projectile points; flexed position burials accompanied with red ocher; and some cremations with grave goods for wealthy or high status individuals (Bennyhoff and Fredrickson 1994; Moratto 1984).

In many locations the shift to the Berkeley Pattern was more of a gradual transition to a different emphasis on certain material good or economic practices, rather than abrupt change. In the northern half of the San Joaquin Valley traits of the Windmill Pattern can be observed throughout the Upper Archaic, indicated by a retention of extended burial practices (Moratto 1984; Rosenthal, White, and Sutton 2007).

#### *Emergent Period (1100 A.D. to Historic)*

The Emergent Period is the most well represented period in the archaeological record in California. The Augustine Pattern is associated with this period, and is characterized by significant technological and social developments (Bennyhoff and Fredrickson 1994; Rosenthal, White, and Sutton 2007). Hunting, fishing, and gathering (especially of acorns) intensifies (Moratto 1984). Of particular note is the transition from dart and atlatl to the bow and arrow, as evidenced by the appearance of small projectile points. In addition, there is an increase in the production of fishing implements, including the introduction of the harpoon (Fredrickson 1973).

Populations during this period become larger and more sedentary, with increased social stratification (Moratto 1984). Trade networks expand and become more sophisticated. Additionally, there is increased trade of raw materials, such as obsidian cobbles, and adoption of the clam shell disk bead as a monetary unit (Fredrickson 1973; Moratto 1984; Rosenthal, White, and Sutton 2007).

The Augustine Pattern is also characterized by changes in interment practices. Pre-interment grave-pit burning with tightly flexed burials are observed in some regions, with cremation also occurring for wealthy or high-status individuals (Fredrickson 1973; Rosenthal, White, and Sutton 2007). However,

in the Northern San Joaquin Valley extended burials, consistent with persistent traits of the Windmill Pattern, are still observed during this period (Fredrickson 1973).

### ***Ethnographic Cultural Period***

Northern Valley Yokuts occupied most of the northern half of the San Joaquin Valley during late prehistoric and early historic times (Silverstein 1978). The Native populations at the time of Spanish contact were organized into what was termed “tribelets” by ethnographers. These were defined as sovereign political village “communities” who defended a fixed territory under a single independent leader (a tribelet “chief”) (Kroeber 1932; Kroeber 1955). The primary settlements were located on top of low mounds located on or near the banks of large rivers. These primary settlements consisted of approximately 200-500 residents; additional smaller communities and hamlets with 2-3 households also existed (Wallace 1978).

The Northern San Joaquin Valley has very little reliable ethnographic information due to the rapidity that the Native population declined in the area after contact with European settlers (Wallace 1978). By the mid-1800s, the Northern Valley Yokut population, like many groups of California Native Americans, had been greatly reduced by disease, European violence, and relocation to Spanish missions (Moratto 1984; Wallace 1978). The California Gold Rush, and the subsequent settlement of the San Joaquin Valley, dealt the final blow to the Northern Valley Yokuts. Native American populations within the San Joaquin Valley were affected not only by miners, but to an even greater extent by many ex-miners becoming interested in farming the rich soils of the region. As farming spread throughout the valley, Native American populations were easily pushed off of their native hunting and food-gathering lands, forcing the remaining Northern Valley Yokuts, along with many other Native American groups, to become drifters or vagrants that sought work where they could for poor pay and housing. It was not until the socio-economic conditions for Native Americans in the region declined dramatically that congress finally allocated and authorized land for reservations (Wallace 1978).

### ***Historic Cultural Period***

Spanish settlement of California began in 1769 A.D. Spanish expeditions were made throughout California in an effort to identify potential mission and presidio locations, as well as bring the Native population in the mission system. The first expedition into the northern San Joaquin Valley, seeking to find suitable mission locations, was led by Lieutenant Gabriel Moraga from Mission San Juan Bautista. His party explored east of the San Joaquin River between the Mokelumne and Merced Rivers. The expedition is credited with naming both the San Joaquin and Merced Rivers, as well as the Kings River farther south (Clough and Secrest Jr. 1984; Gudde 1998; Hoover et al. 1990; Tinkham 1921).

In 1821, Mexico won its independence from Spain, and took control of Alta California. The new Mexican government now prioritized making many land grants to settlers or rancheros, allowed trade with foreigners, and abolished the mission system in 1834 (Early California History: An Overview n.d.). Between 1843 and 1846 efforts were made to settle the region. Five Mexican land grants were made to establish ranchos in what is today Stanislaus County. The project APE is located in an area

outside the boundaries of these land grants but is located directly across the San Joaquin River from Rancho del Puerto, granted to Mariano and Pedro Hernandez in 1844 (ESA 2006; Wilcox 1999).

Stanislaus County was created from a portion of Tuolumne County in April of 1854, and had its boundaries modified in 1860, 1866, and 1868 to include portions of Merced County. The county seat moved several times but was eventually fixed as the city of Modesto in 1871 (Basin Research Associates 2014; Tinkham 1921). Early settlers of Stanislaus County primarily raised and sold hogs, horses, sheep, and cattle. However, impacts to the industry caused by natural events, such as floods and severe drought, and changes to laws allowing the free-range grazing of livestock, forced many ranches on to hard times. Thus, in the 1860s and 1870s many in Stanislaus County turned to the cultivation of wheat (Tinkham 1921).

The land of Rancho del Puerto was sold to Samuel Reed and Ruben Wade in 1864, and then again to John D. Patterson in 1866. The land continued to be used for ranching and Patterson made efforts to improve the production of the ranch by establishing a steamer landing on the San Joaquin River, located at what is today Las Palmas Bridge (which falls within the project APE) in 1869 (Brotherton 1982; ESA 2006). The area was used as a cattle ranch until Patterson's heir, Thomas, developed the town of Patterson in 1910, which would be incorporated in 1919. Thomas Patterson sold off plots of land in 10 to 20-acre parcels and constructed an irrigation system that would change the primary focus of the area to agricultural production (Hoover et al. 1990; Peak and Associates, Inc. 1998).

Laws changing the use of river water throughout the Central Valley had a profound impact on the types of production possible in the region. The passage of the Wright Act of 1887 allowed for groups of farmers to form irrigation districts and grant them the power to divert water to dry fields as a means of flood control and water conservation. These irrigation districts were formed throughout the San Joaquin Valley and allowed for many new agricultural crops to be grown in the region and helped to support the growth of the dairy industry starting in the early 20th century (Basin Research Associates 2014; EDAW, Inc. 2002).

The growing population and development of agriculture in the Central Valley began to be significantly impacted by recurrent flooding in the second half of the 19th century. Piecemeal construction of levees and other flood control measures were undertaken by individual land owners, but the need for collective levee building efforts was apparent. In 1861, the Board of Reclamation was formed and given the power to create reclamation districts, which consisted of collectives of smaller parcel owners. The Board of Reclamation was soon dissolved, but the reclamation districts themselves persisted and were transferred to the counties which then oversaw further reclamation efforts (Lund et al. 2007).

Much of the early focus of State and federal government funded flood control projects were directed to the Sacramento Valley and Sacramento-San Joaquin Delta as part of the Central Valley Project (CVP), authorized by congress in 1917. Projects planned for the San Joaquin Valley were delayed due to economic depression of the 1930's. Flood control systems continued to be constructed in a piecemeal fashion throughout the San Joaquin until the passage of the Flood Control Acts of 1944 and 1950. In 1953, a Memorandum of Understanding (MOU) was signed by the USACE and the State of California designating responsibilities for the construction, operation, and maintenance of the Central Valley

Flood Protection System, which would become the SPFC. The SPFC oversees approximately 1,600 miles of levee throughout the Central Valley today (Bradner and Singleton 2017).

The levee of the project area is part of RD 2091, and is a SPFC levee. However, it was clearly constructed as part of the piecemeal flood control efforts of the early 20th century. The levee first appears on the United States Geological Survey (USGS) Historical Topographic Maps Modesto West 1941 and Orestimba 1940 maps; whereas, earlier maps from 1915, 1916, and 1919 do not reflect its presence (U.S. Geological Survey 1915; U.S. Geological Survey 1916; U.S. Geological Survey 1919; U.S. Army Corps of Engineers 1940; U.S. Army Corps of Engineers 1941).

#### **4.4.2 Regulatory Setting**

##### ***Federal Regulations***

###### *American Indian Religious Freedom Act*

The American Indian Religious Freedom Act (AIRFA) is a 1978 United States federal law and a joint resolution of Congress which pledged to protect and preserve the traditional religious rights of American Indians, Eskimos, Aleuts, and Native Hawaiians. Before the AIRFA was passed, certain federal laws interfered with the traditional religious practices of many American Indians.

###### *Archeological Data Preservation Act*

The Archeological Data Preservation Act (ADPA) provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes by specifically providing for the preservation of historical and archeological data (including relics and specimens) which may be destroyed by any alteration of the terrain caused as a result of any federal construction project or federally licensed activity or program.

###### *Archeological Resources Protection Act*

The Archaeological Resources Protection Act (ARPA) is to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data which were obtained before October 31, 1979. Under this act, no person may excavate, remove, damage, or otherwise alter or deface or attempt to excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands unless such activity is pursuant to an exemption contained in, or a permit issued under, or referred to in, Section 4 of the act.

###### *Code of Federal Regulations*

The Code of Federal Regulations (CFR) sets the criteria for listing a site in the NRHP. These criteria are based upon the significance to American history, architecture, archaeology, engineering, and culture.

### *Native American Graves Protection and Repatriation Act*

Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, 23 USC Sections 3002 requires Federal agencies to: (1) establish procedures for identifying Native American groups associated with cultural items on Federal lands; (2) inventory human remains and associated funerary objects in Federal possession; and (3) return such items upon request to the affiliated groups. The law also requires that any discoveries of cultural items covered by the act be reported to the head of the Federal entity, who would notify the appropriate Native Americans group.

### *National Historic Preservation Act*

Properties of traditional religious and cultural importance to Native Americans are considered under Section 101 of the National Historic Preservation Act (NHPA). Section 106 requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in, or eligible for inclusion in, the NRHP and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Under this section, the significance of any adversely affected cultural resource is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level.

### *State Regulations*

#### *California Environmental Quality Act*

CEQA protects tribal cultural resources, unique archaeological resources, and historical resources under statutes 21074, 21083.2, 21084.1-3. CEQA requires that a lead agency determine if a project will have a significant impact on cultural resources. Should it be determined that a project will cause significant impacts to a cultural resource, the lead agency may require reasonable efforts to preserve cultural resources in place or to be left undisturbed. To the extent that a cultural resource cannot be left undisturbed, mitigation measures are required.

#### *California Health and Safety Code*

Section 7050.5 of the California Health and Safety Code (CHSC) covers the discovery of human remains, except on federal lands. The code states that, following discovery, no further disturbance shall occur until the County Coroner has made a determination of origin pursuant to Public Resources Code Section 5097.98

#### *Public Resources Code*

Public Resources Code (PRC) Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change.

## ***Local Laws and Regulations***

### ***Stanislaus County General Plan***

Stanislaus County has identified the following goals and policies in the Conservation Element of the General Plan:

**GOAL EIGHT:** Preserve areas of national, state, regional and local historical importance

Policy Twenty-four: The County will support the preservation of Stanislaus County's cultural legacy of historical and archeological resources for future generations

### ***City of Modesto General Plan***

The following policies in the City of Modesto Urban Area General Plan are applicable to the project:

Archaeological and Cultural Resources Policies (i): Any project subject to CEQA that involves substantial earth-disturbing activities, where excavation/construction would occur outside of areas where previous development has occurred, or where excavation/construction would occur at depths greater than existing foundations, roads, and/or trenches in the immediate vicinity, shall require evaluation of the site by a qualified archaeologist retained by the project applicant, which would include at minimum a records search, a Phase I pedestrian survey, and preparation of an archaeological report containing the results of this cultural resources inventory identification effort for submittal to the Central California Information Center.

Archaeological and Cultural Resources Policies (j): If Phase II archaeological evaluations are recommended, a report of all such surveys and excavations with recommendations shall be completed prior to project approval.

Archaeological and Cultural Resources Policies (k): Any project subject to CEQA that involves substantial earth-disturbing activities shall require consultation by the applicant for the purposes of determining archaeological and cultural resources impacts and creating appropriate mitigation to address such impacts

## **4.4.3 Environmental Effects**

### ***No Action Alternative***

With the no action alternative, no work would be conducted. T therefore, the possibility of uncovering cultural resources would be eliminated. However, the five repair sites would be subject to continued seepage and risk of levee failure. Failure of the levee could result in the flooding of the area and lead to the destruction of any undiscovered artifacts within and around the proposed project area. Therefore, the No Action Alternative could result in significant effects on cultural resources.

### ***Proposed Project***

In general, former or current riparian areas within the San Joaquin Valley are considered highly sensitive for prehistoric and historic-era cultural resources. Due to the historic construction of the

levee, the presence of previously intact prehistoric sites near the project APE, and the lack of previous cultural resource studies within the APE, significant negative impacts to cultural resources by project activities are possible. However, the risk of these impacts can be mitigated down to less than significant by employing archaeological monitoring of all ground disturbing activity.

#### **4.4.4 Mitigation**

Although the project area has been heavily modified by agricultural fields and levee maintenance, the potential to make sub-surface discoveries of cultural resources remains. The following mitigation measures will be implemented to reduce these impacts to less than significant.

##### ***Construction Monitoring***

Monitoring by a qualified archaeologist of all ground disturbing activities will be conducted to ensure that project activities do not impact any previously undiscovered cultural resources. Should cultural resources be encountered during project activities archaeological monitoring will ensure the immediate and correct implementation of the subsequent mitigation measures.

##### ***Construction Activities Will Be Halted If Any Cultural Materials Are Discovered***

If cultural resources are encountered during construction activities, work within 100 feet of the find will be halted and a qualified archaeologist will evaluate the discovery. Should the archaeologist determine the discovery significant they will implement the appropriate mitigation measures. These measures are more thoroughly defined in Section 6.2 of Appendix A.

##### ***Construction Activities Will Be Halted If Any Remains Are Discovered***

While there was no evidence of human remains during the field reconnaissance, it is possible that human remains and associated funerary objects may be discovered during ground disturbance activities. If any remains are uncovered during construction all activity within 300 feet of the remains will be halted and the site supervisor will be contacted immediately. A qualified archaeologist will evaluate the find to determine if the remains are human. If the remains are found to be human the archaeologist will implement the appropriate mitigation measures. These measures are more thoroughly defined in Section 6.2 of Appendix A.

#### **4.5 Vegetation and Wildlife Resources**

This section addresses the potential effects on vegetation and wildlife resources within the proposed project boundaries. Focused field surveys were conducted along the proposed project site including the staging areas on September 13, 2016, November 4, 2016, with a follow up survey conducted May 21, 2018. A more detailed and comprehensive evaluation of the vegetation and wildlife resources in the region, the projects potential impacts to vegetation and wildlife resources, and recommendations for project impact mitigation can be found in the Biological Assessment for this project, presented as Appendix B.

The entire length of the site was visited and inspected visually on foot. The walking survey of the project area included inspection of buffer areas within approximately 100 feet of the project edge. Lay-down areas were also visited and visually inspected. Since the project area is relatively narrow and mostly un-vegetated, adjacent habitats within the buffer areas were surveyed visually and aurally. An evaluation of the project impacts to wildlife, fish and vegetation resources as defined by the criteria outlined in CEQA is presented in Table 6.

#### **4.5.1 Environmental Setting**

##### ***Vegetation***

In general, levees are groomed to limit vegetative growth in order to minimize undermining of the integrity of the flood control structure. Construction at the RD 2091 seepage sites would involve minimal loss of ruderal non-native vegetation communities. The proposed project site consists of three common nonnative plant communities/habitat types associated with the agricultural areas of the San Joaquin Valley. They are: ruderal, irrigated cropland, and agricultural ditches.

##### ***Ruderal***

Ruderal habitats are characterized by areas that are sparsely vegetated, typically dominated by short-lived annual and biennial, introduced grasses and broad-leaved forbs that are adapted to periodic disturbance. Ruderal habitat within the proposed project occurs between the toe of the levee and the agricultural ditch or irrigated cropland habitat types.

Vegetation within the proposed project area's ruderal habitat were dominated by non-hydrophytes including Russian thistle (*Salsola australis*), Jimson weed (*Datura wrightii*), Bull thistle (*Cirsium vulgare*), Prickly wild lettuce (*Lactuca serriola*), and Bermuda grass (*Cynodon dactylon*).

Less dominant species occurring included stinkwort (*Dittrichia graveolens*), Italian ryegrass (*Festuca perrenis*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Reed fescue (*Festuca arundinacea*), Prostrate knotweed (*Polygonum aviculare*), English plantain (*Plantago lanceolata*), Slender oats (*Avena barbata*), Ripgut grass (*Bromus diandrus*), Soft chess (*Bromus hordeaceus*), Hare barley (*Hordeum murinum* ssp. *leporinum*), and White stemmed filaree (*Erodium moschatum*).

A few mature, solitary Valley oaks were encountered (*Quercus lobata*), remnants of the riparian oak habitats of the San Joaquin River flood plain that are now isolated from the extant riverine habitats by the levee. In order to complete the levee repair, these oaks will be removed prior to construction. However, due to the small footprint of the trees in regards to the overall project area, as well as their isolation from the riparian habitat, the removal of the trees is not anticipated to have a significant effect on environment.



**Table 6: CEQA Checklist: Wildlife, Fish, and Vegetation Resources**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) 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 the United States Fish and Wildlife Services (USFWS)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) 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"/>
e) 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 checked="" type="checkbox"/>	<input type="checkbox"/>

#### **4.5.2 Irrigated Cropland**

Away from the levee walls and toe, irrigated cropland dominates the landscape in the project area. The San Joaquin Valley yields one-third of all the produce grown in the United States; more than 230 crops comprise the valley's diverse array of agricultural produce. The valley harbors the world's largest amalgamation of Class 1 soils, which are ideal crop-growing soils. Agricultural lands are well suited to growing of grasses and other herbaceous plants that are grown and harvested for purposes such as animal feed and human consumption. The majority of the adjacent lands are used for agriculture.

At the time of this survey, irrigated lands were supporting a mature crop of Triticale (*XTriticosecale rimpaui*), a hybrid wheat-rye grain grown primarily as forage for cows. Other dominant species within the area included hydrophytic grasses, forbs, and “grass-like” herbs and that can withstand the heavy irrigation including umbrella sedge (*Cyperus eragrostis*), watergrass (*Echinochloa crusgalli*), yellow bristlegrass (*Setaria pumila*), broadleaf pepper grass (*Lepidium latifolium*), and curly dock (*Rumex crispus*).

### ***Agricultural Ditches***

Beyond the toe of the levee slope and typically adjacent irrigated croplands, a manufactured agricultural ditch of variable width is a characteristic feature of the project area. Agricultural ditch habitat in the Project was characterized by a U-shaped (in cross-section) human excavated ditch for the purposes of conveyance of irrigation water or collection of tail water for agricultural purposes. The majority of this feature was uniformly (approximately) 2.5 feet in width and one foot in depth. In some areas, the ag ditch was considerably wider (from 6 to approximately 20 feet wide). In the narrower sections, the ditch was mostly dry.

Edges of the ag ditch were dominated by Bermuda grass. Vegetation within the ag ditch was dominated by hydrophytes and generally included species such as Curly Dock (*Rumex crispus*), Dallisgrass (*Paspalum dilatatum*), Yellow Foxtail (*Setaria pumila*), Sprangletop (*Leptochloa fusca*), and Barnyard Grass (*Echinochloa crus-galli*, aka Watergrass). The deeper agricultural ditches were dominated by hard stemmed bulrush (*Schoenoplectus acutus* var. *occidentalis*) and broad leaf cattails (*Typha latifolia*) with the edges dominated by watergrass.

### ***Wildlife***

Primary focus was on determining the potential of the site to harbor special-status species, of which none were observed during our survey. A small cohort of locally common and expected species was detected during our survey, which included 19 bird species, one species of amphibians, one species of reptile, and five species of mammals (Table 7).

Wildlife species within the proposed project area may be affected either directly or indirectly by the proposed construction. Direct impacts could include injury or mortality as a result of vegetation removal, heavy equipment use, or materials placement. Indirect impacts may include the temporary increase of noise, and slightly altered habitat conditions post construction.

### ***Fish***

Due to the nature and habitats affected by this project, it is unlikely that adverse effects will occur to fish species. No work will be done on the waterside of the levee, in the wetlands, riparian corridors, or other habitats supporting fish species.

**Table 7: Wildlife Observed within the Project Area**

Common Name	Scientific Name	Mean of Detection
Amphibians		
Sierran Treefrog	<i>Pseudacris sierra</i>	Aurally
Reptiles		
Western Fence Lizard	<i>Sceloporus occidentalis</i>	Aurally
Birds		
Mallard	<i>Anas platyrhynchos</i>	Aurally
Red-shouldered Hawk	<i>Buteo lineatus</i>	Aurally
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Aurally
Mourning Dove	<i>Zenaida macroura</i>	Aurally
Eurasian Collared-dove	<i>Streptopelia decaocto</i>	Aurally
Northern Flicker	<i>Colaptes auratus</i>	Aurally
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	Aurally
Black Phoebe	<i>Sayornis nigricans</i>	Aurally
American Crow	<i>Corvus brachyrhynchos</i>	Aurally
California Scrub-jay	<i>Aphelocoma californica</i>	Aurally
Bushtit	<i>Psaltirparus minimus</i>	Aurally
Oak Titmouse	<i>Baeolophus inornatus</i>	Aurally
Northern Mockingbird	<i>Mimus polyglottos</i>	Aurally
California Towhee	<i>Pipilo crissalis</i>	Aurally
Song Sparrow	<i>Melospiza melodia</i>	Aurally
Common Yellowthroat	<i>Geothlypis trichas</i>	Aurally
Western Meadowlark	<i>Sturnella neglecta</i>	Aurally
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Aurally
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Aurally
Mammals		
California ground squirrel	<i>Otospermophilus beecheyi</i>	Visual detection
Pocket Gopher	<i>Thomomys bottae</i>	Burrow openings
Desert Cottontail	<i>Sylvilagus audubonii</i>	Visual detection
Raccoon	<i>Procyon lotor</i>	Tracks
Mule Deer	<i>Odocoileus hemionus</i>	Tracks

### **4.5.3 Regulatory Setting**

#### ***Federal Policies and Regulations***

##### *Migratory Bird Treaty Act*

The Migratory Bird Treaty Act (MBTA) is enforced by the United States Fish and Wildlife Services (USFWS) (16 United States Code [USC] Section 703-711). The original 1918 statute implemented the 1916 Convention between the United States and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the United States and Mexico, Japan, and the Soviet Union (now Russia). Specifically, the act includes the establishment of a federal prohibition to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird...or any part, nest, or egg of any such bird" unless such acts are permitted by regulations (16 U.S.C. 703). The federal definition of "take" includes activities that involve harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct. Birds covered by this act include waterfowl, shorebirds, raptors, songbirds, and many other species.

The objective of the Clean Water Act (CWA 1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated by USACE under Section 404 of the CWA (33 USC 1251-1376). USACE regulations implementing Section 404 define waters of the United States to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce.

##### *Clean Water Act*

Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). To comply with the Section 404 policy of no net-loss of wetlands, discharge into wetlands must be avoided and minimized to the extent practicable. For unavoidable impacts, compensatory mitigation is required to replace the loss of wetland functions.

##### *CDFW Streambed Alteration Agreement*

Sections 1600-1616 of the California Department of Fish and Wildlife (CDFW) Code, regulate activities that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank, or the

outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Notification is required prior to any such activities and CDFW will issue an agreement with any necessary mitigation to ensure protection of the state's fish and wildlife resources.

### *California Fish and Wildlife Code*

Birds of prey are protected in California under Section 3503.5 of the California Fish and Wildlife Code, which states that it is unlawful to take, possess, or destroy any birds in the order 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 the code or any regulation adopted pursuant thereto. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered taking by CDFW.

### *Natural Community Conservation Planning Act*

As set forth in the CDFW Code (Section 2800 et seq.), the CDFW may enter into an agreement with any person, local, state, or federal agency to provide comprehensive management of multiple wildlife species. These large-scale natural resource conservation plans, known as Natural Community Conservation Plans, must identify and provide for area wide protection and perpetuation of natural wildlife diversity. The developed plans are intended to allow for growth that is compatible with preservation.

### ***Local Laws and Regulations***

#### *Stanislaus County General Plan*

Stanislaus County has identified the following goals and policies in the Conservation/Open Space Element of the General Plan that are relevant to the proposed project[EL1][HM2]:

GOAL ONE: Encourage the protection and preservation of natural and scenic areas throughout the County.

Policy One: Maintain the natural environment in areas dedicated as parks and open spaces. Policy Three Areas of sensitive wildlife and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats) including habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development.

Policy Four: Protect and enhance oak woodlands and other native hardwood habitat.

GOAL TWO: Conserve water resources and protect water quality in the County. Policy Five Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

Policy Six: Preserve vegetation to protect waterways from bank erosion and siltation.

GOAL TEN: Protect fish and wildlife species of the County. Policy Twenty-Nine Adequate water flows should be maintained in the County's rivers to allow salmon migration. Implementation Measure

1. The County should continue to lobby the federal government to provide adequate water flow in the County's rivers to allow salmon migration.

Policy Thirty: Habitats of rare and endangered fish and wildlife species shall be **protected**[EL3].

#### *City of Modesto General Plan*

The City of Modesto Urban Area General Plan was adopted on October 14, 2008. The Jennings Waste Treatment Plant is not within the boundaries of the Urban Area General Plan. The 2008 Urban Area General Plan states that, “In the past, the city has relied upon Section 56742 a–b of the Government Code to annex properties noncontiguous to the city, for the purpose of establishing and expanding certain wastewater treatment facilities on Jennings Road, adjacent to the San Joaquin River.

Annexation of all of the Wastewater Treatment Plant land is underway at the Jennings Road facilities.

Because this site is approximately seven miles from the city limits it is not depicted graphically on the Land Use Diagram. Nevertheless, as long as Section 56742 a–b remains in effect, the city will continue to expand the treatment facilities, and annex the land to the city as appropriate and as needs dictate. The Sphere of Influence should reflect the ability of the City to take this action.”

The 2008 Urban Area General Plan goes on to state that:

“The City will designate a riparian habitat preserve for the Jennings Road and Sutter Avenue wastewater facilities, where they adjoin the San Joaquin and Tuolumne Rivers, respectively, to foster the best conjunctive management of wastewater facilities. The Jennings Road and Sutter Avenue wastewater sites have been incorporated into the Tuolumne River Regional Park (TRRP) Master Plan, and the designation of riparian habitat preserves at these locations is consistent with provisions in the TRRP Master Plan. The designation of riparian preserves at these locations will help preserve open space and protect habitat for threatened and endangered species, including valley elderberry longhorn beetle and Swainson’s hawk.”

#### **4.5.4 Environmental Effects**

##### ***No Action Alternative***

With this alternative, the area would remain unchanged from current conditions for the immediate future. However, without correcting the seepage and boils it is reasonable to assume that seepage would continue leading to risk of levee failure. Failure of the levee could result in potentially significant impacts to biological resources as there would potentially be habitat loss, and potential for toxic or hazardous waste to be carried into waterways.

##### ***Proposed Project***

##### ***Wildlife***

Wildlife along the proposed project, particularly migratory birds, may be directly or indirectly affected by the implementation of the proposed action. Direct impacts may include mortality or injury to individuals present at the site due to vegetation removal, movement of heavy equipment, construction

noise, or placement of material. For example, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. With pre-construction surveys and avoidance measures, effects to wildlife would be considered less than significant.

Indirect impacts may include altered habitat conditions after the completion of the repairs. Populations of common wildlife species are abundant throughout the region and in the immediate vicinity of the project site. Surveys for nesting birds will be conducted again prior to construction. If the pre-construction surveys confirm that no nesting birds would be disturbed by the project there would be no effects on nesting or burrowing birds. Thus, impacts to non-special status wildlife species would be considered less than significant and no mitigation is required.

### *Vegetation*

Proposed project activities have the potential to result in direct and indirect impacts to riparian vegetation communities. Direct impacts include the removal of existing riparian understory vegetation during site grubbing. Indirect impacts include the potential introduction and/or spread of invasive plant species, such as tamarisk (*Tamarix* sp.) or yellow star-thistle. Invasive plants disrupt natural processes by altering physical processes, displacing native plants, and degrading wildlife habitat. Invasive plant species have been identified on the site.

Ruderal vegetation is anticipated to be most severely affected by the proposed work as heavy equipment would remove surface soils and ruderal vegetation. To compensate for this loss of vegetation, the site would be revegetated via hydroseeding with native species. Revegetation would occur as soon as practicable after completion of construction to minimize the potential for establishment of invasive plants. Since these species are relatively quick growers, the ruderal vegetation cover is expected to be fully restored within the first several years following repair and restoration activities.

## **4.5.5 Mitigation**

### *Wildlife*

A qualified biologist shall conduct at least one nesting bird survey no more than one week prior to the start of construction activity in order to avoid potentially significant impacts to bird species. If no active nesting sites are located, no further mitigation will be required.

Direct disturbance to nest sites should be avoided whenever possible and a buffer will be put into place. The size and shape of the buffer shall be based on the proximity of active nests to construction, existing disturbance levels, topography, the sensitivity of the species on a case-by-case basis.

### *Vegetation*

The contractor shall prepare a SWPPP that will include a site restoration plan to revegetate the proposed project site.

## 4.6 Special Status Species

A list of special status species that have the potential to occur within the proposed project footprint was compiled from the USFWS online database and through an online query of the California Natural Diversity Data Base (CNDDDB) prior to the first field visit. Confirmation of the potential presence of listed species was obtained from field surveys conducted by qualified biologists. An evaluation of the project impacts to special status species as defined by the criteria outlined in CEQA is presented in Table 8. A more detailed and comprehensive evaluation of the special status species in the region, the projects potential impacts to special status species, and recommendations for project impact mitigation can be found in the Biological Assessment for this project, presented as Appendix B.

**Table 8: CEQA Checklist: Special Status Species**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
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 (CDFG) or the USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.6.1 Environmental Setting

#### *Special Status Plant Species*

Six special status plant species have been recorded historically within the project area (Table 9). However only the Lesser Saltscale is likely to occur at the project site, although none were detected during our survey.

Based on these investigations no special status plants would be directly or indirectly affected by the proposed project.

#### *Special Status Fish Species*

Two special status fish species occur near the project area, Sacramento Splittail (*Pogonichthys macrolepidotus*) and Steelhead (*Oncorhynchus mykiss irideus*) of the Central Valley distinct population segment.

Due to the nature and habitats affected by this project, no adverse effects are expected or likely to occur to these special status aquatic species. No work will be done in the wetlands, riparian corridors, or other habitats supporting any fish species.



**Table 9: Special Status Plants with Potential to Occur**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Status</b>	<b>Habitat</b>	<b>Bloom Period</b>
Alkali Milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	CNPS 1B.2	Valley Grasslands, Alkali Sinks, Freshwater Wetlands, wetland-riparian	March-June
California Alkali Grass	<i>Puccinellia simplex</i>	CNPS 1B.2	Valley grassland, wetland-riparian	March-May
Delta Button-celery	<i>Eryngium racemosum</i>	CE, CNPS 1B.1	Freshwater wetlands, wetland-riparian	June- October
Heartscale	<i>Atriplex cordulata</i> var. <i>cordulata</i>	CNPS 1B.2	Shadscale Scrub, Valley Grassland, wetland-riparian	April-October
Lesser Saltscale	<i>Atriplex minuscule</i>	CNPS 1B.1	Shadscale Scrub, Valley Grassland, Alkali Sink	May-October
Vernal Pool Smallscale	<i>Atriplex persistens</i>	CNPS 1B.2	Occurs usually in wetlands, occasionally in non-wetlands	June- October

CE California Listed as Endangered

CNPS (California Native Plant Society) rarity rank.

### ***Special Status Wildlife***

Several special-status (terrestrial) wildlife species, including birds, bats, and reptiles, occur or may be reasonably expected to occur in the project vicinity (Table 10). In general, though, the highly limited specific project area harbors little in the way of foraging or nesting habitats for any of these and their chance occurrence would be transient in nature. Of these special-status species, there is virtually no habitat to support any portion of their life history make-up although each may occur nearby along the San Joaquin River.

**Table 10: Special Status Wildlife with Potential to Occur**

Common name	Scientific Name	Status	Habitat
Fish			
Sacramento Splittail	<i>Pogonichthys macrolepidotus</i>	CDFW SSC	Rivers and streams with cold water and gravel bottoms appropriate for spawning
Steelhead	<i>Oncorhynchus mykiss irideus</i>	FT	Rivers and streams with cold water and gravel bottoms appropriate for spawning
Reptiles			
Western Pond turtle	<i>Actinemys marmorata ssp.</i>	CDFW SSC	ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches
Giant Garter Snake	<i>Thamnophis gigas</i>	FT, CT	marshes, sloughs, drainage canals, and irrigation ditches
Invertebrates			
Valley Elderberry Longhorn Beetle	<i>Desmocerus californicus dimorphus</i>	FT	Elderberry along rivers and streams
Birds			
Osprey	<i>Pandion haliaetus</i>	CDFW WL	Waterways
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	CDFW WL	Waterways
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, CE	Riparian Woodlands
Yellow Warbler	<i>Dendroica petechia ssp.</i>	CDFW SSC	Wetlands
Yellow-breasted Chat	<i>Icteria virens</i>	CDFW SSC	Shrubby habitats along rivers
White-tailed Kite	<i>Elanus leucurus</i>	CDFW FP	Riparian woodlands, agricultural lands
Northern Harrier	<i>Circus cyaneus</i>	CDFW SSC	Wetlands, grasslands, and agricultural lands
Cooper's hawk	<i>Accipiter cooperii</i>	CDFW WL	Riparian Woodlands
Swainson's Hawk	<i>Buteo swainsoni</i>	CT	Grasslands and agricultural lands
Burrowing owl	<i>Athene cunicularia</i>	CDFW SSC	Grasslands, agricultural land, and road embankments
Bank Swallow	<i>Riparia riparia</i>	CT	Low areas along rivers, streams
Tricolored Blackbird	<i>Agelaius tricolor</i>	CDFW SSC	Riparian and upland shrubland, and grass and marshland, Agricultural fields

FT= Federally Threatened

CT= California Threatened

CE= California Endangered

CDFW= California Department of Fish and Wildlife

SSC= Species of special concern

WL= Watch List

FP=Fully Protected

Depending on planting stage and crop, ag fields may support foraging of several special-status species although appropriate roosting and nesting sites are not present for most of these. For several of these species, their special-status designation refers to sites at which they roost and/or nest, but not in other phases of their life histories. Examination of the few large, within project, oak trees bore no evidence of rookeries typical of these species.

Agricultural fields have become important nesting habitats for the Tricolored Blackbird. Historically, this near-endemic California species occurred throughout the Central Valley and nested in freshwater marsh habitats dominated by cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.). They also nested to a lesser extent in riparian willows (*Salix* spp.) near marsh habitats. Loss of native wetlands has resulted in a shift in Tricolored Blackbird nesting habits to take advantage of alternate nesting substrate, especially fields of Triticale.

The Western Pond Turtle, although a highly aquatic species, uses upland sites for egg deposition. These sites may be as much as one half-mile or more from its usual aquatic habitats. The project lies adjacent to habitats occupied by the Western Pond Turtle and thus may result in direct impacts including injury or mortality of individuals and disruption of breeding activities.

The distribution of the Giant Garter Snake formerly included the project area. However, this species is absent from the area between the southern edge of the San Francisco Bay Delta and the northern edge (approximately) of Merced County. Therefore, and in spite of apparently suitable local habitats, this species is not expected to occur in the project area.

#### **4.6.2 Regulatory Setting**

##### ***Federal and State Regulations***

###### ***Federal Endangered Species Act***

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce, have joint authority to list a species as threatened or endangered (16 USC 1533[c]). The FESA is administered by both the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and the USFWS. NMFS is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as pacific salmon. The USFWS is accountable for all other federally listed plants and animals. Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present and determine whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

The Sacramento Fish and Wildlife Office maintains a list of “species of concern” that receive special attention from federal agencies during environmental review, although they are not otherwise protected under the ESA. Project-related impacts to such species would also be considered significant under CEQA Guidelines (Section 15380) and would require mitigation. Projects that would result in *take* of any federally-listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either section 7 (interagency consultation) or section 10(a) (incidental take permit) of ESA, depending on whether the federal government is involved in permitting or funding the project. The section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The section 10(a) process allows take of endangered species or their habitat in non-federal activities.

### *California Endangered Species Act*

The California Endangered Species Act (CESA) was enacted in 1984. Under the CESA, the California Fish and Wildlife Commission has the responsibility for maintaining a list of threatened and endangered species. The CDFW also maintains lists of species of special concern, impacts to which would be considered significant under CEQA Guidelines Section 15380 and could require mitigation. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present and determine whether the proposed project would have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project which may impact a candidate species. CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions.

### *Fish and Wildlife Code*

Birds of prey are protected in California under the California Fish and Wildlife Code section 3503.5, which states that it is unlawful to take, possess, or destroy any birds in the order 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 or any regulation adopted pursuant thereto. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact.

### *Migratory Bird Treaty Act*

The MBTA is enforced by the USFWS (16 USC Section 703-711). The original 1918 statute implemented the 1916 Convention between the United States and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the United States and Mexico, Japan, and the Soviet Union (now Russia). Specifically, the act includes the establishment of a federal prohibition to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for

transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird... or any part, nest, or egg of any such bird" unless such acts are permitted by regulations. The federal definition of take includes activities that involve harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or to attempt to engage in any such conduct. Birds covered by this act include waterfowl, shorebirds, raptors, songbirds and many other species.

#### **4.6.3 Environmental Effects**

##### ***No Action Alternative***

With this alternative, the area would remain unchanged from current conditions for the immediate future. However, without correcting the seepage and boils it is reasonable to assume that seepage would continue leading to risk of levee failure. Failure of the levee could result in potentially significant impacts to biological resources as there would potentially be habitat loss, and potential for toxic or hazardous waste to be carried into waterways.

##### ***Proposed Project***

##### ***Special Status Wildlife***

##### **Birds and Bats**

Implementation of the proposed project has a potential to result in direct and indirect impacts to several special-status birds and bats. Application of appropriate mitigation measures and/or best management practices, especially with respect to timing of the project, are available to minimize impacts to insignificant. Avoidance of active nests during avian breeding seasons, especially if pre-construction surveys determine the presence of Tricolored Blackbirds in adjacent croplands, or Burrowing Owls within the project area, could alone mitigate project impacts to insignificance.

##### **Western Pond Turtle**

Implementation of the proposed action has a potential to result in direct and indirect impacts to the Western Pond Turtle. Implementation of appropriate mitigation measures and/or best management practices, especially with respect to timing of the project, are available to minimize impacts to insignificant.

##### **Giant Garter Snake**

The Giant Garter Snake is not currently known from and there are no recent records of it near the project area. Thus, no impacts either to individuals of the species or to the species as a whole, direct or indirect, are expected.

### *Special Status Plants*

The proposed project location could support Lesser Salt Scale, although none were found during the initial nor follow up survey and none are anticipated to occur. No waterside work is anticipated and waterside vegetation would be fenced off from the construction activity. Prior to the start of any construction, a survey shall be conducted by a qualified biologist to determine the presence or absence of special status plants and if present, plants will be avoided. Therefore, any potential effect of the Lesser Salt Scale would be less than significant.

#### **4.6.4 Mitigation**

All construction personnel will participate in a worker environmental awareness program (WEAP) detailing the species which are likely to occur within the project, their habitat, and the protections afforded to them.

### *Special Status Wildlife*

#### Birds and Bats

The following measures would reduce potentially significant impacts to birds and bats to a less than significant level:

- A qualified biologist shall be on site to monitor construction
- A qualified biologist will conduct surveys identifying any active nests within .25 mile of the project site. If no active nests are found then no further mitigation will be required
- If active nests are found buffers will be established to minimize impacts and no project activities will occur within the buffer until a qualified biologist can confirm the nest is no longer active.

#### Western Pond Turtle

The following measures would reduce potentially significant impacts to the western pond turtle to less than significant level:

- A qualified biologist shall be on site to monitor construction in suitable habitat
- If a western pond turtle nest is identified a clearly marked buffer shall be established around the nest. No construction will occur within the buffer until a qualified biologist can confirm that the nest is no longer active.

### *Special Status Plants*

While the likelihood of encountering a special status plant is extremely low, the following mitigation measures would reduce potentially significant impacts to special status plants to a less than significant level:

- To the extent feasible, construction activities shall avoid habitats with the potential to support special status plants.

- Prior to construction activities, a qualified biologist will perform a focused survey identifying any special status plant species within the project area.
- If any special status plant species is found the location will be clearly identified (staking, flagging, or fencing), and population size of the species will be recorded. Plants will be monitored throughout construction to determine if the project has resulted in adverse effects, as determined by a qualified botanist.

## 4.7 Hydrology and Water Quality

This section presents the physical and regulatory setting for hydrology and water quality for the proposed project. The impact analysis considers the potential for the proposed project to result in excess surface runoff or flooding, exceed water quality standards, or interfere with groundwater recharge. An evaluation of the project impacts to hydrology and water quality as defined by the criteria outlined in CEQA is presented in Table 11.

### 4.7.1 Environmental Setting

#### *Hydrology*

The project area is located within the San Joaquin River Basin (Basin). The Basin covers 15,880 square miles, with its major river systems consisting of the San Joaquin River and its larger tributaries, the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno rivers (RWQCB, 2016).

Originating from the Sierra Nevada and flowing into the delta, the San Joaquin River spans approximately 330 miles. Snowmelt runoff generates the majority of the volume from the watershed. The river flows north west through the Central valley eventually joining the Sacramento River. This dual river system forms one of the largest estuaries within the United States.

#### *Water Quality*

The Central Valley Regional Water Quality Control Board (RWQCB) sets forth standards of water quality for the beneficial uses of San Joaquin River water supply. These standards benefit fish and wildlife use. The San Joaquin River watershed drains a large area that encompasses a wide variety of land uses including approximately 1,500 square miles of farmland, including lands adjacent to our project.

One of the major water quality problems within the San Joaquin River is that of depleted water flows, portions of the river will run dry during some years as more water is diverted to agricultural use. As well as drainage, runoff, and other pollutants associated with long-term agricultural irrigation and projection....

**Table 11: CEQA Checklist: Hydrology and Water Quality**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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 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"/>	<input checked="" 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 which would result in substantial on- or off-site erosion or siltation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 which would result in on- or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which 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 checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 (FIRM) or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	<input checked="" type="checkbox"/>
j) Result in inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## **4.7.2 Regulatory Setting**

### ***Federal and State Regulations***

#### ***Clean Water Act***

The CWA is contained in Volume 40 of the Code of Federal Regulations. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 301 prohibits the discharge of any pollutant into the Nation's waters without a permit, and Section 402 establishes the permit program.

The CWA requires that states maintain a listing of impaired water bodies that do not meet water quality standards and are not supporting beneficial uses. These waters are placed on the Section 303(d) List of Impaired Waterbodies. Placement on this list triggers development of a pollution control plan called a Total Maximum Daily Load (TMDL) for each water body and associated pollutant/stressor on the list.

States are required under section 303 of the CWA to adopt water quality standards for all surface waters of the United States. Where multiple beneficial uses exist, water quality standards must protect the most restrictive beneficial use. The State Water Resources Control Board (SWRCB) and the RWQCB are responsible for ensuring implementation and compliance with the provisions of the federal CWA. The RWQCB regulates all water bodies within its scope, but has special responsibility for riparian areas and wetlands, which have a high resource value, are vulnerable to filling, and are not systematically protected by other programs. The proposed project is within the jurisdiction of the Central Valley RWQCB, which is charged with the protection of the Sacramento and San Joaquin Rivers and their tributaries.

The USACE regulates “waters of the United States,” which are defined as inter and intra state waters and wetlands, as well as their tributaries, under the CWA. Section 404 of the CWA regulates activities that result in discharge of dredged or fill material into waters of the United States. The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State’s water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to nine regional boards. A request for certification or waiver is submitted to the regional board at the same time that an application is filed with the USACE. The regional board has 60 days to review the application and act on it. Because no USACE permit is valid under the CWA unless “certified” by the state, these boards may effectively veto or add conditions to any USACE permit.

Section 402(p) of the CWA establishes a framework for regulating stormwater discharges into surface waters by issuing National Pollutant Discharge Elimination System (NPDES) permits that establish pretreatment standards for discharged water. The RWQCB’s implement these permits at the state level, but USEPA may retain jurisdiction at its discretion. In accordance with NPDES regulations, the state requires that any construction activity affecting one acre or more attain coverage under a General

Construction Activity Stormwater Permit to minimize the potential effects of construction runoff on receiving water quality.

Permit applicants are also required to prepare and implement a SWPPP that specifies erosion and sediment control BMPs to reduce or eliminate construction related impacts on receiving water quality. The SWPPP must identify sources of sediments, describe and ensure implementation of BMP's, initiate a monitoring program to inspect the site before and after storm events, and ensure that equipment, materials, and workers are available for response to failures or emergencies. All dischargers must certify annually that construction activities are in compliance with the General Permit.

#### *Porter-Cologne Water Quality Control Act*

The Porter-Cologne Act is enforced by the SWRCB and the RWQCBs. The Porter-Cologne Act defines “waters of the state” as water bodies with boundaries within the state, including any surface or groundwater, whether fresh or saline. The intent of the act is to provide a comprehensive program for the protection of water quality and beneficial uses of water through the regulation of waste discharges. Waste discharges may include such substances as wastewater effluent and discharges of fill and dredged material to waters of the state.

#### *California Fish and Wildlife Code*

Under Sections 1600-1616 of the CDFW regulates activities that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake, substantially change the bed, channel, or bank of a river, stream, or lake, or use material from a streambed. In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank, or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain.

Any activity within a stream zone (which includes the riparian vegetation associated with perennial, intermittent, and ephemeral streams) or lake that might substantially divert, obstruct, or change the natural flow, or alter the bed or bank requires a notification package and fee on file with CDFW before project activities begin. The use of material from streams and lakes, in addition to the deposition or disposal of debris in locations where it could eventually end up in a lake, are also regulated under Section 1602 of the code. Lake and Streambed Alteration Agreements are required where project mitigation measures do not substantially reduce a project's effects. However, since the proposed action is a federal project, obtaining a Streambed Alteration Permit is not necessary.

#### *California Code of Regulations Section 3831(k)*

Title 23 of CCR Section 3831(k) requires an applicant to obtain a federal license or permit to conduct an activity which may result in discharge into navigable waters, and obtain a certification from the state that any such discharge will comply with the applicable provisions of the CWA Sections 301, 302, 303, 306, and 307.

## *California Wetlands Conservation Policy*

The California Wetlands Conservation Policy is a compilation of strategies to ensure a long-term net gain in quantity and quality of wetland acreage. The policy establishes a framework to reduce procedural complexity in the administration of state and federal wetland conservation programs. In addition, the policy encourages a partnership between landowners and state and federal agencies with incentive programs focusing on wetland conservation and restoration.

### ***Local Laws and Regulations***

#### *Stanislaus County General Plan*

The Stanislaus County General Plan guides development for the County with a 20-year planning horizon. The following goals/policies in the Stanislaus County General Plan, Conservation/Open Space Element would apply to the project:

**GOAL TWO:** Conserve water resources and protect water quality in the County.

Policy Five: Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

Policy Six: Preserve vegetation to protect waterways from bank erosion and siltation.

#### *City of Modesto Urban Area General Plan*

The City of Modesto Urban Area General Plan serves as a blueprint for future growth within the City. The Plan outlines policies that focus on a community vision (City of Modesto 2008). There are no policies in the Urban Area General Plan relating to hydrology and water quality that would apply to the project.

### **4.7.3 Environmental Effects**

#### ***No Action Alternative***

Under this alternative, no action would be taken to halt seepage within the levee at the proposed project sites and the risk of flooding and levee failure would continue. Should the levee fail, emergency measures could be of a nature that limits the ability for BMPs, site mitigation, and other measures that would minimize impacts on hydrology and water quality. Potential negative impacts such as increased solids and turbidity, flooding of surrounding agricultural areas, and given the location near the wastewater treatment plant, a potential of spreading bacteria, viruses, and disease. Other potential impacts related to water quality include the increase of pollutants into the river system including selenium, boron, and organophosphate pesticides.

#### ***Proposed Project***

All levee repair would be conducted on the land side of the levee. No materials would be purposely

placed within waters of the United States, and no changes to the existing floodway capacity are expected.

A survey conducted November 4, 2016 with a follow up survey conducted May 21, 2018 determined that no jurisdictional wetlands exist on the landside of the levee and there are no hydraulic connections with the San Joaquin River, therefore a section 404 permit and Water quality Certification are not required for the project.

Potential effects to hydrology and water quality from implementation of the proposed action would be short-term and temporary in nature.

#### **4.7.4 Mitigation**

While no significant adverse effects to groundwater or existing stormwater systems are anticipated, BMPs would be put into place for all project construction activities in order to avoid or minimize any potential effects during construction.

BMPs would include:

- Preparation of a hazardous materials management plan, spill control plan, and SWPPP prior to construction.
- Implement appropriate measures to prevent debris, soil, rock, or other material from entering the water.
- Use a water truck or other appropriate measures to control dust on haul roads, construction areas, and stockpiles.
- Properly dispose of oil or other liquids.
- Fuel and maintain vehicle in a specified area is designed to capture spills. This area cannot reformat[TL4]
- be near any ditch, stream, or other body of water or feature that may convey water to a nearby body of water.
- Inspect and maintain vehicles and equipment to prevent dripping of oil or other liquids.
- Train construction workers in stormwater pollution prevention practices.

### **4.8 Geomorphology**

Geomorphology is the scientific study of land forms and the processes that shape them. Fluvial geomorphology, the study of river channels and adjacent floodplains modified by river dynamics, is of particular relevance for the proposed action since it will occur within the river and floodplain corridor. Geomorphic processes relevant to the evaluation of the proposed action include channel bed and bank erosion, channel migration, sediment storage and recruitment. This section discusses potential geomorphic impacts related to the proposed project.

#### **4.8.1 Environmental Setting**

##### ***Regional Geology***

The San Joaquin Valley, overall, has a slight slope that causes drainage to the north, into the Sacramento-San Joaquin Delta. The topography of the Stanislaus County region is generally flat, with

very little local relief in the area of the proposed project. The valley is bounded on the east by the coastal range and to the west by the Sierra Nevada Foothills.

### ***Soils***

The soil classification system that is most recognized is the National Resources Conservation Services (NRCS) are Columbia and Temple.

The majority of this habitat occurs on Columbia soils that are considered hydric by NRCS (2016). Although the hay fields that were irrigated generally had hydric soils, similar to those described below for agricultural ditch habitat, hay field habitat left fallow that lacked hydric soil indicators.

The Columbia series consists of very deep, moderately well drained soils consisting of coarse loamy, mixed, superactive, nonacid, thermic Oxyaquic Xerofluvents formed in alluvium from mixed sources. These soils are on flood plains and natural levees and have slopes of 0 to 8 percent. (<https://soilseries.sc.egov.usda.gov>).

The Temple series consists of (minimal) Humic Gley soils developed from stratified moderately coarse and moderately fine textured predominantly granitic alluvium. They occur on nearly level to depressional recently deposited floodplains under moisture living grass and herbaceous vegetation. Characteristically the Temple soils have dark gray granular medium and moderately fine textured A1 horizons with moderate organic matter contents and mottled light olive gray moderately fine to fine textured B2 horizons. The A1 horizon is typically noncalcareous but lime content increases with depth to moderate or strong including some lime segregated into nodules.

An evaluation of the project impacts to geomorphology as defined by the criteria outlined in CEQA is presented in Table 12.

### ***Seismic Activity***

The California Geological Society (CGS) has mapped potential relative intensity of ground shaking as a result of anticipated future earthquakes. The shaking potential is calculated as the level of ground motion that has a two percent chance of being exceeded in 50 years, and is largely determined by surface geology. According to this map, the region that encompasses the proposed project is “distant from known, active faults and will experience lower levels of shaking less frequently” (Parish 2008).

Seismic ground shaking associated with major earthquakes can cause the collapse of, or structural damage, to man-made structures.

Strong earthquakes generated along a fault system generally create ground shaking, which attenuates (i.e., lessens) with distance from the epicenter. In general, the area affected by ground shaking will depend on the characteristics of the earthquake and location of the epicenter. Seismic conditions result in sheer, displacement, or fracture in the continuity of a rock formation as a result of shifting or dislodging along planes of weakness in the earth’s crust.

**Table 12: CEQA Checklist: Geomorphology**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) 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 checked="" type="checkbox"/>	<input 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 on- or off-site 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, as updated), 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 waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are several faults within and near Stanislaus County. In the western portion of the county, in the Diablo Range, the most recent fault movements have been along the Tesla-Ortigalita Fault (now known as the Ortigalita Fault), which the State of California Division of Mines and Geology has designated as an Alquist-Priolo Special Studies Zone. The 1,000-foot wide zone along the Tesla-Ortigalita Fault extends into Stanislaus County approximately seven miles and is located approximately 30 miles southwest of the project area. Approximately 25 miles northeast of the site, in

the extreme eastern portion of the county, the Bear Mountain and Melones Faults are believed to have been inactive for the past 150 million years.

Soil liquefaction occurs either as a result of an increase in pore-water pressures due to an earthquake or a human induced event, or in low lying areas that are comprised of unconsolidated, saturated, clay-free sands and silts. The phenomenon of liquefaction causes granular materials to behave in a liquid state. The liquefaction potential of soil is dependent upon the level and duration of seismic ground motions, the type and consistency of the soils, and the depth of groundwater. Soil conditions conducive to liquefaction are those with loose-packed grain structures capable of progressive rearrangement during repeated cycles of seismic loading.

Extreme ground shaking can cause saturated sediments to liquefy and lose supporting capacity as water from voids within the sediment is forced towards the ground surface. Although no specific liquefaction hazards have been identified in Stanislaus County, the potential exists in areas where unconsolidated sediments are very wet and where a high-water table underlies these sediments. Man-made levees along canals in Stanislaus County are susceptible to liquefaction due to the use of artificial fill and the presence of nearby water.

#### **4.8.2 Regulatory Setting**

##### ***Federal and State Regulations***

###### ***California Building Code***

The California Building Code (CBC), which is codified in CCR Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability.

The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The CBC is based on the International Building Code. The 2007 CBC is based on the 2006 International Building Code published by the International Code Conference. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small

seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC. Compliance with the CBC would be necessary for the new Harding Drain Bypass Pipeline pump station and possibly for certain grading activities on the project site.

### ***Local Laws and Regulations***

#### ***Stanislaus County General Plan***

The Stanislaus County General Plan guides development for the County with a 20-year planning horizon. The following policies outlined in the Agricultural and Safety elements of the County's General Plan would apply to the project:

Policy Three Point Six– The County shall encourage the conservation of soil resources (Agriculture Element)

Policy Three—Development should not be allowed in areas that are particularly susceptible to seismic hazard (Safety Element)

### **4.8.3 Environmental Effects**

#### ***No Action Alternative***

Under the No Action alternative, no activities would be conducted to halt seepage and protect the levee at the project site. Seepage would increase the risk of levee failure and subsequent flooding in the surrounding areas. Eventually, emergency repair measures would likely need to be implemented to protect the levee system from failing.

#### ***Proposed Project***

The proposed project would not increase hazards to levels significantly above current conditions and will provide increased level of safety. The Project would not affect any increase in seismic or soils related hazards, as there are no fault lines within the project area.

All repairs would be required to comply with standard engineering practices for levee design. All borrow materials imported to the site would comply with standards for levee material.

As construction of the five sites would conclude prior to the rainy season the risk of water erosion is less than significant. Disturbing the topsoil during construction could increase the potential for wind erosion within the project area, therefore, the contractor would be required to implement a Stormwater pollution prevention plan (SWPPP) and BMPs. The SWPPP will include an erosion control and restoration plan, a water quality monitoring plan, a hazardous materials management plan, and post construction BMPs. Implementation of these measures would reduce the potential effects of the Project on soil erosion or the loss of topsoil to a less-than-significant level.



#### **4.8.4 Mitigation**

Mitigation included would consist of preparation and implementation of 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.

Implementation of mitigation which includes the SWPPP and associated BMPs would reduce the potential for erosion and sedimentation as a result of the proposed Project construction activities to less than significant. Further, the proposed Project would improve the stability of the levee by further reducing seepage and the potential for seepage-related failures.

### **4.9 Air Quality**

This section seeks to discuss and explore the potential that the project will violate air quality standards by creating or contributing to a condition of increased local concentration of criteria pollutants (ground level ozone, carbon monoxide, particulates) that can impact sensitive receptors. An evaluation of the project impacts to air quality as defined by the criteria outlined in CEQA is presented in Table 13.

#### **4.9.1 Environmental Setting**

The proposed project, located in Stanislaus county falls within the San Joaquin Valley Air Pollution Control District (SJVAPCD). As the San Joaquin-Sacramento airshed ranks alongside Houston and Los Angeles as having some of the worst air quality in the country, the SJVAPCD was established as a regulatory body made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin (SJVAB) portion of Kern. It is led by a governing board made up of representatives from the Board of Supervisors from all 8 counties, reformat

one health and science member appointed by the Governor, one physician appointed by the governor and five Valley city representatives. The board seeks to improve "the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies."

#### ***Attainment Status***

Areas are classified as either "attainment", "nonattainment", "unclassified", or "maintenance areas" with respect to state and federal air quality standards. These classifications are made by comparing actual monitored air pollutant concentrations to the state and federal standards (Table 14). If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment of the standard for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. Areas that were previously designated as nonattainment areas but have recently met the standard are called maintenance areas.

**Table 13: CEQA Checklist: Air Quality**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

Currently, the SJVAB is designated as severe nonattainment for state ozone one-hour, serious nonattainment for federal and nonattainment for state ozone eight-hour, nonattainment for state particulate matter (PM<sub>10</sub>), and nonattainment for federal and state fine particulate matter (PM<sub>2.5</sub>) standards. Ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> violations within the SJVAB are primarily due to motor vehicles and agricultural activities, combined with the area's geography, weather, and temperatures. The surrounding mountains, stagnant weather patterns, hot summers, and foggy winters create optimal conditions for creating and trapping air pollution.

### ***Sensitive Receptors***

Some land uses are considered more sensitive to air pollution than others. SJVAPCD defines sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include convalescent facilities, hospitals, schools, residential areas, and places of worship (SJVAPCD 2002).

Table 14: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM10) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM2.5) <sup>9</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

Parts Per Million (ppm)

Microgram Per Cubic Meter (µg/m<sup>3</sup>)

## ***Significance Criteria***

The SJVAPCD has established thresholds of significance for construction impacts, project operations and cumulative impacts. For construction impacts the SJVAPCD has identified PM<sub>10</sub> as the pollutant of greatest concern, as the entire SJVAB is a nonattainment area for PM<sub>10</sub> state standards and any addition to the current PM<sub>10</sub> problem could be considered significant. However, rather than require quantification of construction-related emissions, the SJVAPCD has adopted a set of PM<sub>10</sub> Fugitive Dust Rules collectively called Regulation VIII. The SJVAPCD determines compliance with Regulation VIII for all sites and implements other control measures as appropriate, depending on the size and location of the project site that would reduce PM<sub>10</sub> impacts to a level considered less-than-significant (SJVAPCD 2002).

The SJVAPCD recognizes that construction equipment also emits carbon monoxide and ozone precursor emissions. However, the SJVAPCD has determined that these emissions may cause a significant air quality impact only in the cases of very large or very intense construction projects.

The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) also includes significance criteria for evaluating operational-phase emissions from direct and indirect sources associated with a project. Indirect sources include motor vehicle traffic associated with the proposed project and do not include stationary sources covered under permit with the SJVAPCD. SJVAPCD has defined a project will have a significant effect on air quality if operation-related emissions from projects within the SJVAB exceed:

- 10 tons/year of reactive organic gas (ROG)
- 10 tons/year of Nitrogen Oxide (NO<sub>x</sub>)
- 15 tons/year of PM<sub>10</sub>
- 15 tons/year of PM<sub>2.5</sub>

### **4.9.2 Regulatory Setting**

#### ***Federal and State Laws Regulations***

##### ***Clean Air Act***

The Clean Air Act (CAA) governs air quality in the United States and is administered by the Environmental Protection Agency (EPA). The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

The EPA also has jurisdiction over emission sources outside of state waters. It also establishes various emissions standards for vehicles sold in states other than California. As part of its enforcement responsibilities, the EPA requires each state with non-attainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

## *California Clean Air Act*

The California Clean Air Act (CCAA) requires nonattainment areas to achieve and maintain the health-based State Ambient Air Quality Standards by the earliest practicable date. The California Air Resources Board (CARB) is responsible for ensuring implementation of the CCAA, meeting state requirements of the federal CAA, and establishing the California Ambient Air Quality Standards (CAAQS). It is also responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications.

## ***Local Laws and Regulations***

### *San Joaquin Valley Air Pollution Control District*

The SJVAPCD includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings and Tulare counties, and the valley portion of Kern County. Current ambient concentrations of criteria pollutants are regulated by both national and state air quality standards, or the National Ambient Air Quality Standards (federal air quality standards) and the California Ambient Air Quality Standards (state air quality standards).

SJVAPCD Rule 8011, General Requirements–Fugitive Dust Emission Sources Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of the following control measures for fugitive dust emission sources (not all pertain to this project):

- All disturbed areas, including storage piles, which are not being actively used for construction purposes, will be effectively stabilized for dust emissions using water or a chemical stabilizer/suppressant, or covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and offsite unpaved access roads will be effectively stabilized for dust emissions using water or a chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities will be effectively controlled of fugitive dust emissions by utilizing an application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building will be wetted during demolition.
- All materials transported off site will be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container will be maintained.
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, piles will be effectively stabilized to prevent fugitive dust emissions utilizing

sufficient water or a chemical stabilizer/suppressant.

- Within urban areas, track out will be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- Any site with 150 or more vehicle trips per day will prevent carryout and track out.

### *Stanislaus County General Plan*

The Stanislaus County General Plan has the following applicable air quality practices:

Policy Eighteen: The County will promote effective communication, cooperation and coordination among agencies involved in developing and operating local and regional air quality programs.

Implementation Measure 1: Refer discretionary projects under CEQA review to the SJVAPCD, neighboring jurisdictions and other affected agencies for review and comment.

Implementation Measure 2: Work with other agencies in the San Joaquin Valley to establish coordinated air quality programs and implementation measures.

Policy Nineteen: The County will strive to accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects.

Implementation Measure 1: Require all development proposals, where appropriate, to include reasonable air quality mitigation measures.

Implementation Measure 2: Minimize case-by-case analysis of air quality impacts through the use of standard criteria for determining significant environmental effects, a uniform method of calculating project emissions.

### *City of Modesto General Plan*

The City of Modesto General Plan has the following applicable air quality policies:

Air Quality Policies (h): The City of Modesto shall implement measures to reduce emissions associated with future development through the CEQA review process.

Air Quality Policies (i): To be consistent with the SJVAPCD's Air Quality Guidelines for General Plans, the City of Modesto should consult with the SJVAPCD during CEQA review for discretionary projects with the potential for causing adverse air quality impacts.

Air Quality Policies (m): The City of Modesto should implement measures to reduce the temporary, yet potentially significant, local air quality impacts from construction activities.

Air Quality Policies (hh): The City of Modesto should work with the SJVAPCD to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible in accordance with the requirements of SJVAPCD Regulation VIII. Regulation VIII was adopted to reduce the amount of particulate matter suspended in the atmosphere as a result of emissions generated from anthropogenic (man-made) fugitive dust sources.

Air Quality Policies (jj): The City of Modesto should reduce PM10 emissions from City of Modesto–maintained roads to the maximum extent feasible.

#### **4.9.3 Environmental Effects**

##### ***No Action Alternative***

Under this alternative, no repairs would be made, eliminating any new emissions of criteria air pollutants to the project area. However, this alternative is associated with the greatest possibility of levee failure. Subsequent emissions associated with repair may have had a significant impact on air quality.

##### ***Proposed Project***

The project site is subject to the jurisdiction of the SJVAPCD. The proposed project would be consistent with current land use designations of the Stanislaus County General Plan and would not affect or be in conflict with or obstruct implementation of the applicable air quality plan.

The Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Further, construction equipment, on-road heavy-duty trucks, and construction worker vehicles would also generate criteria air pollution emissions. Emissions from construction related trips would fall well below the Small Project Analysis Level (SPAL) criteria for significance based on number of trips per day.

The contractor would prepare and implement a SWPPP and construction BMPs as described in Hydrology and Water Quality sections. Implementation of the SWPPP and BMPs would help to reduce impacts from dust-generating activities. Therefore, implementation of mitigation measures, including SWPPP and BMPs, make the Project's effects on air quality standards less than significant.

#### **4.9.4 Mitigation**

Implementation of BMPs listed below would ensure the project emissions would remain at less-than-significant levels:

- Maintain properly functioning emission control devices on all vehicles and equipment.
- During construction, implement all appropriate dust control measures, such as tarps or covers on dirt piles, in a timely and effective manner.
- Periodically water all construction areas having vehicle traffic, including unpaved areas, to reduce generation of dust. Application of water would not be excessive or result in runoff into storm drains.
- Suspend all grading, earth moving, or excavation activities when winds exceed 20 miles per hour.
- Water or cover all material transported offsite to prevent generation of dust.
- Sweep paved streets adjacent to construction sites, as necessary, at the end of each day to remove excessive accumulations of soil or dust.
- Cover all trucks hauling dirt, sand, soil, or other loose material, 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.

## **4.10 Traffic and Transportation**

The traffic impacts associated with repair of the 5 repair sites will be limited to the construction phase of the project, as there will not be any permanent changes to roadways in the area of the sites, and the repairs will not be associated with any operational traffic. This analysis describes the potential haul routes that would be used to transport construction materials and the potential for project related traffic to exceed the capacity of these thoroughfares. An evaluation of the project impacts to transportation as defined by the criteria outlined in CEQA is presented in Table 15.

### **4.10.1 Environmental Setting**

The proposed project area is located in central Stanislaus County just northeast of the city of Patterson. Access to each repair site is gained via the City of Modesto Jennings Wastewater Treatment Facility.

The area road system generally consists of rural two-lane roadways, the capacity of which is governed by such varying factors as alignment, shoulder and travel way width, passing sight distance, and the percentage of trucks, agricultural equipment, and/or recreational vehicles using the routes. Major highways near the project site include Interstate 5, Highways 99, 132, and 165. Major streets that will likely serve as transportation routes include West Main Street and Jennings Road, with access to repair sites starting at levee mile 4.8 crossing under West Main Street.

### **4.10.2 Regulatory Setting**

#### ***Federal Regulations***

##### *Federal Highway Administration Manual on Uniform Traffic Control Devices*

The Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) is a compilation of national standards for all traffic control devices, including road markings, highway signs, and traffic signals. This document, which has been administered by FHWA since 1971, is updated periodically to accommodate the nation's evolving transportation needs and addresses new safety technologies, traffic control tools and traffic management techniques. The most current version of the MUTCD is dated 2009 and was published in the Federal Register (FR) on June 13, 2012 (FHWA, 2014).

##### *Caltrans Transportation Management Plan Guidelines*

Caltrans Transportation Management Plan Guidelines (2009) outlines strategies and guidelines that are needed to minimize traffic congestion during road work activities that are planned along existing Caltrans facilities. The guidelines established in this document identify processes, roles, and responsibilities for all planned construction, maintenance, and



**Table 15: CEQA Checklist: Transportation**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

permit activities. Incorporation of these strategies in project construction documents and implementation of the strategies are expected to help reduce congestion and manage traffic impacts near work areas.

### ***Local Laws and Regulation***

#### ***Stanislaus County General Plan***

The Circulation Element of the Stanislaus County General Plan (County of Stanislaus 1994) contains the following relevant policies and implementation measures:

**GOAL ONE:** [HM5] Encourage the protection and preservation of natural and scenic areas throughout the County.

Policy Two: Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion.

Implementation Measure 1: The County shall maintain Level of Service (LOS) C or better for all County roadways and intersections, except, within the sphere of influence of a city that has adopted a lower level of service standard, the City standard shall apply.

Implementation Measure 7: Within the spheres of influence of any city, roadway improvements, dedications, building setbacks, and road reservations shall meet the development standards of the city consistent with the Spheres of Influence Policy in the Land Use Element of the General Plan, except in those areas subject to an individual city/county agreement.

Implementation Measure 10: Traffic control devices (e.g., traffic signals), traffic calming, and other transportation system management techniques shall be utilized to control the flow of traffic, improve traffic safety, and minimize delays.

Policy Five: Transportation requirements of commercial and industrial development shall be considered in all planning, design, construction, and improvements.

**GOAL TWO:** [HM6] Provide a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes.

#### **4.10.3 Environmental Effects**

##### ***No Action Alternative***

With this alternative no work would be conducted therefore eliminating any additional traffic to the project area. However, seepage would continue, increasing the risk of levee failure and subsequent flooding in the surrounding areas. Eventually, emergency repair measures would likely need to be implemented to protect the levee system from failing.

##### ***Proposed Project***

The proposed project may temporarily increase traffic due to construction needs. Operation and maintenance of the project would not require any additional vehicle trips. Maintenance and monitoring of the repair sites would be consistent with the existing maintenance and monitoring schedule for levees on the project site. The proposed project would not result in any new or different land uses or population increases. Because the increased traffic due to construction would be temporary and there would be no increased traffic due to maintenance of the levee, with the incorporation of mitigation measures, the effect by the Project on traffic would be less than significant.

#### 4.10.4 Mitigation

The construction contractor shall prepare a traffic management plan to be implemented during construction. The traffic control plan shall include the intended haul route, location of signage, location of flaggers, approved permits, documentation of coordination with local and state agencies, and the location of potential traffic delays to vehicle and pedestrian traffic.

In addition, the following will also be ensured:

- Construction vehicles will not block any roadways
- Access for emergency vehicles will be provided at all times
- Haul routes will avoid schools, parks, and high pedestrian use areas, when possible
- Obey all speed limits, traffic laws, and transportation regulations during construction
- Use signs and flagmen, as needed, to alert motorists, bicyclists, and pedestrians to avoid conflict with construction vehicles or equipment

#### 4.11 Noise

This section includes a discussion of the existing noise environment, a summary of regulations related to noise issues, and an analysis of the potential impacts of the proposed project.

Noise impacts are analyzed on the basis of *sound*. Sound is a vibratory disturbance, 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. For the purposes of this analysis, *noise* is a sound that is loud, unpleasant, unexpected, or otherwise undesirable.

Several measurements are used to quantify sound. Measurements used in this discussion are briefly defined below:

**Decibel (dB):** A unitless measure of sound that describes the logarithmic ratio of a measured sound pressure level to a reference sound pressure level of 20 micropascals.

**A-Weighted Decibel (dBA):** An overall frequency-weighted sound level that approximates the frequency response of the human ear.

**Maximum Noise Level ( $L_{\max}$ ):** The maximum instantaneous noise level during a specific period of time. The  $L_{\max}$  may also be referred to as the “peak (noise) level.”

**Equivalent Noise Level ( $L_{\text{eq}}$ ):** The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the  $L_{\text{eq}}$ .

**Day-Night Noise Level ( $L_{\text{dn}}$ ):** The 24-hour  $L_{\text{eq}}$  with a 10 dBA “penalty” for the noise-sensitive hours between 10 p.m. and 6 a.m. The  $L_{\text{dn}}$  attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

Community Noise Equivalent Level (CNEL): The CNEL is similar to the  $L_{dn}$  described above, but with an additional 4.77 dBA “penalty” for the noise-sensitive hours between 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the CNEL is typically approximately 0.5 dBA higher than the  $L_{dn}$ .

Single Event Noise Level (SEL): The SEL describes a receiver’s cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration (0.5 seconds) and involves a change in sound pressure above some reference value (approximately 40 dB).

Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of six dBA/DD (doubling of distance). As sound (noise) propagates from the source to the receptor, the attenuation is dependent upon such factors as surface characteristics, atmospheric conditions, and the presence of physical barriers. From a line source (such as a road) sound travels uniformly outward in a cylindrical pattern with an attenuation rate of three dBA/DD. Surface characteristics between the source and receptor may result in additional sound absorption and/or reflection. An evaluation of the project impacts regarding noise as defined by the criteria outlined in CEQA is presented in Table 16.

#### **4.11.1 Environmental Setting**

The existing noise levels on the repair sites have primarily been characterized based on the relative intensity of activity in the surrounding areas including noise generated by agricultural equipment, shooting range, noise generated by the wastewater treatment plant, as well as from vehicle traffic. These noise levels are all consistent with the current agricultural and public facility uses in the project area.

#### **4.11.2 Regulatory Setting**

##### ***Federal and State Laws and Regulations***

###### *Code of Federal Regulations*

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under part 205 subpart B of the CFR. The federal truck pass-by noise standard is 80 dB at 15 meters from the vehicle pathway center line.

###### *California Code of Regulations*

The state of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanctions of vehicles operators by state and local law enforcement officials.

**Table 16: CEQA Checklist: Noise**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Expose persons to or generate excessive ground borne vibration or ground borne 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) Where located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Where located within the vicinity of a private airstrip, would the project 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"/>

### *California Health and Safety Code*

The Noise Control Act, Division 28 of the CHSC, is based upon the understanding that all Californians are entitled to a peaceful and quiet environment, free from the intrusion of noise which may be hazardous to their health or welfare. The act established an office to develop criteria and otherwise aid local agencies in preparing noise elements (State of California 1973).

## ***Local Laws and Regulations***

### ***Stanislaus County General Plan***

Goals, policies, and implementation measures in the Stanislaus County Noise Element (Stanislaus County 2014) focus on:

- Preventing the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources to protect the economic base of the County; and
- Protecting the citizens of Stanislaus County from the harmful effects of exposure to excessive noise.

The Stanislaus County Code, Chapter 10.46 Regulation of Nuisance Noise, was developed to protect citizens from loud and raucous noises from any and all sources. Exemptions are provided for activities on or in publicly owned property and facilities, or by public employees while in the authorized discharge of their responsibilities, provided that such activities have been authorized by the owner of such property or facilities or its agent or by the employing authority (Stanislaus County 2014). The Stanislaus County Code also provides noise exemptions to public utilities for construction and maintenance activities under Chapter 10.46.080 (J), which the proposed project would fall under.

#### **4.11.3 Environmental Effects**

##### ***No Action Alternative***

The No Action alternative would not affect ambient sound levels on the levee or conflict with any noise ordinance, plan, or regulation. The current seepage processes would continue, and it is possible that the existing levee could be degraded to the point that pre or post-failure emergency repairs would be warranted. Noise levels under such emergency repairs would not be constrained to normal construction hours, which would result in greater noise disturbance than under more controlled circumstances.

##### ***Proposed Project***

Trucking routes would be designed to avoid residential areas and would occur primarily on roadways already used for trucking. The equipment required to complete the proposed project including; bulldozers, heavy trucks, loaders, excavators, and backhoes, generally generate peak noise levels around 80 dB at a reference distance of 50 feet. Noise produced by these activities would be reduced over distance at an average rate of about six dB/DD. It is possible that construction activities could expose persons nearby to noise levels in excess of established local standards, and result in increases in ambient noise levels or vibration above those noise levels existing in the vicinity. However, given that noise and vibration would be limited to daytime hours and would not subject residents to prolonged noise exposure above 55 to 65 dB (occasionally peaking at 65 dB) or severe noise levels above 80 dB, the proposed action would not significantly impact established communities. Therefore, traffic-related noise would be minimal.

Upon project completion the proposed project would not contribute to the community noise level and the noise environment in the vicinity would be restored to pre-construction levels.

#### **4.11.4 Mitigation**

To reduce potential noise-related effects on the area surrounding the project, the contractor shall, to the extent feasible, use newer construction equipment or retrofit older equipment to make it as unobtrusive as possible (i.e. adding mufflers on engines). In addition, construction timing or sequencing shall be adjusted to avoid sensitive times of the day, and noise producing operations shall be combined to occur in the same time period. Monday through Saturday, construction activities (including equipment warm-up) shall be limited to daylight hours, but not earlier than 7:00 a.m. and not later than 6:00 p.m. On Sunday, construction timing will be similarly limited to daylight hours and between 9:00 a.m. and 6:00 p.m. Vehicle trips related to the project may occur both one hour prior to and one hour after the established construction times.

### **4.12 Hazards and Hazardous Materials**

A hazardous material is a substance with physical or chemical properties that could pose a current or future risk to human health or ecological receptors when improperly handled, disposed of, or otherwise released into the environment. Hazardous materials are grouped into the following four categories based on their properties: toxic (causes adverse effects to human or wildlife health); ignitable (has the ability to burn); corrosive (causes severe skin burns or material degradation); and reactive (causes explosions or can generate toxic gases). A hazardous waste is any hazardous material that is discarded, abandoned, or will be recycled or disposed in accordance with regulatory guidance. With improper handling or by unforeseen accidents, hazardous materials and wastes may be released into the environment, resulting in health hazards to workers, the public, or the environment. The releases may occur directly to soil (which may then percolate to groundwater) or into the air in the form of vapors, fumes or fugitive dust. An evaluation of the project impacts regarding noise as defined by the criteria outlined in CEQA is presented in Table 17.

#### **4.12.1 Environmental Setting**

The levee systems are used as floodwater protection zones. Typical sources of contamination along the levee include trash deposited onsite (such as leaking refrigerant from kitchen appliances), contaminated sediment transported in the waterway and deposited onsite, and pesticides commonly used for weed control along the levee. The project area is surrounded by agricultural, residential, and commercial uses. These lands may use and/or contain hazardous substance such as petroleum products and pesticides. In addition, underground storage tanks may be in the vicinity of the repair sites.

The State Department of Toxic Substances (DTSC) and the State Water Resources Control Board have online databases (EnviroStor and GeoTracker respectively) that were searched for known contamination sites within the proposed project area.

**Table 17: CEQA Checklist: Hazardous, Toxic, and Radioactive Waste**

Criteria	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
<i>Would the project:</i>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle 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 which 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) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project 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) For a project within the vicinity of a private airstrip, would the project 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



The Envirostor database identifies, “sites with known or potential contamination, and sites where DTSC’s environmental oversight or review has been requested or required” (DTSC, Cleanup Sites). Similarly, GeoTracker is the Water Boards tracking system for, “sites that impact or have the potential to impact water quality as well as site cleanup records within the state of California” (State Water Resources Control Board).

A search of these two databases on May 7, 2018, did not result in finding any open known hazards within the project area. The two closest closed sites are:

***Proposed Special Education and Alternative Education School Site (Site ID 60000939)***

Located approximately 2 miles west of the project area, the proposed site included construction of a Special Education and Alternative Education School on property formerly used for farming. Project included removal of pesticide contaminated soil from previous farming activities. As of September 12, 2011, DTSC approved the Removal Action Completion Report and certified the site. All site restoration activities have been completed and construction of the facilities is complete.

Due to the distance from the project area as well as cleanup activities, this site is not likely to affect the proposed project.

***Bombing Target #8 Crow’s Landing (Site ID 80001163)***

Located approximately 3 miles east of proposed project. However, based on letters between DTSC and the USACE, the location is incorrect and is located west of I-5 and more than 5 miles from the project area, and no further action is needed as of July 20, 2010. However, while Envirostor shows the site as no further action needed, Geotracker shows the site as open since 2008 after a release from an underground storage tank. Per Geotracker, corrective action has not yet been taken and it is unclear if this is the location of the site, or if the site is located west of I-5. However, due to the distance of both sites from the project area, neither location is likely to affect the proposed project.

The closest school to the proposed project area is the West Valley Learning Center located at 610 N Hartley Street in Patterson. The school is approximately 2 ½ miles west/southwest of the project area and is not anticipated to be impacted by any activities as a result of the project.

The project area is not located within the boundary of an airport land use plan, nor is it within two miles of a public airport, public use airport or within the vicinity of a private airstrip. The closest airport is the National Aeronautics and Space Administration (NASA) Crows Landing Airport and Test Facility located in Crows Landing. The airport is approximately five miles to the southwest of the project area.

Stanislaus County has adopted and implemented an Emergency Operations Plan (EOP). The EOP addresses the planned response to emergency situations in or affecting the County and serves as the basis for response and recovery efforts/activities within the County. The proposed project area is located within the jurisdiction of Stanislaus’s EOP. Implementation of the project would not impair the EOP.

According to the CalFire Fire Hazard Severity Zones (FHSZ) maps, the project area is outside the State Responsibility Area, however, portions of the project are located within the Local Responsibility Area (LRA) and three of the proposed repair areas are rated as an LRA Moderate FHSZ.

#### **4.12.2 Regulatory Setting**

##### ***Federal and State Regulations***

###### *California Code of Regulations*

Title 8 of the CCR addresses the control of hazardous substances. Section 5189 of Title 8 sets forth the Process Safety Management (PSM) standard for processes involving a highly hazardous chemical in excess of certain quantities. PSM requires a process hazard analysis, current safety information, an employee participation program, written operating procedures, a mechanical integrity program, and other procedures.

Title 8 of the CCR also contains the California Occupational Safety and Health Administration regulations for worker safety, including the storage and handling of hazardous materials. It identifies protective equipment for workers who handle hazardous materials and establishes requirements for general facility safety.

###### *California Government Code*

Section 65962.5 of the California Government Code (CGC) requires that DTSC compile and update the Cortese List of hazardous waste facilities subject to corrective action and lands designated as hazardous waste properties or border zone properties (CalEPA 2006).

###### *Clean Air Act*

The Clean Air Act authorizes the EPA to set National Ambient Air Quality Standards, which establish acceptable concentrations of six criteria pollutants: O<sub>3</sub>, CO, sulfur dioxide, lead, nitrogen dioxide and fine particulate matter (PM<sub>2.5</sub>). Refer to Section 5.10 for a complete discussion.

###### *Clean Water Act*

The CWA was designed to eliminate the release of high volumes of toxic substances to the nation's water bodies. For a complete discussion of the act, please refer to Section 5.7.

###### *Code of Federal Regulations*

Title 40 of the CFR Part 302 implements the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous materials release requirements and identifies hazardous substances, reportable quantities (RQs), and notification requirements. The National Response Center must be notified of an accidental release of a hazardous substance in excess of a RQ. CERCLA-listed hazardous substances and RQs are listed in 40 CFR Part 302.4.

The Emergency Planning and Community Right-to-Know Act (EPCRA) planning requirements, a list of Extremely Hazardous Substances, threshold planning quantities, and emergency response planning requirements are codified in 40 CFR Part 355. The Chemical Accident Prevention Provisions (40 CFR Part 68), identifies regulated substances, threshold quantities (TQs), and requirements for preventing accidental releases of these substances. A Risk Management Plan is required for any processes involving regulated substances in excess of their respective TQ.

The generation, transportation, treatment, storage and disposal of hazardous waste through a comprehensive management system is governed under 40 CFR Parts 260–272. These regulations also list the characteristics of hazardous wastes, including ignitability, corrosivity, reactivity and toxicity. Subtitle D of these parts grants authority for regulating nonhazardous waste to the state.

#### *Comprehensive Environmental Response, Compensation, and Liability Act*

Hazardous substances are governed in part by CERCLA (1980). CERCLA created a “superfund” and provides for the clean-up and remediation of closed and abandoned hazardous waste sites.

#### *Hazardous Materials Release Response and Inventory Program*

The Hazardous Materials Release Response and Inventory Program (CHSC Sections 25500–25520) establishes business and area plans for the handling and release of hazardous materials. Basic information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of in the state, which could be accidentally released into the environment, is tracked by the local Certified Unified Program Agency (CUPA) within each region for the use and awareness of hazardous materials responders, firefighters, emergency care providers, regulatory agencies and other interested persons. The CUPA for the project area is the Stanislaus County Environmental Resources Hazardous Materials Division (SCERHMD).

#### *The Porter-Cologne Water Quality Control Act*

The Porter-Cologne Water Quality Control Act (Water Code, §§ 13000-14958) regulates wastes that have the potential to cause loss of a beneficial use of California’s waters. This act requires the RWQCB to establish reportable quantities of hazardous wastes and hazardous materials based on their potential to degrade the waters of the state. Any discharge of hazardous materials that is inconsistent with the discharge requirements of the facility must be reported to the appropriate authorities.

#### *Resource Conservation and Recovery Act*

The handling, storage, and disposal of both hazardous and non-hazardous wastes are addressed through the Resource Conservation and Recovery Act (42 USC 6901 et seq.) and its implementing regulations (40 CFR Part 260 et seq.).

### *Safe Drinking Water and Toxic Enforcement Act*

The Safe Drinking Water and Toxic Enforcement Act (Proposition 65), was enacted as a ballot initiative in November 1986. The proposition was intended by its authors to protect California citizens and the state's drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals. The act requires the Governor to publish, at least annually, a list of chemicals known to the state to cause cancer or reproductive toxicity.

### *Superfund Amendments and Reauthorization Act*

Title III of the Superfund Amendments and Reauthorization Act of 1986 establishes reporting requirements for businesses and facilities that store, handle, or produce significant quantities of hazardous substances. The act also requires states to establish a system to inform federal, state, and local authorities of any such substances stored or handled by the regulated community.

### *Toxic Release Contingency Plan*

The Toxic Release Contingency Plan (CGC Section 8574.16) requires that regional and local planning agencies incorporate within their planning the state's effort to respond to emergency toxic releases and ensure the effective and efficient use of regional and local resources in the areas of traffic and crowd control, firefighting, hazardous materials response and cleanup, radio and communications control, and provision of medical emergency services.

### ***Local Laws and Regulations***

#### *Stanislaus County Code Title 9 – Health & Safety Code*

Stanislaus County Environmental Resources Department administers a comprehensive environmental protection program. It provides guidance for remediation of contaminated sites and for siting and management of facilities that store, collect, treat, dispose or transfer of solid and hazardous waste.

#### **4.12.3 Environmental Effects**

##### ***No Action Alternative***

Under the No Action alternative, the levee would not undergo construction repairs and would remain in its current condition. This alternative does not threaten the release of known or unknown hazardous wastes or materials as a result of construction, nor would it conflict with any hazardous waste or material policy, plan, or regulation. Implementation would result in no impact to hazards and hazardous materials.

### ***Proposed Project***

Construction levee repairs will involve the use of heavy equipment for grading and excavation activities at the site. Handling and transport of these materials could result in the exposure of workers to hazardous materials. The construction equipment used for this project will use diesel fuel and oil within the project footprint and construction laydown area. However, these materials will be used, stored and disposed of according to standard protocols for handling of hazardous materials. All personnel involved in use of hazardous materials will be trained in emergency response and spill containment, and safe handling and storage of hazardous materials as required by implementation of the mitigation measures. In addition, the construction contractor would be required to implement a SWPPP and BMPs that would minimize the potential for construction-related spills of hazardous materials and wastes and would provide for appropriate and immediate cleanup of spills, if any were to occur. Preparation of a SWPPP is required (see “Hydrology and Water Quality” section). With implementation of mitigation measures any impacts related to use of hazardous materials during construction would be mitigated to less than significant.

Once construction is complete periodic application of herbicides for weed control will occur during operations. This will be conducted by trained and licensed pesticide applicators and will be applied at required application amounts. This impact is considered to be less than significant and requires no additional mitigation.

While site construction and operation are not expected to increase the risk of wildland fires, project areas JEN5.7, JEN6.1, and JEN6.6 are located within an area rated as an LRA Moderate FHSZ. The construction contractor will be required to have a fire control and protection plan in place during construction. This risk would further be minimized by the removal of vegetation prior to construction. Construction of levee repairs is not anticipated to result in wildlands fires. This impact is considered to be less than significant and requires no additional mitigation.

#### **4.12.4 Mitigation**

##### ***Hazardous Materials Training Program***

Prior to initiating construction, the construction contractor shall be trained regarding the identification and handling of hazardous materials and spill containment and agency notification procedures. Should any known or suspected release of hazardous materials occur during proposed project construction or operation, the spills would be immediately addressed, and the affected soils would be containerized and tested to determine the appropriate disposal options. RD 2091 shall notify agencies and perform the required remediation if there is a release of reportable (or otherwise significant) quantities of hazardous materials. In the event of a fuel spill, the Stanislaus County Department of Environmental Resources would be notified, and clean-up would be accomplished under the guidance of regulatory oversight, as required.

## ***Inadvertent Discovery of Contaminated Materials During Construction***

Prior to initiating construction, the construction contractor will prepare a Construction Management Plan (CMP) that prescribes activities for workers to follow in areas where the presence of undocumented soil or groundwater contamination is suspected based on visual observation or smell. The CMP will include (but is not intended to be limited to) provisions for daily briefings of construction staff prior to work regarding what to look for, a list of contact persons in case of a possible encounter with undocumented contamination, provisions for immediate notification of construction management, notification of the applicable local enforcement agency, consultation with that agency, and protocols for further action. In such instances, construction activities would cease until it is determined in coordination with regulatory agencies that work can proceed without the risk of injury to persons or the environment.

## **5 CUMULATIVE EFFECT ANALYSIS**

This section addresses the potential cumulative effects of the proposed project as required by CEQA and NEPA. Cumulative effects are defined as, “The impact on the environment which results from the incremental impact of the action when added to either past, present, or reasonably foreseeable future actions regardless of what agency or person undertakes such actions. These impacts can result from individually minor, but collectively significant actions taking place over time. The president’s Council on Environmental Quality NEPA regulations and the State of California’s CEQA Guidelines require that the cumulative impacts of a proposed action be addressed in an environmental document when the cumulative impacts are expected to be significant. When a lead agency is examining a project with an incremental effect that is not cumulatively considerable, the lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

The cumulative effects directly attributed to the levee project are determined within the section. If a significant cumulative impact exists, then a determination is made as to whether the proposed Project or its alternative makes a substantial contribution to the significant cumulative impact. If no significant cumulative impact exists, then the addition of impacts associated with the proposed Project or its alternatives is evaluated to determine whether the addition of these project-specific impacts on the cumulative condition create a significant cumulative impact.

### **5.1 Regional Projects/Actions**

#### **5.1.1 South County Corridor Feasibility Study**

The South County Corridor (SCC) Feasibility Study is a planned east-west four-lane divided expressway connecting SR 99 to I-5 in the southern portion of Stanislaus County, bypassing the Cities of Patterson and Newman.

### **5.1.2 North Valley Regional Recycled Water Program**

The United States Department of Interior, Bureau of Reclamation as NEPA lead agency and the City of Modesto, as CEQA lead agency representing the Partner Agencies for the North Valley Regional Recycled Water Program (NVRWP), have proposed this project is to maximize beneficial use of a sustainable, alternative water supply within the region, which would address reductions in water supplies from the CVP and reduce the reliance on groundwater use. The proposed project will help to offset the significant reduction in CVP water allocations to the Del Puerto Water District (DPWD) associated with Delta pumping restrictions, drought conditions, and climate change. In addition, the proposed project is needed to offset anticipated effects (e.g., overdraft, subsidence, water quality issues) from increased groundwater pumping that have occurred and would likely continue to occur with the absence of an alternative water supply. The proposed project would convey recycled water from the Cities of Modesto and Turlock to the Delta-Mendota-Canal (DMC). From the DMC, water would be provided to DPWD and to Refuges through existing turnouts from the DMC.

## **5.2 Cumulative Effects Analysis**

The proposed project will not affect the following areas and therefore, they have been eliminated from cumulative effect consideration: Climate, Environmental justice, Land Use, Mineral resources, Population and Housing, Public Services, and Utilities and Service Systems.

The following analysis of cumulative impacts are for those resources where cumulative effects have the potential to occur.

### **5.2.1 Aesthetics/Visual Resources**

Cumulative impacts on Aesthetics would be temporary in nature, occurring only during construction, and would affect a very small number of people. Repair sites would be restored to preconstruction appearance and blend with the surround appearance of the levee, no lasting impacts are expected. Therefore, Potential cumulative effects on aesthetics and visual resources are considered to be less than significant.

### **5.2.2 Recreation**

The proposed Project construction would create a short-term and localized impact on recreational opportunities in the Project Vicinity during project construction. Because the long-term impact of the proposed Project on recreation would be negligible, the proposed Project would not cumulatively contribute to any adverse effects on recreation resulting from other projects within the region.

### **5.2.3 Cultural Resources**

The cumulative analysis for impacts on cultural and paleontological resources considers a broad regional system of which the resources are a part. As cultural resources are unique and non-renewable members of finite classes, adverse effects or negative impacts erode a dwindling resource base. Federal, state, and local laws protect cultural resources in most instances. Even so, it is not always feasible to protect cultural resources. Since the proposed project could adversely affect cultural resources and human remains that are unique and non-renewable members of a finite class of

resources, the project's incremental contribution to these cumulative effects would be considerable; however, with the implementation of the mitigation measures described in this document, no cumulative impact to cultural resources would result from project implementation.

#### **5.2.4 Vegetation and Wildlife**

Construction of the proposed project could contribute to short-term adverse impacts to vegetation and wildlife as increased ground disturbance and noise could disturb threatened or endangered species within the project area. However, with the inclusion of the proposed mitigation measures, the proposed project would have less than significant impacts on any species residing in the area. Therefore, even with the potential effects of other projects in the region, the proposed project would not contribute cumulatively to significant impacts on vegetation and wildlife.

#### **5.2.5 Special Status Species**

Construction of the proposed project could contribute to short-term adverse impacts to special status species as increased ground disturbance and noise could disturb threatened or endangered species within the project area. However, with the inclusion of the proposed mitigation measures, the proposed project would have less than significant impacts on any special status species residing in the area. Therefore, even with the potential effects of other projects in the region, the proposed project would not contribute cumulatively to significant impacts on special status species.

#### **5.2.6 Hydrology and Water Quality**

Potential impacts on hydrology and water quality from the proposed project or any related project within the area, would require mitigation measures similar to those discussed within this document. The proposed project seeks to improve levee stability by repairing seepages and boils resulting in improved flood protection for the surrounding area, providing a beneficial effect. The proposed project, with implemented BMPs, would not cumulatively contribute to any effects on hydrology and water quality.

#### **5.2.7 Geomorphology**

Cumulatively impacts regarding geomorphology are generally site-specific and depend on local geologic and soil conditions. Potential cumulative impacts associated with the proposed project, particularly related to loss of topsoil, are of concern. However, with the implementation of mitigation measures these impacts would be less than significant.

#### **5.2.8 Air Quality**

Construction and repair project could contribute to cumulative impacts to air quality in the SJVAPCD. Particularly at risk are the contaminants that the region is already noncompliant. The proposed project generates temporary emissions during construction, but does not generate long-term emission and BMPs will be included in order to reduce short-term construction impacts to air quality. Therefore, emissions from the proposed project are not expected to have cumulative impacts to Air quality.



### **5.2.9 Traffic and Transportation**

Cumulative impacts related to traffic and transportation are concentrated on areas where the construction generated traffic from the proposed project could combine with traffic from other projects adversely impacting the same roadways. Construction of the proposed project would affect traffic only temporarily and would not generate traffic after completion. With the implementation of the mitigation measures outlined in the traffic section, the proposed project would not cumulatively contribute to any effects on traffic or transportation resulting from other projects within the same region.

### **5.2.10 Noise**

The cumulative noise effects are determined by areas where construction noise from the proposed project could combine with the noise from other projects within the area. The combined noise generated by the projects could exceed established thresholds for sensitive receptors.

Noise generated as a result of the proposed project would be temporary in nature and create a short-term impact on noise within the project area, but would not cause a significant impact to the noise levels within the region. Therefore, noise levels from the proposed project are not expected to have a cumulative impact.

### **5.2.11 Hazardous Waste**

The cumulative context for the analysis of potential hazardous materials impacts is generally site specific, and not cumulative in nature. The proposed project would not involve a substantial amount of hazardous materials use, storage, transport, or disposal during construction or operation. As with other development projects in the region, established regulatory mechanisms are in place that govern such use. These mechanisms ensure that the use, storage, transport, and disposal of hazardous materials from different projects do not combine to create a cumulative effect, so this is a less-than-significant cumulative impact.

The greatest potential source of exposure to contaminants would be airborne emissions, primarily through construction-generated dust from grading. The range that contaminated airborne emissions could travel would be limited to the project site and immediate area. To create a cumulative impact, these activities would have to occur on several sites located adjacent to one another at the exact same time. There is no indication that this will occur. Therefore, cumulative impacts related to the proposed project are less than significant.

## **5.3 Growth-Inducing Effects**

The project site is located within a rural agricultural area in Stanislaus County. The area adjacent to the proposed project areas consist of large area agriculture. The proposed project would consist of the repair of levee seepage and boils. Repair of the levee sites would not remove obstacles to growth or result in subsequent population increases. As such, the proposed project would not result in growth inducing effects. All new development must be consistent with existing City and County general plan policies and zoning ordinance regarding land use, open space, conservation, flood protection, and

public health and safety. In addition, all development would need to comply with applicable environmental laws and regulation and would require approval by local authorities.

## **6 COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS**

### **6.1 Federal Laws and Regulations**

#### **6.1.1 National Historic Preservation Act**

The NHPA of 1966, as amended, 16 USC Section 470 et seq., historic and archaeological data preservation, as amended, 16 USC Section 469 et seq., Protection of Historic Properties, 36 CFR 800, Abandoned Shipwreck act, 43 USC Section 2102 et seq. Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of a proposed undertaking on properties that have been determined to be eligible for listing in, or are listed in, the National Register of Historic Places. Cultural resources surveys have been conducted throughout the Project area and no known cultural resources would be affected by project activities. Coordination with the State Historic Preservation Office (SHPO), delegated compliance responsibility for the federal law is complete. The proposed action is in full compliance with the NHPA.

#### **6.1.2 Archaeological Resources Protection Act**

The ARPA of 1979, 16 USC Section 470aa et seq. This act prohibits the removal, sale, receipt, and interstate transportation of archaeological resources obtained illegally (without permits) from public lands. If archaeological deposits are found during project activities, work would be stopped pursuant to 36 CFR 800.13(b). The significance of the find would be determined, and if necessary, appropriate discovery procedures would be completed. The proposed action is in full compliance with the ARPA.

#### **6.1.3 Native American Graves Protection and Repatriation Act**

NAGPRA of 1990, 23 USC Sections 3002. This act requires Federal agencies to: (1) establish procedures for identifying Native American groups associated with cultural items on Federal lands;(2) inventory human remains and associated funerary objects in Federal possession, and; (3) return such items upon request to the affiliated groups. The law also requires that any discoveries of cultural items covered by the act be reported to the head of the Federal entity, who would notify the appropriate Native American group. The proposed project is not expected to have an effect on Native American graves. If Native American graves are found during project activities, work would be stopped, and further coordination with local tribes would be conducted. The proposed action is in full compliance with the NAGPRA.

#### **6.1.4 Clean Air Act**

The CAA 42 USC Section 1857 et seq. (1970), as amended and recodified, 42 USC Section 7401 et seq. (Supp II 1978). The SJVAPCD determined that the proposed Project could be evaluated using the

SPAL, based on data provided on impact area and vehicle mileage that the proposed Project would not exceed significance thresholds and still provide an adequate margin to account for site specific differences. Based on this SPAL analysis, the proposed action will not exceed the USEPA's general conformity de minimis thresholds or hinder the attainment of air quality objectives in the local air basin. The project will comply with federal air quality standards, as set forth in the Clean Air Act. The project applicant will provide a plan to the local air districts demonstrating management plans to meet all applicable air standards.

#### **6.1.5 Clean Water Act**

The CWA, 33 USC Section 1251 et seq. (1976 & Supp II 1978) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The proposed Project will not result in a discharge to waters of the U.S. The proposed project is not expected to adversely affect surface or ground water quality or deplete ground water supplies. BMPs would be implemented to avoid movement of soils or accidental spills. The contractor would also be required to prepare a SWPPP identifying BMPs to be used to avoid or minimize any adverse effects of construction on surface waters. The proposed action is in full compliance with the CWA.

#### **6.1.6 Section 10 of the Rivers and Harbors Act**

Section 10 of the Rivers and Harbors Act (33 USC §403) is administered by the Army Corps of Engineers. This section prohibits the obstruction or alteration of navigable waters of the U.S. without a permit 108 from the Corps. The proposed action will not be subject to Section 10 as all activities will take place above and outside of waters of the U.S.

#### **6.1.7 Federal Endangered Species Act**

Section 7 of FESA (16 USC § 1531 *et seq.*) requires federal agencies, in consultation with the Secretary of the Interior and/or the Secretary of Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Under section 7, if a project could result in incidental take of a listed threatened or endangered species, federal agencies must consult with the USFWS and NOAA's NMFS to obtain a Biological Opinion (BO). Any sensitive species with the potential to occur within the project area will be avoided through the implementation of Mitigation Measures.

#### **6.1.8 Fish and Wildlife Coordination Act**

Fish and Wildlife Coordination Act (or FWCA) of 1958, as amended, 16 USC Section 661 et seq. The Fish and Wildlife Coordination Act in general requires Federal agencies to coordinate with USFWS and state fish and game agencies whenever streams or bodies of water are controlled or modified. This coordination is intended both to promote the conservation of wildlife resources by providing equal consideration for fish and wildlife in water project planning and to provide for the development and improvement of wildlife resources in connection with water projects. The act provides the basic

authority for the involvement of the USFWS in evaluating impacts relating to proposed water resources development projects. Reports or decision-making documents subsequently must include any recommendations by these agencies for protecting fish and wildlife. Provisions of the Act are implemented through the NEPA process and Section 404 permit process (if required). Where required these recommendations will be incorporated in order to comply with FWCA.

#### **6.1.9 Migratory Bird Treaty Act**

Migratory Bird Treaty Act of 1936, as amended, 15 USC 701-18h. Construction would be timed to avoid destruction of active bird nests or young of birds that breed in the area. If this is not feasible, a qualified biologist would survey the area prior to initiation of construction. If active nests are located, a protective buffer would be delineated and the entire area avoided, preventing disturbance of nests until they are no longer active.

#### **6.1.10 Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 governs the conservation and management of ocean fisheries. The purpose of this act is to take immediate action to conserve and manage the fishery resource off the U.S. coasts and U.S. anadromous species, and to promote the protection of essential fish habitat (EFH).

EFH is the aquatic habitat (water and substrate) necessary for fish to spawn, breed, feed, or grow to maturity (NMFS 1998) that will allow a level of production needed to support a long-term, sustainable commercial fishery and contribute to a healthy ecosystem. EFH is described for groundfish, coastal pelagic, and Pacific salmon fisheries (67 FR 2343, January 17, 2002). Important components of EFH for Chinook salmon spawning, rearing, and migration include suitable:

- substrate composition;
- water quality;
- water quantity, depth, and velocity;
- channel gradient and stability;
- food;
- cover and habitat complexity;
- space;
- access and passage; and
- habitat connectivity

Consultation with NMFS is required for all projects with the potential to affect EFH for any species covered under the Magnuson-Stevens Fishery Conservation and Management Act. The USACE has determined that this project will adversely affect EFH for Chinook salmon at the project sites and downstream and require a consultation under the Magnuson-Stevens Fishery Conservation and Management Act.

#### **6.1.11 National Environmental Policy Act**

NEPA of 1969, as amended, 42 USC Section 4321 et seq. This Draft EA/IS is in partial compliance with this act. The Draft EA/IS will be released for public comment. Comments received during the public review period will be incorporated into the EA/IS, as appropriate, and a comments and responses appendix will be prepared and included in the final document. The Final EA/IS will be

accompanied by a signed FONSI, if determined appropriate based on agency coordination and public comments. These actions will provide full compliance with NEPA.

#### **6.1.12 Wild and Scenic Rivers Act**

The Wild and Scenic Rivers Act establishes a method for providing federal protection for certain free-flowing rivers to preserve them and their immediate environments for the use and enjoyment of present and future generations. Eligible rivers can be designated as Wild River Areas, Scenic River Areas, or Recreational Rivers. Section 10 includes management direction for these designated rivers. In regard to the designated river, Section 10(a) states that “primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeologic, and scientific features.” The San Joaquin River has not been designated as a Recreational River under the Wild and Scenic Rivers Act and therefore is not subject to the conditions of this act.

#### **6.1.13 Executive Order 11988, Flood Plain Management**

This executive order requires the USACE to provide leadership and take action to avoid development in the base flood plain, reduce the hazards and risks associated with floods, minimize the effect of floods on human welfare, and restore and preserve the beneficial uses of the flood plain. The proposed action is in compliance with this executive order.

#### **6.1.14 Executive Order 11990, Protection of Wetlands**

This executive order directs the USACE to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in implementing civil works. The proposed action would not result in the long-term loss of degradation of any wetlands and is in compliance with this executive order.

#### **6.1.15 Executive Order 12898, Environmental Justice**

Environmental justice refers to "nondiscrimination in Federal programs substantially affecting human health and the environment" and "providing minority communities and low-income communities' access to public information on, and an opportunity for public participation in, matters relating to human health or the environment". In particular, it involves preventing minority and low-income communities from being subject to disproportionately high and adverse environmental effects of Federal actions. The proposed project would not have a disproportionately adverse effect on any minority or low-income communities and is in compliance with this executive order.

#### **6.1.16 Farmland Protection Policy Act**

Farmland Protection Policy Act, 7 USC Section 4201 et seq, requires a Federal agency to consider the effects of its actions and programs on the Nation's farmlands. The proposed project would not result in the loss of any farmland.

### **6.1.17 Noise Control Act**

Noise Control Act of 1972, 42 USC Section 4901 to 4918 establishes a national policy to promote an environment for all Americans free from noise that jeopardize their health and welfare. Avoidance and minimization measures to lessen potential Project effects on sensitive receptors, including restricting hours of construction, have been incorporated into the proposed Project. The proposed action is in full compliance with the Noise Control Act.

## **6.2 State Laws and Regulations**

### **6.2.1 California Endangered Species Act and Native Plant Protection Act**

A list of threatened and endangered species that may be in the project area was obtained from the USFWS, and the California Native Plant Society (CNPS), and an evaluation of potential project effects was conducted. The proposed action with mitigation implemented would not affect any listed species, including special status species plants, burrowing owl, Swainson's hawk, other raptors and migratory birds.

### **6.2.2 California Environmental Quality Act**

CEQA requires the full disclosure of the environmental effects, potential mitigation, and environmental compliance of the proposed project. This EA/IS has been prepared in order to ensure compliance with the requirements of CEQA.

### **6.2.3 California Scenic Highway Program**

The California Scenic Highway Program, established in 1963 by the State Legislature, is managed by Caltrans. The program establishes the State's responsibility for the protection and enhancement of identified scenic roadways from changes that would degrade the aesthetic quality of lands adjacent to highways. The project does not intersect a designated California Scenic Highway and therefore is not subject to the conditions of this program.

### **6.2.4 Central Valley Flood Protection Board**

The Central Valley Flood Protection Board (CVFPB) requires an encroachment permit for any activity along or near Federal flood control project levees and floodways or in CVFPB designated floodways to ensure that proposed local actions or projects do not impair the integrity of existing flood control systems to withstand flood conditions.

### **6.2.5 State Historic Preservation Officer**

State Resources Code (SRC) 21084.1- Historical Resources Guidelines and 21083.2 -Archaeological Resources require that the lead agency determine whether the project may have a significant effect on archaeological or historical resources. An historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources.

### **6.2.6 California Clean Air Act**

The CCAA of 1988, CHSC Section 40910 state that air quality permitting and enforcement is delegated to the regional San Joaquin Valley Air Pollution Control Board (SJVAPCD). The proposed action is in full compliance with the CCAA.

### **6.2.7 California Clean Water Act Sect 401 Certification**

Prior to any construction activities, construction contractors shall obtain authorization under the State General Construction Activity Stormwater Permit adopted by the SWRCB. Compliance with the General Permit will require that appropriate BMPs are implemented to ensure that impacts to water quality are minimized.

## **6.3 Local Ordinances**

### **6.3.1 Stanislaus County General Plan**

The proposed project area is located within the jurisdiction of the Stanislaus County General Plan. The proposed project would comply with all of the relevant local plans.

### **6.3.2 City of Modesto**

The project area is located within the City of Modesto. The proposed project would comply with all of the relevant local plans.

## **7 FINDINGS**

This EA/IS evaluated the potential environmental effects of the proposed project of constructing levee repairs along 11,038 feet of levee on the San Joaquin River in Stanislaus county. Potential adverse effects to the following resources were evaluated in detail: aesthetics/visual resource; recreation; cultural resources; wildlife, fish and vegetation resource; special status species; hydrology and water quality; geology and soils; air quality; transportation/traffic; noise; hazards and hazardous materials; and environmental justice.

Results of the EA/IS, field visits, and coordination with other agencies indicate that the proposed project would have no significant long-term effects on environmental resources. Short-term effects during construction would either be less than significant or mitigated to less than significant using best management practices.

Based on the information presented in the EA/IS, the proposed project would have a less than significant adverse effect on the quality of human environment, and the mitigation measures proposed in the EA/IS are sufficient to reduce effects to less-than-significant levels.

Chapter 4 of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the issues evaluated in that chapter, it was determined

that the proposed project would have no impact related to the following issue areas:

- Climate
- Environmental Justice
- Land Use
- Mineral Resources
- Population and Housing
- Public services
- Utility and Service Systems

The proposed project would result in less than significant impacts in the following areas:

- Aesthetics/Visual Resources
- Recreation
- Transportation and Traffic

The proposed project would result in a less than significant impacts *with* mitigation in the following areas:

- Air Quality
- Cultural Resources
- Geomorphology
- Hazards and Hazardous Materials
- Water Quality
- Noise
- Special Status Species
- Vegetation and Wildlife



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## **Appendix A**

### ***Cultural Resources Assessment***

## **Appendix B**

### ***Biological Assessment***