

**INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION
DELTA EMERGENCY ROCK AND TRANSFER FACILITIES PROJECT**



PREPARED FOR:

**STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES**

OCTOBER 26, 2007

PREPARED BY:

EDAW | AECOM

**INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION
DELTA EMERGENCY ROCK AND TRANSFER FACILITIES PROJECT**



PREPARED FOR:

**STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
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OCTOBER 26, 2007

Date: October 26, 2007

To: Responsible and Trustee Agencies, Interested Parties, and Organizations

Subject: **NOTICE OF INTENT TO ADOPT AN INITIAL STUDY/MITIGATED
NEGATIVE DECLARATION FOR THE DELTA EMERGENCY ROCK AND
TRANSFER FACILITIES PROJECT**

The California Department of Water Resources (DWR) has prepared and intends to adopt a Mitigated Negative Declaration (MND) for the proposed project in compliance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines.

Project Title: Delta Emergency Rock and Transfer Facilities Project

Lead Agency: Department of Water Resources, Division of Engineering

Project Location: Rock stockpiling and barge loading facilities that would be part of the proposed project would be located at the Port of Stockton in Stockton, on property along the Sacramento River in Hood, and on state-owned land in Rio Vista. The Port of Stockton is located along the eastern edge of the Sacramento–San Joaquin River Delta (Delta), approximately 50 miles south of Sacramento. Barge loading facilities would be located on Rough and Ready Island adjacent to the Stockton Deep Water Channel. Stockpiling would occur approximately 1,500 feet southwest of the barge loading area on an existing gravel-covered open storage area. Hood is a small farming community located along the Sacramento River in the northeastern Delta approximately 20 miles southeast of Sacramento. The rock stockpile in Hood would be located on a privately owned section of widened levee adjacent to the Sacramento River. In Rio Vista, DWR would establish a rock stockpile on approximately 3.4 acres of land owned by the State of California Reclamation Board (The Reclamation Board) that is currently under lease to ASTA Construction, Inc.; DWR would contract with Dutra Group for barge loading services at its established barge loading facilities located approximately 1,000 feet southeast of the proposed stockpiling area.

Project Description: The project proposes to stockpile riprap for emergency flood fighting operations at the three sites described above. The project would create a readily accessible state-owned inventory of riprap-size rock to be used in a large-scale disaster in which resources such as quarry production and truck hauling would be strained by excessive demands. The project also proposes to establish new transfer facilities at the Port of Stockton to load large rock from stockpiles and inland quarries onto barges for water-based emergency operations in the Delta. The proposed project would enhance readiness and improve operational flexibility to transport rock into the Delta during a flood emergency.

Environmental Review Process: DWR has prepared an initial study/proposed mitigated negative declaration (IS/MND) on the proposed project in accordance with the requirements of CEQA. The IS/MND describes the proposed Delta Emergency Rock and Transfer Facilities Project and provides an assessment of the project's potential impacts on the environment. The IS/MND concludes that any potentially significant impacts that may result from the proposed project can be avoided, eliminated, or reduced to a level that is less than significant by the adoption and implementation of specified mitigation measures.

Public Review Period: The IS/MND is being circulated for public review and comment for a review period of 30 days starting October 26, 2007. Written comments should be submitted and received at the following address no later than close of business (4:00 p.m.) on November 24, 2007.

Mr. David Rennie
Division of Engineering
California Department of Water Resources
1416 9th Street, Room 510
Sacramento, CA 95814
Fax (916) 653-7348
Email rennie@water.ca.gov

To Review or Obtain a Copy of the Environmental Document: Copies of the draft IS/MND may be reviewed at the following locations:

- ▶ Port of Stockton Administration Building, at 2203 W. Washington Street Stockton, California
- ▶ Sacramento County, County Clerk's Office, 600 8th Street, Sacramento, California
- ▶ Rio Vista City Hall, One Main Street, Rio Vista, California.

Your views and comments on how the project may affect the environment will be welcomed.

PROPOSED MITIGATED NEGATIVE DECLARATION

Project: Delta Emergency Rock and Transfer Facilities Project

Lead Agency: Department of Water Resources, Division of Engineering

PROJECT DESCRIPTION

This Initial Study and Proposed Mitigated Negative Declaration (IS/MND) evaluates the environmental effects of the proposed Delta Emergency Rock and Transfer Facilities Project. As part of its emergency preparedness efforts, the Department of Water Resources (DWR) proposes to stockpile rock and set up barge loading facilities at strategic locations around the Delta for use during emergency flood fighting operations in the event of a catastrophic flooding event in the Delta. Rock stockpiling and barge loading facilities that would be part of the proposed project would be located at the Port of Stockton in Stockton, on property along the Sacramento River in Hood, and on state-owned land in Rio Vista. The Port of Stockton is located along the eastern edge of the Sacramento–San Joaquin River Delta (Delta), approximately 50 miles south of Sacramento. Barge loading facilities would be located on Rough and Ready Island adjacent to the Stockton Deep Water Channel. Stockpiling would occur approximately 1,500 feet southwest of the barge loading area on an existing gravel-covered open storage area. Hood is a small farming community located along the Sacramento River in the northeastern Delta approximately 20 miles southeast of Sacramento. The rock stockpile in Hood would be located on a privately owned section of widened levee adjacent to the Sacramento River. In Rio Vista, DWR would establish a rock stockpile on approximately 3.4 acres of land owned by the State of California Reclamation Board (The Reclamation Board) that is currently under lease to ASTA Construction, Inc. DWR would contract with established local barge loading facilities or haul stockpiled rock by truck from the Hood and Rio Vista sites during a declared flood emergency. The proposed project would enhance readiness and improve operational flexibility to transport rock into the Delta during a flood emergency.

FINDINGS

An IS/MND has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the IS/MND, it has been determined that the proposed project would not have any significant effects on the environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no effects related to Agricultural Resources, Geology and Soils, Hazards and Hazardous Materials, Mineral Resources, Population and Housing, Public Services, or Recreation.
2. The proposed project would have a less-than-significant impact on Aesthetics, Hydrology and Water Quality, Land Use, Transportation/Traffic, and Utilities.
3. The proposed project would have potentially significant impacts related to Air Quality, Biological Resources, Cultural Resources, and Noise, but mitigation measures are proposed that would reduce these effects to less-than-significant levels.

Following are the mitigation measures that would be implemented by the state to avoid or minimize environmental impacts. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to a less-than-significant level.

Mitigation Measure Air-1: Enter into a Voluntary Emissions Reduction Agreement with San Joaquin Valley Air Pollution Control District (SJVAPCD). DWR shall implement the following mitigation measure to reduce project-generated construction-related emissions impacts to a less-than-significant level. DWR shall enter into a voluntary emissions reduction agreement with the SJVAPCD to mitigate the portion of construction-generated emissions of NO_x that exceed SJVAPCD's annual emission threshold of 10 tons/year for each year of project operation. The calculation of the fee shall be determined in coordination with the SJVAPCD and paid prior to the occurrence of any construction-related activities, including replenishment of stockpiles, within areas under the jurisdiction of the SJVAPCD on a yearly basis.

Mitigation Measure BIO-1: Conduct Raptor Nesting Surveys and Monitoring. DWR shall implement the following mitigation measure to reduce potential impacts to nesting raptors to a less-than-significant level. This measure applies to activities that either start during the March through August raptor breeding season, or start prior to that season but where activities lapse for 2 weeks or more. If rock would be stockpiled or replenished during the March through August nesting season, a qualified biologist to be retained by DWR shall conduct a survey for any nesting raptors, including Swainson's hawk and white-tailed kite, within 500 feet of all sites where rock is being placed or moved. In the event activities would start late in the breeding season (e.g., after May 1), multiple surveys are recommended, however, at least one survey shall be conducted no more than 2 weeks in advance of the start of activities. Any active raptor nests within a 500-foot buffer from activities shall be documented and reported to the Department of Fish and Game (DFG). If non-emergency stockpiling or replenishment would occur within 500 feet of an active raptor nest, all work within 500 feet of the active nest shall be stopped until the nest is no longer active, or until DFG is satisfied that activities would not endanger the nest.

Mitigation Measure BIO-2: Install and Maintain Fencing of the 20-Foot Buffer at Rio Vista. DWR shall implement the following mitigation measure to reduce potential impacts to jurisdictional wetlands to a less-than-significant level. In order to prevent inadvertent discharge of sediments or other fill into potentially jurisdictional wetlands at the Rio Vista site, the contractor and/or DWR shall install orange exclusion fencing on T-posts (or equivalent), with silt fence material installed along the bottom, on the limit of the 20-foot buffer flagged by EDAW on October 3, 2007. The fencing shall be maintained annually, and may be replaced with permanent fencing, if the site will be used long-term.

If fill, including sediments, enters the buffer, DWR shall immediately have the location and extent of the accidental discharge evaluated and documented by a qualified wetland specialist. If the wetland specialist determines that the accidental discharge is not limited to upland vegetation, DWR shall immediately notify the United States Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB), and shall compensate for any impacts to wetlands (e.g., through on-site restoration and/or the purchase of credits at an approved mitigation bank) to ensure that there is no net loss of wetland functions and services.

Mitigation Measure CUL-1: Immediately Halt Construction if any Cultural Resources are Discovered. DWR shall implement the following mitigation measure to reduce the potential impacts to buried historic cultural resources to a less-than-significant level. If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during project-related construction activities, DWR shall halt ground disturbances in the area of the find and notify a qualified professional archaeologist regarding the discovery. The archaeologist, to be retained by DWR, shall determine whether the resource is potentially significant per the California Register of Historical Resources (CRHR) and develop appropriate mitigation. Mitigation may include, but not be limited to, in-field documentation, archival research, archaeological testing, data recovery excavations, or recordation, and shall be implemented before resuming construction in the immediate vicinity.

Mitigation Measure CUL-2: Immediately Halt Construction if any Human Remains are Discovered. DWR shall implement the following mitigation measure to reduce the potential impacts to human remains to a less-than-significant level. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, DWR shall immediately halt potentially damaging excavation in the area of

the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, DWR, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section (PRC) 5097.9.

Mitigation Measure NOI-1: Implement Measures to Control Construction Equipment Noise Levels. DWR shall implement the following mitigation measure to reduce potential impacts from exposure to noise from construction equipment to a less-than-significant level. The contractor and/or DWR shall properly maintain construction equipment, and equip with noise control devices, such as exhaust mufflers or engine shrouds, in accordance with manufacturers' specifications.

Questions or comments regarding this Initial Study and Proposed Mitigated Negative Declaration may be addressed to:

Mr. David Rennie
Division of Engineering
California Department of Water Resources
1416 9th Street, Room 510
Sacramento, CA 95814
Fax (916) 653-7348
Email rennie@water.ca.gov

APPROVAL OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Certification by Those Responsible for Preparation of this Document. The Department of Water Resources, Division of Engineering has been responsible for the preparation of this Proposed Mitigated Negative Declaration and the incorporated Initial Study. I believe this document meets the requirements of the California Environmental Quality Act, is an accurate description of the proposed project, and that the lead agency has the means and commitment to implement the project design measures that will assure the project does not have any significant, adverse effects on the environment. I recommend approval of this document.

Jim Peddy, Assistant Chief
Division of Engineering
California Department of Water Resources

Date

*(*To be signed upon completion of the public review process and preparation of a final project approval package including responses to comment, if any, on the environmental document and any necessary modifications to project design measures.)*

Approval of the Project by the Lead Agency. Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Water Resources has independently reviewed and analyzed the Initial Study and Proposed Mitigated Negative Declaration for the proposed project and finds that the Initial Study and Proposed Mitigated Negative Declaration reflect the independent judgment of the California Department of Water Resources. The lead agency finds that the project design features will be implemented as stated in the Mitigated Negative Declaration.

I hereby approve this project:

Richard Sanchez, Chief
Division of Engineering
California Department of Water Resources

Date

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ACRONYMS AND ABBREVIATIONS

AQAP	Air Quality Attainment Plan
ARB	California Air Resources Board
BMP	best management practices
CCAA	California Clean Air Act
CDFG	California Department of Fish and Game
Central Valley RWQCB	Central Valley Regional Water Quality Control Board
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Stockton
CNEL/L _{dn}	community noise equivalent and day-night noise level
CNPS	California Native Plant Society
CO	carbon monoxide
CRCV	Coast Range-Central Valley
CRHR	California Register of Historical Resources
CVP	Central Valley Project
dba	A-weighted decibels
Delta	Sacramento–San Joaquin River Delta
DEOP	Delta Emergency Operations Plan
DFG	California Department of Fish and Game
diesel PM	diesel fueled engines
DWR	California Department of Water Resources
EFH	essential fish habitat
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
ESU	evolutionarily significant unit
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FOC	State-Federal Flood Operation Center
FTA	Federal Transit Administration
HCP	Habitat Conservation Plan
I-5	Interstate 5
in/sec	inches per second
IS/MND	Initial Study/Proposed Mitigated Negative Declaration
lb/day	pounds per day
MLD	most likely descendent
MMRP	Mitigation Monitoring and Reporting Plan
MRZ	Mineral Resource Zones
msl	mean sea level
Mw	moment magnitude
NAHC	Native American Heritage Commission

NCCP	Natural Communities Conservation Plan
NMFS	National Marine Fisheries Service
NMFS	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOI	notice of intent
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation
OAP	Ozone Attainment Plan
OEHHA	Office of Environmental Health Hazard Assessment
P-L	Public Lands
PM ₁₀ and PM _{2.5}	respirable and fine particulate matter
PPV	peak particle velocity
PRC	California Public Resources Code Section
PT	proposed Port
RACT SIP	Reasonably Available Control Technology – State Implementation Plan
RBDD	Red Bluff Diversion Dam
RMS	root mean square
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SIP	state implementation plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act of 1975
SO ₂	sulfur dioxide
SR	State Route
SRA	shaded riverine aquatic
SVP	Social Venture Partners
SWP	State Water Project
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
The Reclamation Board	State of California Reclamation Board
USFWS	U.S. Fish and Wildlife Service
VdB	velocity level in decibels
VMT	vehicle miles traveled
YSAQMD	Yolo-Solano Air Quality Management District
µin/sec	microinch per second

1 INTRODUCTION

1.1 BACKGROUND

The California Department of Water Resources (DWR) is proposing to implement a flood emergency-preparedness recommendation contained in the Delta Emergency Operations Plan (DEOP) Concept Paper (DWR 2007). The recommendation involves establishing emergency rock stockpile and transfer facilities at three strategic locations in California's Sacramento–San Joaquin River Delta (Delta), and then transporting the rock from the stockpiles as needed during emergency flood fighting anywhere in the Delta. This initial study/proposed mitigated negative declaration (IS/MND) has been prepared by DWR to evaluate the potential environmental effects of the proposed project. This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.).

The Delta is a web of channels and reclaimed islands at the confluence of the Sacramento and San Joaquin Rivers in the Central Valley, California. The area known as the “Legal Delta” lies roughly between the cities of Sacramento, Stockton, Tracy, and Antioch (Exhibit 1-1). It extends approximately 24 miles east to west and 48 miles north to south and includes parts of five counties (Sacramento, San Joaquin, Contra Costa, Solano, and Yolo). At its southern end, near Tracy, are two major pieces of California's water infrastructure, the Delta-Mendota Canal and the California Aqueduct, and their associated pumping plants, which along with several smaller aqueducts deliver water from Northern California rivers to cities and farmland in coastal and Southern California and the San Joaquin Valley.

The Delta includes approximately 60 islands, which are protected by over 1,100 miles of levees. Many of these levees are not part of the federal and state flood control systems, but instead were built and are maintained by local agencies. Delta levees are particularly vulnerable to failure, and the proximity of the Delta to active earthquake faults heightens the risk of failures on multiple islands. A large-scale earthquake would not only threaten life and property in the Delta itself, but could result in a multiyear disruption of the statewide water distribution systems, which provide critical water resources to over 30 million people.

DWR and other state agencies have developed numerous emergency protocols and specific plans to address potential flooding in the Delta. Recently, DWR has undertaken several major initiatives to better plan for future needs of the Delta, define the risk of levee failure in the Delta, and improve its ability to reduce the adverse impacts of Delta levee failures. A key component of this effort has been the development of a DEOP specific to DWR's role during a flood emergency in the Delta.

Under the California Water Code, DWR is a lead responding state agency in the event of any water-related emergency in the Delta. With this in mind, the general scope of the DEOP, as outlined in the DEOP Concept Paper, is specific to water-related emergencies, which in the Delta can include earthquake-induced levee failures, storm-related high-water events, levee failures during summer or other periods, and uncontrolled spills from upstream reservoirs. These events may be limited to a few islands or potentially spread across the entire region, and can be exacerbated during high tides in the Delta. The goal of the DEOP is to describe the actual sequence of options that DWR should implement to lessen the impacts of several different water emergency scenarios.

Development of the DEOP is currently in progress. Although the DEOP focuses on detailing the standard operating procedures that DWR would use to combat Delta flooding and on documenting the feasibility of specific response actions, DWR is still engaged in other planning efforts aimed at protecting the Delta. A parallel effort to the implementation of the DEOP is focused on increasing DWR's stockpile of rock in the Delta region and building new facilities to quickly deploy these materials. The proposed project is a part of this parallel effort and comprises an early implementation effort that would establish stockpiles of rock in three locations within the

Delta. The proposed project would also utilize existing waterside berthing facilities equipped with new or existing loading equipment to establish new barge loading facilities at or near the three proposed stockpile locations within the Delta. These facilities would facilitate loading of quarry material to barges during emergency operations.

1.2 PURPOSE OF DOCUMENT

An IS is prepared by a lead agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. In accordance with State CEQA Guidelines Section 15070, a “public agency shall prepare...a proposed negative declaration or mitigated negative declaration...when: (a) The Initial Study shows that there is no substantial evidence...that the project may have a significant impact on the environment, or (b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions would reduce potentially significant effects to a less-than-significant level.” In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the proposed project would not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report (EIR).

As described in this IS (in Chapter 3, “Environmental Setting, Impacts, and Mitigation Measures”), the proposed project would result in certain significant environmental impacts, but those impacts would be reduced to a less-than-significant level by implementation of revisions (in the form of mitigation measures) that have been agreed to and will be implemented by DWR. Therefore, an IS/MND is the appropriate document for compliance with CEQA requirements. This IS/MND conforms to these requirements and to the content requirements of State CEQA Guidelines Section 15071.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of the proposed project. DWR is the lead agency for the proposed Delta Emergency Rock and Transfer Facilities Project. DWR has directed the preparation of an analysis that complies with CEQA. EDAW has prepared this IS/MND under the direction of DWR, and this IS/MND reflects DWR’s independent judgment and analysis. A major purpose of this document is to present decision makers and the public with the environmental consequences of implementing the proposed project. This disclosure document is being made available to the public for review and comment. The IS/MND is available for a 30-day public review period from October 26, 2007, through November 24, 2007.

Comments should be addressed to:

Mr. David Rennie
Division of Engineering
California Department of Water Resources
1416 9th Street, Room 510
Sacramento, CA 95814
Fax (916) 653-7348
Email rennie@water.ca.gov

Questions regarding the IS/MND should be directed to David Rennie at (916) 653-6396. If you wish to send written comments (including via e-mail), they must be received by November 24, 2007.

After comments are received from the public and reviewing agencies, DWR may (1) adopt the MND and approve the proposed project; (2) undertake additional environmental studies; or (3) abandon the project. If the project is approved and funded, DWR could design and construct all or part of the project.

A copy of the IS/MND is available for public review at the following locations:

1. Port of Stockton
Administration Building
Atten: Rita Koehnen
2203 W. Washington Street
Stockton, CA 95201
(209) 946-0246
2. Sacramento County
County Clerk
600 8th Street
Sacramento, CA 95814
(916) 874-6334
3. Rio Vista City Hall
One Main Street
Rio Vista, CA 94571
(707) 374-6451

1.3 SUMMARY OF FINDINGS

Chapter 3, “Environmental Setting, Impacts, and Mitigation Measures,” of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the resource evaluations in Chapter 3, it was determined that the proposed project would have no impact for the following resource areas:

- ▶ hazards and hazardous materials, and
- ▶ mineral resources.

Impacts of the proposed project were determined to be less than significant for the following resource areas:

- ▶ aesthetics,
- ▶ geology and soils,
- ▶ hydrology and water quality, and
- ▶ transportation/traffic.

Impacts of the proposed project would be less than significant with incorporation of the mitigation measures described in Chapter 4 for the following resource areas:

- ▶ air quality,
- ▶ biological resources,
- ▶ cultural resources, and
- ▶ noise.

Impacts of the proposed project would be beneficial for the following resource areas:

- ▶ agricultural resources,
- ▶ land use and planning,
- ▶ population and housing,
- ▶ public services,
- ▶ recreation, and
- ▶ utilities and service systems.

DWR has agreed to adopt each of the mitigation measures described in Chapter 4, “Summary of Mitigation Measures.” A Mitigation Monitoring and Reporting Plan (MMRP) will be prepared and will include those mitigation measures that would reduce potentially significant environmental impacts to the resource areas stated above to less-than-significant levels.

1.4 ENVIRONMENTAL PERMITS

The proposed project may require the following federal, state, or local permits and approvals prior to project construction:

- ▶ State lands—State Lands Commission lease;
- ▶ Levee use—California State Reclamation Board encroachment permit;
- ▶ Navigation—U.S. Army Corps of Engineers’ Rivers and Harbors Act Section 10 authorization and U.S. Coast Guard anchorage waiver;
- ▶ Erosion and surface water quality—Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System (NPDES) permit (for construction), storm water pollution prevention plan (SWPPP), and associated best management practices (BMPs);
- ▶ Air quality—Grading permit, permit to operate, authority to construct, and compliance with related regulations of affected air districts;
- ▶ Biological resources—California Department of Fish and Game (DFG) California Endangered Species Act (CESA) and U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) Federal Endangered Species Act (ESA).

1.5 DOCUMENT ORGANIZATION

This IS/MND is organized as follows:

Chapter 1: Introduction. This chapter provides an introduction and background to the environmental review process and the purpose of the project. It describes the purpose and organization of this document as well as presents a summary of findings.

Chapter 2: Project Description. This chapter describes the purpose of and need for the proposed project, identifies project objectives, and provides a detailed description of the proposed project.

Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines if each of a range of impacts would result in no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, a potentially significant impact, or a significant and unavoidable impact. If any impacts were determined to be potentially significant with mitigation, an EIR would be required. For this project, however, mitigation measures have been incorporated where needed, to reduce all potentially significant impacts to a less-than-significant level.

Chapter 4: Summary of Mitigation Measures. This chapter summarizes the mitigation measures incorporated into the project and agreed to by DWR as a result of the IS/MND.

Chapter 5: References. This chapter lists the references used in preparation of this IS/MND.

Chapter 6: List of Preparers. This chapter identifies report preparers.

Chapter 7: IS/MND Distribution List. This chapter provides the names and addresses of all parties who received copies of this document.

2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

Rock stockpiling and barge loading facilities that would be part of the proposed project would be located at the Port of Stockton in Stockton, on property along the Sacramento River in Hood, and on state-owned land in Rio Vista. The Port of Stockton is located along the eastern edge of the Sacramento–San Joaquin River Delta (Delta), approximately 50 miles south of Sacramento. Barge loading facilities would be located on Rough and Ready Island adjacent to the Stockton Deep Water Channel. Stockpiling would occur approximately 1,500 feet southwest of the barge loading area on an existing 2-acre gravel-covered open storage area (Exhibit 2-1). Hood is a small farming community located along the Sacramento River in the northeastern Delta approximately 20 miles southeast of Sacramento. The rock stockpile in Hood would be located on a privately owned section of widened levee adjacent to the Sacramento River (Exhibit 2-2). In Rio Vista, the California Department of Water Resources (DWR) would establish a rock stockpile on approximately 3.6 acres of land owned by the State of California Reclamation Board (The Reclamation Board) that is currently under lease to ASTA Construction, Inc.; DWR would contract for barge loading services at an established barge loading facility located nearby the proposed stockpiling area (Exhibit 2-3).

Several quarries in Northern California could supply the rock for the proposed stockpile locations (Exhibit 2-4). Two possible quarries, located in the central Sierra Nevada foothills, are examined in this initial study analysis because they represent the nearest rock sources, and thus can be used in calculations of mobile-source air quality emissions to establish an upper limit for the total amount of rock that can be stockpiled without having a potentially significant effect on air quality during transportation of the rock. A competitive bid process would be used to select the quarries. Actual stockpile volumes would be adjusted after the awarding of the quarry contract(s) to ensure that emissions thresholds are not exceeded or that impacts on air quality are mitigated to a less-than-significant level.

During a flood flight, rock would be transported by barge or truck from the stockpile sites to the emergency location(s), which could be anywhere in the Delta (see Exhibit 1-1 in Chapter 1, ‘Introduction’).

2.2 NEED FOR THE PROPOSED PROJECT

The Sacramento–San Joaquin River Delta includes approximately 60 islands, which are protected by over 1,100 miles of levees. Many of these levees are not part of the federal and state flood control systems, but instead were constructed and are maintained by local agencies. The Delta levees have protected 700,000 acres of productive farmland since the 1860s and provide conveyance to local and statewide water supplies. Numerous Delta islands are subsiding and currently sit at or below sea level. Many Delta levees are particularly vulnerable to failure and the proximity of the Delta to active earthquake fault zones heightens the risk of failures on multiple islands.

A scenario involving levee failures on multiple islands has the potential to draw in large volumes of saltwater from the San Francisco Bay, turning the Delta into a brackish estuary. A large-scale earthquake would not only threaten life and property in the Delta itself, but could result in a multiyear disruption of the local and statewide water distribution systems that supply water to over 30 million people and 3.75 million acres of farmland.

Given the risk and potential statewide impact of Delta levee failures, DWR has undertaken several major initiatives to better plan for the future needs for the Delta, define the risk of levee failure in the Delta, and improve its ability to reduce the negative impacts of Delta levee failures. A key component of this effort is the on-going development of the DEOP, specific to DWR’s role in an emergency in the Delta. Under the State law, DWR is a lead responding state agency in the event of any water-related emergency. With this in mind, the general scope of the DEOP will be specific to water-related emergencies in the Delta resulting from storm-related high-water



Source: Data provided by EDAW in 2007

Port of Stockton Site

Exhibit 2-1



Source: Data provided by EDAW in 2007

Hood Site

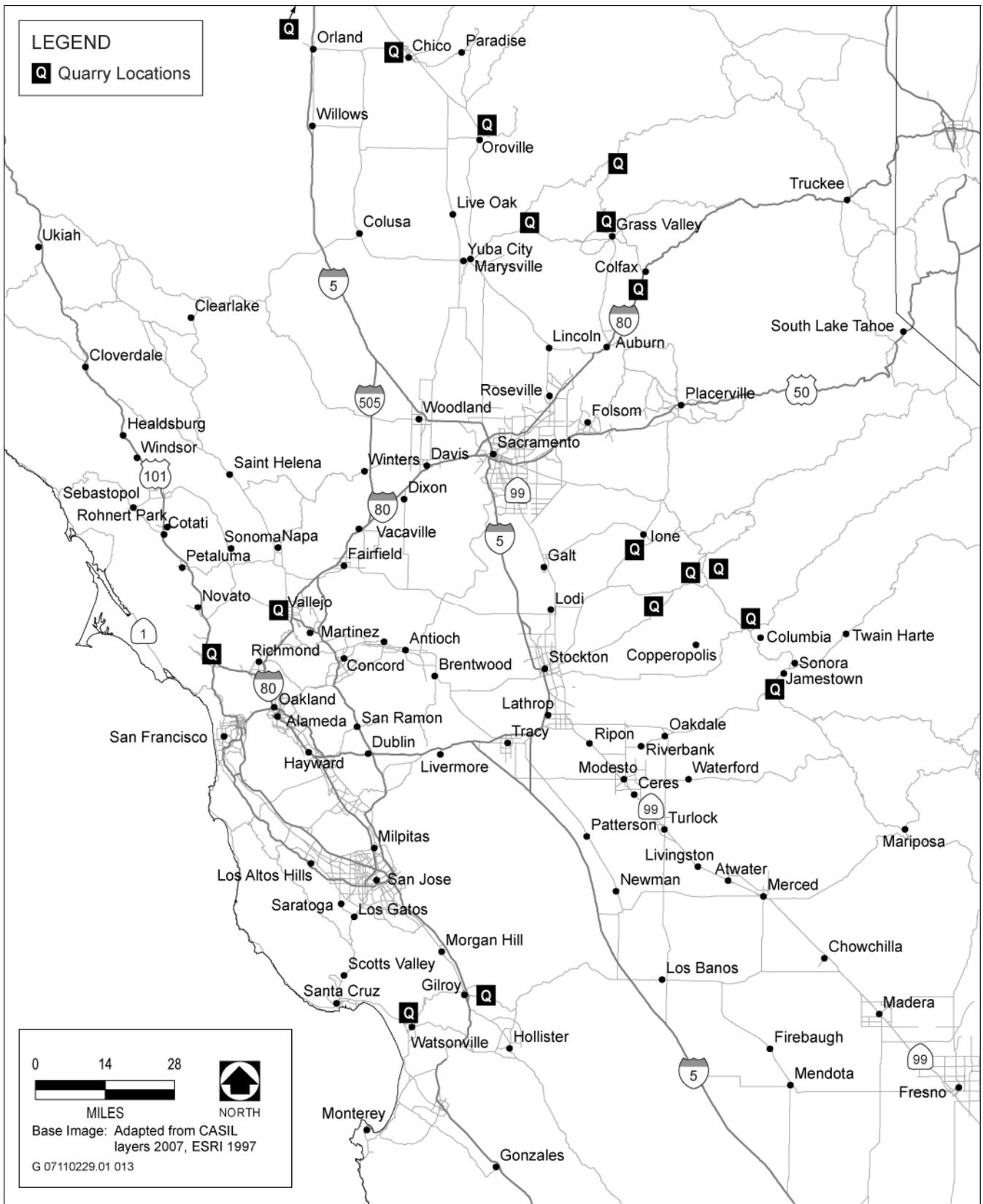
Exhibit 2-2



Source: Data provided by EDAW in 2007

Rio Vista Site

Exhibit 2-3



Source: Data provided by EDAW in 2007

Potential Quarry Sites

Exhibit 2-4

events, levee failures during summer (similar to the 2004 failure on Upper Jones Tract) or other periods, and earthquake-induced levee failures. These events can be limited to a few islands or spread across the entire region, and can be exacerbated by high tides in the Delta.

Although the DEOP will be focused on detailing the standard operating procedures that DWR would use in a Delta flood fight and documenting the feasibility of specific response actions, DWR is still engaged in other planning efforts aimed at protecting the Delta. A parallel effort to the development of the DEOP is focused on increasing DWR's stockpile of rock and standard flood fight materials in the Delta region and building new facilities to quickly deploy these materials. This project is an early-implementation component of DEOP as outlined in the Delta Emergency Operations Plan Concept Paper (DWR 2007).

The proposed project would enhance DWR's emergency response capabilities for natural and human-made disasters in the Delta. Materials and facilities included in the project would be mobilized for emergency response during an activation of the State-Federal Flood Operation Center (FOC). The predeployed stockpiles would provide an inventory of materials available for an immediate emergency response. The proposed transfer facilities would significantly increase DWR's capability to load rock onto barges for water-based emergency operations. The three project locations were selected based on their proximity to major Delta rivers and sloughs and their accessibility for loading barges.

2.3 PROJECT PURPOSE AND OBJECTIVES

The project purpose is to prevent loss of life, minimize property damage, reduce significant environmental impacts, and protect Delta water quality and supplies when floods occur in the Delta. This purpose is achieved through the following objectives:

- ▶ Create a readily accessible state-owned inventory of riprap-size rock to be used in a large-scale disaster in which resources such as quarry production and truck hauling may be strained by excessive demands.
- ▶ Establish new material transfer facilities to load large rock from stockpiles and inland quarries onto barges for water-based emergency operations in the Delta.
- ▶ Enhance readiness and improve operational flexibility to transport rock into the Delta during a flood emergency.

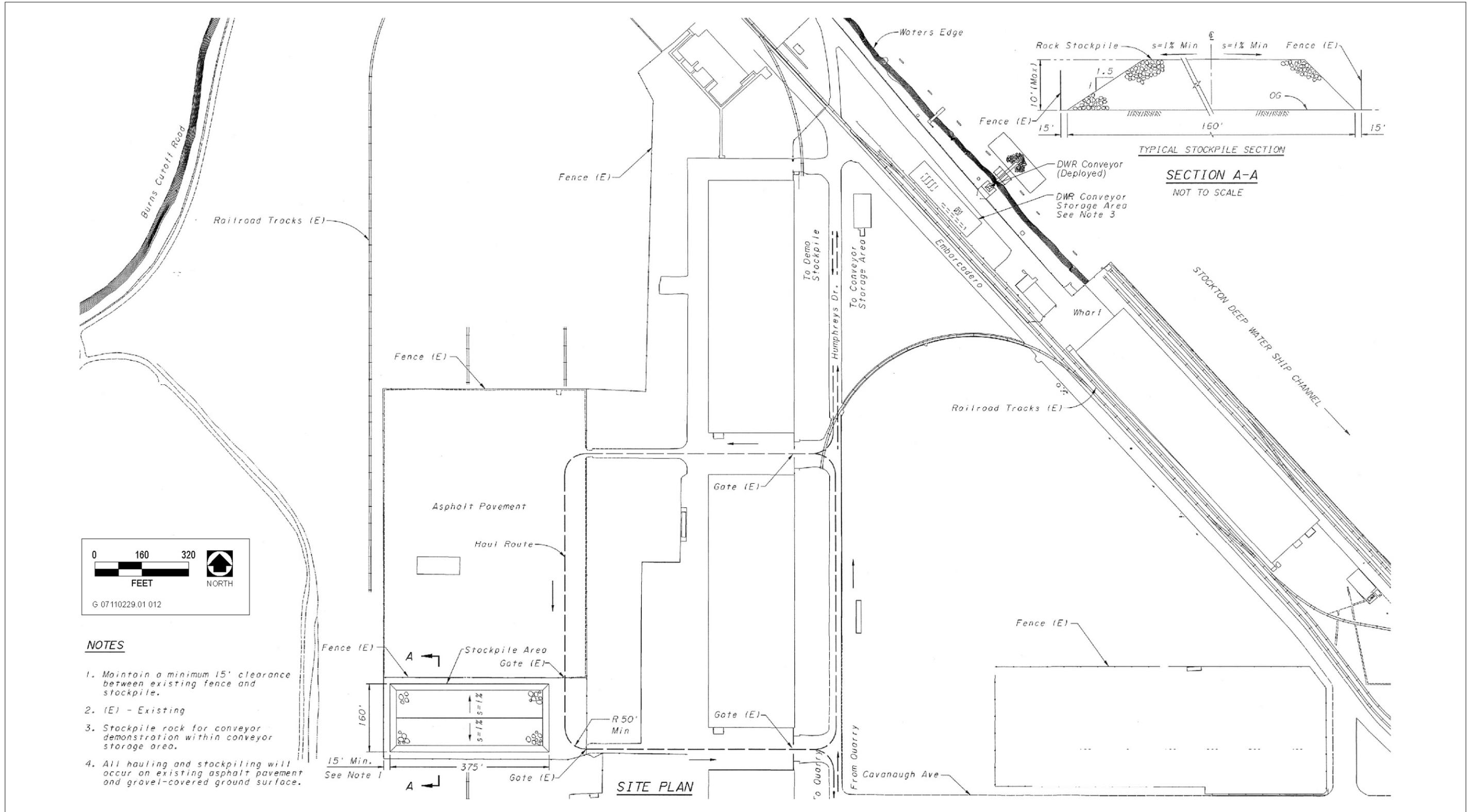
2.4 EMERGENCY STOCKPILE AND TRANSFER FACILITIES

As part of its emergency preparedness efforts, DWR proposes to stockpile rock and set up barge loading facilities at strategic locations around the Delta for use during emergency flood fighting operations in the event of a catastrophic flooding event in the Delta. Three rock-stockpile sites and associated barge loading areas have been identified, as described below:

- ▶ Port of Stockton
- ▶ Hood
- ▶ Rio Vista

2.4.1 PORT OF STOCKTON

The Port of Stockton sites are located on Rough and Ready Island, which is a largely industrialized area with existing warehousing and industrial structures, approximately 40 miles of railroad tracks, and more than 6,600 linear feet of wharf area. The proposed stockpile site is a flat, gravel-covered open storage area near the northern portion of Rough and Ready Island, south of the confluence of Burns Cutoff and the Stockton Deep Water Ship Channel (Exhibit 2-5). The site has historically been used by the Port of Stockton as an outdoor



Source: Data provided by EDAW in 2007

Port of Stockton Barge Loading Facilities and Stockpile Area

Exhibit 2-5

storage yard for large commercial products. No site improvements would be required to stockpile rock at this location.

A stockpile consisting of up to 25,000 tons of rock would be established on 2 acres of gravel-covered open storage area at the southern end of an existing asphalt apron (Exhibit 2-5). Access would be by an existing paved ingress at the northeast corner of the lot, and a similar existing paved egress at the southeast corner of the lot. The northern section of the existing concrete apron contains stockpiles of construction supplies, such as wood planks, structural steel, and other building materials. A parking lot and warehouses border the stockpile area on the east, and scattered ruderal and wetland vegetation borders the site to the south and west.

DWR's plans at the Port of Stockton also could include leasing of additional outdoor storage area that would allow stockpiling up to an additional 105,000 tons of rock riprap this year, which would allow for a total stockpile of 130,000 tons. Any additional storage area utilized by DWR on Rough and Ready Island would be leased from the Port of Stockton in a ready-for-use condition such that no site improvements or additional site permits would be required prior to initiating stockpiling activity on the site.

The barge loading equipment for the Port of Stockton site would be manufactured by a contractor, delivered to the site and demonstrated, then stored at the site until needed for deployment during an emergency flood fighting event. The proposed barge loading area would be located along the wharf approximately 1,000 feet northeast of the stockpile site and would be accessed by way of Humphrey's Drive and Embarcadero Drive (Exhibit 2-5). Barge loading equipment would include a conveyor (minimum 80 feet long with 4-foot-wide belt), hopper/feeder system, and intermediate support barge. The rock conveyor and hopper/feeder system would be capable of loading barges from shore with up to 24-inch minus rock at a maximum rate of 500 tons per hour.

When deployed, the hopper/feeder system would be skid mounted and anchored to a 6- to 12-inch-thick, 20-foot by 30-foot reinforced concrete pad that would be installed approximately 15 feet from the edge of the levee. Installation of the concrete pad would require removal of approximately 20–30 cubic yards of soil. The intermediate barge would be a modular barge system with support mast that would be anchored near shore with spuds when deployed.

All components of the barge loading equipment (conveyor, hopper/feeder system, modular barge) would be staged on land in a long-term storage area adjacent to the barge loading area. In the event of a declared flood emergency, the support barge, conveyor, and hopper/feeder components would be assembled using a land-based crane. A 30-foot-wide swing gate would be installed along the existing perimeter fencing that extends along the wharf area to provide access to the Stockton Deep Water Channel for deployment. A demonstration test would be performed when the equipment is delivered to the site. The demonstration would include setting up the equipment (2–3 days) and loading up to 500 tons of 24-inch minus rock onto a rock barge (1 day). Upon completion of the demonstration, the system would be disassembled (2–3 days) and staged in the long-term storage location adjacent to the barge loading area.

2.4.2 Hood

The Hood site is bordered by the Sacramento River on the west and River Road (SR 160) along its northern, eastern, and southern boundaries, which separate the site from the surrounding Hood community. A modular home park is located north of the site. A small commercial area and residential housing are located to the east, and a large irrigated pasture used for cattle grazing is located south of the site. The Hood site is privately owned and occupied by several large warehouse buildings. One of the warehouses is located on the bank of the river on the west side of the property, and several others occupy the east side with a partially paved loading/storage lot in between. Currently, Dutra Group leases the northern portion of the property and has established a barge loading facility currently equipped with a conveyor with an attached hopper/feeder system and an intermediate support barge anchored next to the riverbank by spud piles. DWR currently owns a portion of the property on the southern

end of the site near the entrance, where it has established a water quality sampling station in the Sacramento River.

DWR would lease additional property on the site to accommodate up to 10,000 tons of stockpiled rock and provide ingress and egress for haul trucks (Exhibit 2-6). DWR would also either lease the existing conveyor system or establish a similar barge loading operation in the same location that would replace the existing equipment owned by Dutra Group.

2.4.3 RIO VISTA

The stockpile site in Rio Vista would occupy approximately 3.6 acres of land owned by The Reclamation Board that is located northwest of River Road, west of the Sacramento River, northeast of Airport Road and approximately 1.2 miles northeast of SR 12, and south of the Yolo Bypass (Exhibit 2-7). ASTA Construction currently leases the property and uses the site for surface mining of dredge spoils that were deposited on the site in the early to mid-1900s. In addition to mounds of dredge spoil, the site contains scattered debris and areas of ruderal vegetation, as well as some seasonal wetland habitat. The site would be accessed from Airport Road via ASTA Construction's existing site entrance and haul roads into their surface mining area.

Site preparation would occur after the installation of temporary construction fencing to establish exclusion zones with 20-foot buffers around potentially sensitive habitat areas (Exhibit 2-7). Site preparation activities would include minor clearing, grading and compaction of the stockpile area (3.6 acres); and covering the stockpile area with up to 6 inches of aggregate base (4,670 tons) depending on weather conditions. These site preparation activities would occur over 4 days using the following equipment: 5–10 dump trucks, one grader, one roller, one compactor, one bulldozer, and one water truck. A total of 212 truckloads would be required for the laying of aggregate base if required due to weather conditions.

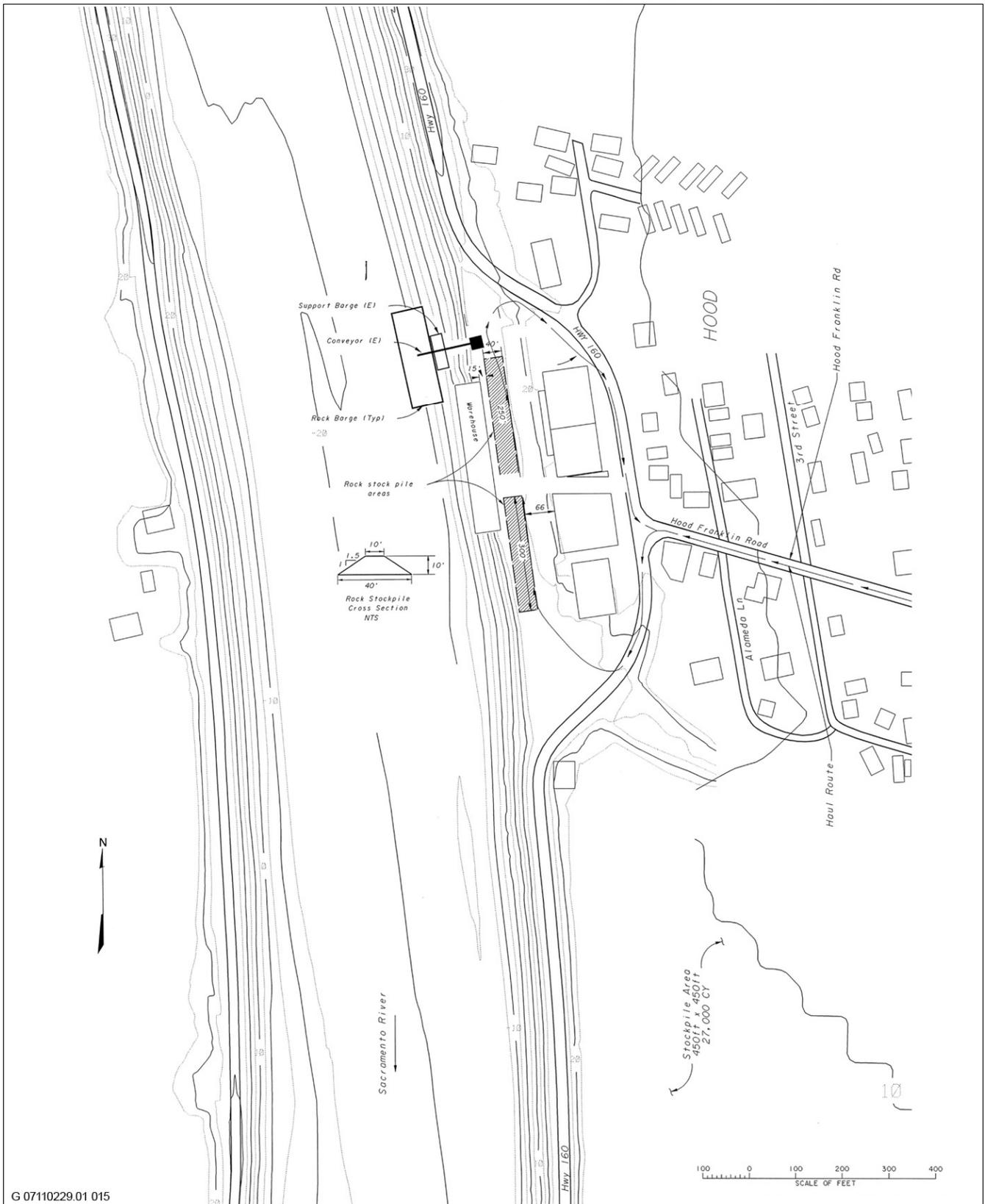
DWR proposes to stockpile 75,000 to 100,000 tons of rock riprap at the Rio Vista site. Emergency operations at Rio Vista assume an agreement with a neighboring company to provide barge loading services at existing facilities on River Road. Alternately, stockpiled rock may be transported to emergency flood fighting locations by truck, depending on accessibility.

2.5 ROCK STOCKPILING OPERATIONS

The tonnage of rock delivered to the three stockpile locations would be limited to the amounts below. All rock deliveries would occur during normal working hours (7 a.m. to 7 p.m.). Following mobilization of the stockpiled rock at these locations during emergency flood fighting operations, the stockpiles would be replenished in accordance with the quantities listed below to prepare for future flood emergencies. Again, the rock deliveries would occur during normal working hours. Given it is impossible to predict the time and location of future Delta flood emergencies, the timing and frequency of stockpile replenishment are too speculative to estimate at this time.

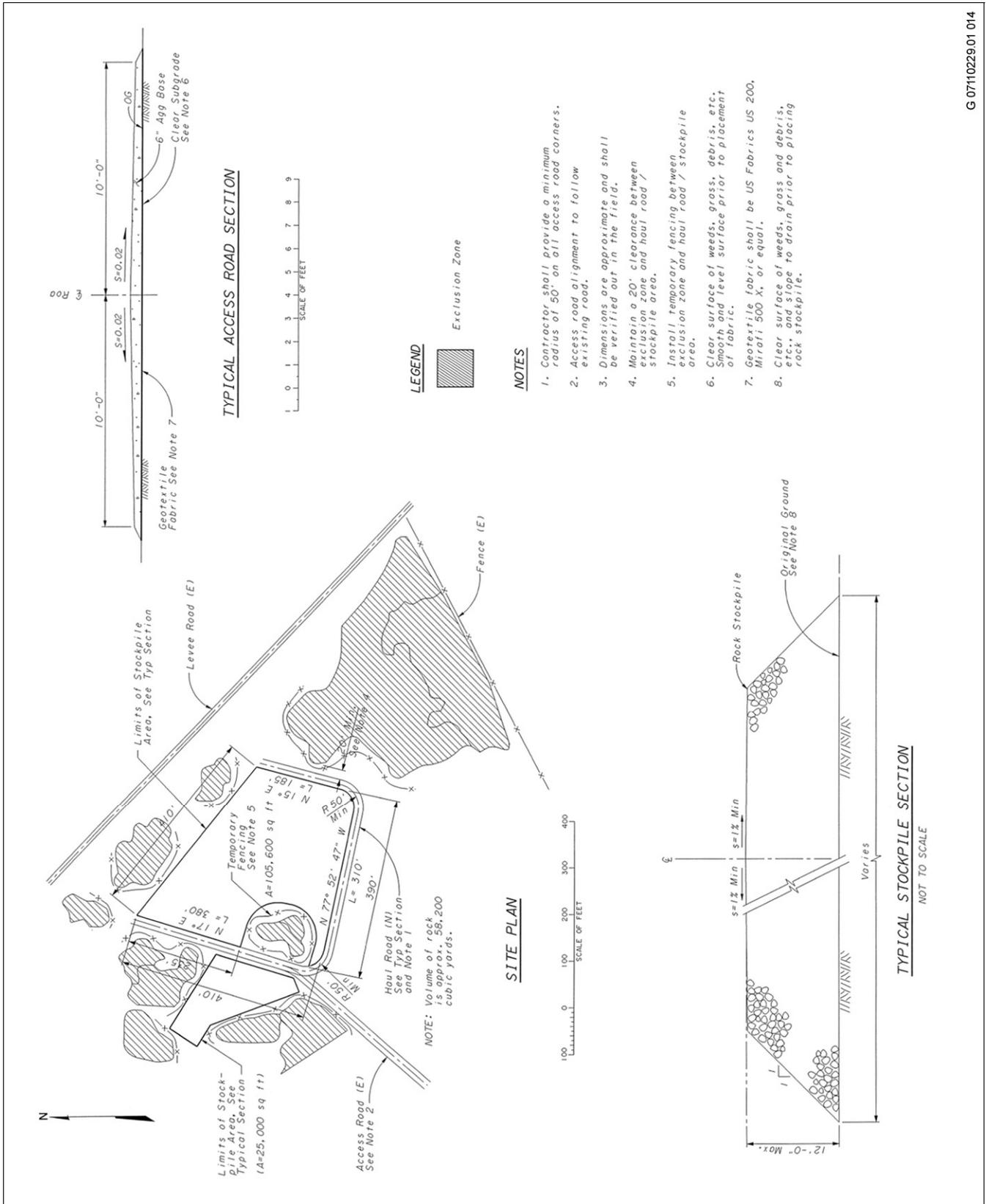
- ▶ Port of Stockton: Up to 130,000 tons
- ▶ Hood: Up to 10,000 tons
- ▶ Rio Vista: Up to 100,000 tons

Air quality calculations are based on conservative assumptions that rock would be transported by truck from quarries in the central Sierra Nevada foothills and delivered to the Port of Stockton, Hood, and Rio Vista sites in December 2007 through mid-2008. No more than 100 truckloads (20 tons per truckload) would be transported daily during stockpiling operations; and that daily offloading would require the use of two loaders. The actual location of the rock sources would be determined by a competitive bidding process, and air quality emissions



Hood Site Plan

Exhibit 2-6



Source: Data provided by EDAW in 2007

would be reevaluated after awarding of the contracts to ensure that emissions thresholds are not exceeded or are mitigated to a less-than-significant level if awarded quarry locations are farther away from the stockpile sites than those used in this analysis. Although the specific rock quarries to supply the rock have not yet been determined, a number of quarry sites have been identified as potential sources for the rock (Exhibit 2-4).

2.6 EMERGENCY FLOOD FIGHTING OPERATIONS

The following discussion of the emergency response actions is provided to address the whole of the action. These actions would occur with or without the project.

2.6.1 MOBILIZATION OF ROCK TO FLOOD FIGHT SITES IN THE DELTA

Activities that would occur during an emergency would depend on the location and severity of the emergency situation. Emergency situations could involve a natural or human-made disaster such as levee failures or imminent threat of failure caused by earthquake damage, high water (flood) levels, erosion, or other slope stability mechanisms (i.e., Jones Tract failure in 2004). In general, emergency flood fighting operations that would mobilize stockpiled rock using the above-described barge loading facilities would likely include the following set of actions:

1. DWR's Director and/or the Governor would declare a flood emergency and activate the State-Federal FOC.
2. DWR's Division of Flood Management would initiate a response to the declared flood emergency.
3. DWR would mobilize personnel, materials, and equipment through emergency contracts.
4. Rock conveyor system at the Port of Stockton would be deployed (2–3 days) and mobile generators would be delivered to the Port of Stockton and Hood sites to power the conveyor systems. The neighboring barge loading company in Rio Vista would be brought online.
5. Loading equipment, including front-end loaders and dump trucks, would be mobilized to all three stockpile locations.
6. Rock barges and tug boats would be mobilized to the transfer facilities to receive rock from the conveyors.
7. Depending on the scale of the disaster, multiple rock quarries would begin producing rock, and trucking companies would begin hauling rock (20 tons per load) from the quarries to the transfer facilities for loading onto barges.
8. Rock from existing stockpiles would be loaded onto barges in conjunction with quarry-run rock coming directly from the quarries.
9. Barge-mounted cranes would be deployed to emergency locations for in-water placement of rock from the rock barges.
10. Barge and truck traffic would be continually adjusted based on need for rock and availability of resources (e.g., rock, barges, tugs, trucks, fuel, personnel).

2.6.2 USE OF ROCK AT FLOOD SITES IN THE DELTA

Three primary uses are envisioned for rock in the Delta during the emergency operations:

1. *Flood fighting (before levee breach)*. This may involve placement of rock on the waterside slope and/or crest of a levee to armor the levee against erosion, mitigate crest settlement, add freeboard, or address other slope stability issues. Rock placement may also be on the landside slope or toe to buttress the levee and improve slope stability.
2. *Levee breach closure (after failure and island inundation)*. It is assumed that once a levee is breached, levee closure would not take place until the island is filled with water and the water levels in the river and islands have equalized. Rockfill may be used to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior (i.e., former landside slopes) from wind-driven wave erosion.
3. *Channel closures/Levee armoring*. Significant impacts on water quality from the intrusion of saltwater are predicted under the catastrophic earthquake/multi-island failure scenario. After the response planned for protecting life and property is complete (i.e., flood fighting, levee closures), constructing temporary channel closures at strategic locations would protect the area from saltwater intrusion and reestablish municipal and agricultural water supply operations in the Delta. The emergency effort would be designed to flush saltwater from the south Delta and restore water supplies for State Water Project (SWP), Central Valley Project (CVP), and local water agencies. Channel closure designs would likely be similar to DWR's temporary rock barriers installed each year in the south Delta (DWR 2000).

Emergency flood fighting operations could be required at any time and at virtually any location throughout the Delta, which contains more than 1,100 miles of levees. It is important to note that large quantities of rock would be used at flood fight sites in the Delta as described above with or without the proposed project. The proposed stockpiles represent a fraction of the rock required during a large-scale disaster scenario. Predeployment of these materials and establishment of the transfer facilities would greatly improve the operational flexibility and reliability during the emergency response.

2.7 ENVIRONMENTAL PROTECTION

This section describes features of the proposed project that DWR has adopted as part of the project design and construction process to reduce potential environmental impacts. In addition to these features, DWR would adopt and implement the mitigation measures identified in Chapter 3 and incorporate them into the project design.

2.7.1 WATER QUALITY PROTECTION

Erosion is the process by which soil particles are displaced and transported by wind or water. Site preparation activities at Rio Vista and to a very limited extent at the Port of Stockton may expose the project sites to possible erosion. DWR will implement Best Management Practices (BMPs) in accordance with applicable federal and state regulations that provide for protecting the quality of stormwater discharge at all three project sites. Before the start of any construction work, clearing, or site grading associated with preparation of the Rio Vista or Port of Stockton sites, and any stockpiling activities at all three sites, measures to control soil erosion and waste discharges will be prepared. DWR will require all contractors conducting work at the sites to implement the measures to control soil erosion and waste discharges of other construction-related contaminants, and the general contractor(s) and subcontractor(s) conducting the work will be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

The plans developed by DWR or its contractor(s) will identify the grading, erosion, and tracking control BMPs and specifications that are necessary to avoid and minimize water quality impacts to the extent practicable.

Standard erosion control measures (e.g., management, structural, and vegetative controls) will be implemented for all construction activities that expose soil. Grading operations will be conducted to eliminate direct routes for conveying potentially contaminated runoff to drainage channels. Erosion control barriers such as silt fences and mulching material will be installed, and disturbed areas will be reseeded with grass or other plants where necessary. Tracking controls shall be required year-round, as needed, to reduce the tracking of sediment and debris from the construction site. At a minimum, entrances and exits shall be inspected daily, and controls implemented as needed. The following specific BMPs will be implemented:

- ▶ Conduct all work according to site-specific construction plans that identify areas for clearing, and grading so that ground disturbance is minimized.
- ▶ Avoid riparian and wetland vegetation wherever possible and identify vegetation to be retained for habitat maintenance (i.e., as identified through preconstruction biological surveys), cover cleared areas with mulches, install silt fences near riparian areas or streams to control erosion and trap sediment, and reseed cleared areas with native vegetation.
- ▶ Stabilize disturbed soils before the onset of the winter rainfall season.
- ▶ Stabilize and protect stockpiles from exposure to erosion and flooding.
- ▶ Stabilize all construction access by providing a point of entrance/exit to the construction sites to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- ▶ Grade each construction entrance/exit to prevent runoff from leaving the construction site, and ensure that all runoff from the stabilized entrances/exits are routed through a sediment-trapping device before discharge.
- ▶ Ensure that entry/exitways are able to support the heaviest vehicles and equipment that will use them.

BMPs will also specify appropriate hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants. Specific measures applicable to the project include, but are not limited to, the following:

- ▶ Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- ▶ Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.
- ▶ Maintain controlled construction staging, site entrance, concrete washout, and fueling areas at least 100 feet away from stream channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- ▶ Prevent raw cement; concrete or concrete washings; asphalt, paint, or other coating material; oil or other petroleum products; or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- ▶ Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION		
1. Project Title:	Delta Emergency Rock and Transfer Facilities	
2. Lead Agency Name and Address:	California Department of Water Resources 1416 9 th Street, Sacramento, CA 95814	
3. Contact Person and Phone Number:	David Rennie, Senior Water Resources Engineer, Division of Engineering (916) 653-6396	
4. Project Location:	Lot 1004, Rough and Ready Island, Port of Stockton, CA. River Road 1 mile north of State Route 12, Rio Vista, CA. Franklin Road and River Road, Hood, CA	
5. Project Sponsor's Name and Address:	California Department of Water Resources 1416 9 th Street, Sacramento, CA 95814	
6. General Plan Designation:	Port of Stockton site: Institutional Use Rio Vista site: Extensive Agriculture Hood site: Intensive Industrial	
7. Zoning:	Port of Stockton site: Public Lands (P-L) Rio Vista site: Agriculture Hood Site: Industrial	
8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	Attached.	
9. Surrounding Land Uses and Setting: (Briefly describe the project's surroundings)	See Chapter 2.	
10. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)	See Chapter 1.	
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:		
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.		
<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology / Soils
<input type="checkbox"/> Hazards & Hazardous Materials	<input type="checkbox"/> Hydrology / Water Quality	<input type="checkbox"/> Land Use / Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing
<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation / Traffic
<input type="checkbox"/> Utilities / Service Systems	<input type="checkbox"/> Mandatory Findings of Significance	<input checked="" type="checkbox"/> None With Mitigation

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed project **COULD** have a significant effect on the environment, there **WILL NOT** be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

I find that the proposed project **MAY** have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

Title

Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

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

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

PORT OF STOCKTON

The Port of Stockton site is located on Rough and Ready Island, which is a heavily industrialized area in the Port of Stockton, densely populated with warehouses and industrial structures, and includes over 40 miles of railroad tracks and 6,600 linear feet of wharf area where large freight ships regularly dock. The wharf area where the proposed concrete pad and barge loading area would be located is adjacent to the Stockton Deep Water Channel. Industrial, residential, and recreational facilities, including the Stockton Country Club and Louis Park, are located to the north on the other side of the Stockton Deep Water Channel.

The port stockpile area consists of approximately 2 acres of gravel-covered open storage area on the south end of an approximately 6-acre existing asphalt apron. The site is accessed by an existing paved ingress in the north end of the asphalt apron, with an existing egress on the southeast portion. Warehousing, paved roads, and parking lots border the site to the east and north, and riparian forest and scattered ruderal vegetation borders the south and west. The site itself is currently utilized to store various types of construction materials, including large I-beams and lumber (EDAW 2007b).

Hood

The Hood site is an existing barge loading area containing several large warehouse buildings, one alongside the Sacramento River with a loading/storage lot separating several warehouse buildings. Just north of the waterside warehouse is a barge loading facility equipped with an existing barge anchored by spud piles and a conveyor belt and associated power supply. These facilities are owned by Dutra Group, Inc., which leases a portion of the Hood site from the current landowner. River Road separates the site from the small community of Hood. A modular home park is located north of the site. Adjacent to the west are two abandoned commercial structures and a small market. A residential area lies to the east. A patch of riparian forest is south of the site between the site and a large open grazing field.

RIO VISTA

The Rio Vista site is owned by the State of California Reclamation Board and leased by ASTA Construction, Inc. The site is located northwest of River Road, west of the Sacramento River. The site is previously disturbed and contains dredge spoils. Currently it is used for surface mining operations by extracting sand and clay from the dredge spoils. The site contains mounds of dirt piles and scattered areas of ruderal vegetation, as well as some notable habitat areas. The site has no direct access to the Sacramento River but would likely use an existing barge loading area south of the proposed stockpile site along River Road. Vacant structures and a junkyard are located southeast of the site, riparian forest and ruderal habitat to the south, and the Yolo Bypass area is north of the site, separated by a levee that has been used in the past to haul dredge spoils and mined deposits to and from the project site. Several abandoned buildings are directly east of the site (EDAW 2007a).

DISCUSSION

This analysis focuses on project-related effects associated with emergency preparedness activities, which would reduce environmental impacts that emergency response activities (i.e., conducted during an actual emergency) would have in response to a levee breach or other levee failure. Furthermore, emergency levee repair activities would take place as needed throughout the Delta with or without this project. Nonetheless, implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year. The emergency activities would be in response to breaches on existing levees, and emergency impacts could potentially temporarily alter the aesthetics in the area with the use of large construction equipment; however, these impacts would only be temporary until the levee is restored to its original configuration, whereby the operations would have no impact on the existing visual resources. Because there is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used; emergency response actions will be taken during any such emergency irrespective of the proposed project, and visual effects will be essentially the same with or without the proposed project, impacts to visual resources associated with emergency operations are not discussed further.

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is defined as an expansive view of a highly valued landscape from a publicly accessible viewpoint. All three of the proposed stockpile locations are previously disturbed sites containing, at one time or another, various types of industrial uses, including; barge loading, surface mining, warehousing, and materials storage. The stockpiling operations at the Port of Stockton would be located in a highly industrialized area, and would use a developed area along the active wharf on the Stockton Deep Water Channel for barge loading. Further, the barge loading facilities at the Port of Stockton site would not be permanently installed and would only be assembled temporarily during emergency situations; therefore, the wharf area would maintain its existing aesthetic features. The Hood site would stockpile riprap between two existing warehouse buildings on a lot that is used for storage of construction materials. The warehouses would largely shield the stockpile from views and would not significantly impact the surrounding viewshed. The Rio Vista site would use an area that has historically been used to store dredge spoils. This site contains existing mounds of soil and would use an existing barge loading facility in the project vicinity. The site is adjacent to a junkyard that contains decrepit and abandoned machinery and old rusted cars. Truck hauling routes from nearby quarry sites are also not considered to have designated scenic vistas, and transporting rock from the quarry sites would occur during a flood with or without the proposed project. The proposed sites and project activities are not located in an area that is officially designated as scenic and the project would have **no impact**.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The Port of Stockton site is not located on or near a state-designated scenic highway and does not contain rock outcroppings, large native trees, or historic buildings that would constitute a scenic resource. The Rio Vista site is located across the Sacramento River from California State Route (SR) 160, which is designated as a State Scenic Highway. The Hood site is located adjacent to California SR 160, which is also known as River Road in that stretch of the highway. The Rio Vista site is largely not visible from SR 160 because of a junkyard and several abandoned and deteriorating buildings separating the site from the Sacramento River, which is approximately 2,500 feet wide at this point in the river. At the Hood site, the stockpile of riprap would be placed between two warehouse buildings. One of these buildings would largely shield the view of the stockpile from River Road. Furthermore, both of these areas have extensive industrial uses. The Sacramento-San Joaquin River Delta (Delta) area along SR 160 is in heavy agricultural use, which requires use of heavy machinery and includes manipulation of the land areas in the project vicinity, including maintenance of the substantial levee system. The industrial and agricultural uses in the area are a part of the Delta aesthetic makeup. Truck hauling routes from nearby quarry sites are also not considered to have designated scenic vistas, and transporting rock from the quarry sites would occur during a flood with or without the proposed project. Therefore, the proposed project would not damage any scenic resources within a state-designated scenic highway and the project would have a **less-than-significant** impact.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

As mentioned, all three of the proposed stockpile locations are previously disturbed sites containing past and existing industrial uses, including barge loading activities, surface mining, warehousing, and materials storage. The proposed stockpiling of rock materials and riprap on the three proposed sites would minimally alter the localized visual resources by adding additional mounds of resource materials. However, the Hood site and the Rio Vista site would use existing barge loading facilities. The Port of Stockton site would add temporary machinery and equipment required to load the materials onto barges during emergency operations only, after which the equipment would be stored on land adjacent to the wharf.

The Hood site currently contains barge loading equipment, and the proposed stockpile area would be located between two large warehouse buildings, which would act as a buffer to the surrounding area. The Rio Vista site is currently used for surface mining operations and heavy mechanical equipment has been used on the site on a regular basis to extract and transport dredge spoils. The site is adjacent to a junkyard, which separates the site from River Road. Furthermore, the site contains mounds of existing aggregate as a result of mining activities; therefore, stockpiling materials onsite and the addition of associated hauling equipment would not change the existing visual character of the site. The Port of Stockton stockpile site is located within a heavily industrialized area. The site is currently paved and is used to store existing construction materials; therefore, the addition of stockpile materials would have minimal impacts on the existing visual character of the site. Visual resources along truck hauling routes from nearby quarry sites would not be substantially degraded by additional truck traffic hauling rock, and transporting rock from the quarry sites would occur during a flood with or without the proposed project. Furthermore, due to the previous and existing industrial uses of the three proposed stockpile sites, the project would not substantially degrade the existing visual character or quality of the site and its surroundings and the project would have a **less-than-significant** impact.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Stockpiling activities and the proposed demonstration at the Port of Stockton site would not occur at night. However, during an emergency flood fight situation, barge loading could occur from dawn to dusk. At a minimum, lights would be brought out to safely extend operations from dawn to dusk with rented portable light

towers. It is possible that barges may transit the Delta at night during an emergency flood fight, although these activities are highly speculative and are dependent on the timing and scale of the emergency. Emergency activities would be infrequent and could occur during daylight hours and nighttime hours. Because an emergency situation could occur at any hour, it can be assumed that the proposed Port of Stockton barge loading area may be required to operate during hours of darkness. However, this would be a less-than-significant impact because of the infrequency of the emergency operations and because the Port of Stockton area is heavily inundated with nighttime lighting. Rock transport by truck from nearby quarry sites could occur at night but would not create substantial increases in light or glare, and transporting rock from the quarry sites would occur during a flood with or without the proposed project. Therefore, this would be a **less-than-significant** impact.

3.2 AGRICULTURAL RESOURCES

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

ENVIRONMENTAL SETTING

All three of the proposed stockpile locations are previously disturbed sites containing various types of industrial uses, including; barge loading, surface mining, warehousing, and materials storage. No agricultural activities currently take place on any of the sites, and none of the sites are designated or zoned for agricultural use. Transporting rock from the quarries to the stockpile locations would also not affect agricultural resources or activities.

DISCUSSION

Emergency levee repair operations would be required in response to breaches of existing levees, which currently protect extensive amounts of agricultural properties from flood-related impacts throughout the Delta; therefore, stockpiling levee fill materials in strategic locations in the Delta would assist in expediting levee repairs, which would thereby help to protect agricultural resources in the Delta. There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used; and emergency response actions will be taken during any such emergency irrespective of the proposed project. Furthermore, emergency levee repair activities would take place as needed throughout the Delta with or without this project.

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

According to the Farmland Mapping and Monitoring Program, the three proposed stockpile sites consist of Urban and Built-Up Lands, and Other Lands. The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program, and the project would have **no impact**.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

The Port of Stockton site and the Hood site are not zoned for agricultural use. The Rio Vista site is zoned for agriculture; however, the site is currently utilized for surface mining and storage of dredge spoils from the Sacramento River, which has occurred on the site since the 1950s. The proposed use would not alter the existing use on the site. Further, according to the Solano County General Plan Background Report (2006c), under the County's existing General Plan, agricultural zoning district designations are used as holding zones for areas anticipated for future urban and rural development. None of the three sites are currently in a Williamson Act contract and the project would have a **less-than-significant** impact.

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?

All three of the proposed stockpile locations are previously disturbed sites. No agricultural activities currently take place on any of the sites; therefore, the project would have **no impact**.

3.3 AIR QUALITY

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

ENVIRONMENTAL SETTING

The proposed stockpiling and barge loading sites and the truck routes fall under the jurisdiction of multiple air districts. The Port of Stockton site is located in San Joaquin County which is under the jurisdiction of San Joaquin Valley Air Pollution Control District (SJVAPCD), the Rio Vista site in Solano County is under the jurisdiction of Yolo-Solano Air Quality Management District (YSAQMD), and the Hood site in southern Sacramento County is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD).

There are a number of quarries in California that could supply the rock for stockpiling at the proposed stockpile locations. A competitive bid process would be used to make the final determination. However, two possible quarries, which are located in the central Sierra Nevada foothills, have been identified (i.e., Ione and/or Valley Springs) for the purposes of this analysis. The truck routes from these quarries to each of the sites pass through three different air basins and; hence, are under the jurisdiction of multiple air districts (Table 3-1).

Concentrations of the following air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable and fine particulate matter (PM₁₀ and PM_{2.5}), and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be deleterious to human health, and because there is extensive documentation available on health-effects criteria for these pollutants, they are commonly referred to as “criteria air pollutants.”

**Table 3-1
Identification of Applicable Air Basins and Districts for Truck Routes from Lone/Valley Springs Quarry to Stockpiling Sites**

Site	Quarry Location			
	lone		Valley Springs	
	Air Basin	Air District	Air Basin	Air District
Port of Stockton	Mountain Counties	ACAPCD	Mountain Counties	CCAPCD
	San Joaquin Valley	SJVAPCD	San Joaquin Valley	SJVAPCD
Rio Vista	Mountain Counties	ACAPCD	Mountain Counties	CCAPCD
	San Joaquin Valley	SJVAPCD	San Joaquin Valley	SJVAPCD
	Sacramento Valley	SMAQMD	Sacramento Valley	SMAQMD
Hood	Mountain Counties	ACAPCD	Mountain Counties	CCAPCD
	San Joaquin Valley	SJVAPCD	San Joaquin Valley	SJVAPCD
	Sacramento Valley	SMAQMD	Sacramento Valley	SMAQMD

Notes: ACAPCD = Amador County Air Pollution Control District; CCAPCD = Calaveras County Air Pollution Control District; SJVAPCD = San Joaquin Valley Air Pollution Control District; SMAQMD = Sacramento Metro Air Pollution Control District
Source: Information Compiled by EDAW 2007.

Criteria air pollutant concentrations are measured at several monitoring stations in the Mountain Counties, San Joaquin Valley, and Sacramento Valley air basins. Both California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA) use the monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. The most current attainment designations for all the counties applicable to the proposed project with respect to both the national and state standards are shown in Table 3-2 for ozone, PM₁₀, and PM_{2.5}. With respect to the other criteria air pollutants, these areas are designated as either attainment or unclassified.

SMAQMD and YSAQMD in coordination with the air quality management districts and air pollution control districts of El Dorado, Placer, and Sutter counties prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) in compliance with the requirements set forth in the California Clean Air Act (CCAA), which specifically addressed the nonattainment status for ozone and to a lesser extent, CO and PM₁₀. The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the AQAP must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 Ozone Attainment Plan (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing emissions of ozone precursors [e.g., reactive organic gases (ROG) and oxides of nitrogen (NO_x). It promotes active public involvement, enforcement of compliance with SMAQMD and YSAQMD rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of stationary and mobile-source control measures. The OAP became part of the state implementation plan (SIP) in accordance with the requirements of the CCAA and amended the 1991 AQAP. Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates.

Table 3-2 Summary of Attainment Status Designations for Ozone, PM₁₀ and PM_{2.5}						
County/Air Basin	Criteria Air Pollutant					
	Ozone		PM ₁₀ ¹		PM _{2.5} ²	
	National (8-Hour Standard)	State (1-Hour Standard)	National	State	National	State
Amador County/ Mountain Counties	Nonattainment	Nonattainment	Unclassified	Unclassified	Unclassified	Unclassified
Calaveras County/ Mountain Counties	Nonattainment	Nonattainment	Unclassified	Nonattainment	Unclassified	Unclassified
San Joaquin County/ San Joaquin Valley	Nonattainment (Serious)	Nonattainment (Severe)	Nonattainment (Serious)	Nonattainment	Nonattainment	Nonattainment
Sacramento County/ Sacramento Valley	Nonattainment (Serious)	Nonattainment (Serious)	Nonattainment (Moderate)	Nonattainment	Unclassified	Nonattainment
Solano County/ Sacramento Valley	Nonattainment (Serious)	Nonattainment (Serious)	Unclassified	Nonattainment	Unclassified	Unclassified

¹ Respirable particulate matter with an aerodynamic diameter of 10 and micrometers or less
² Fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
Source: ARB 2007, EPA 2007

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations. Milestone reports were prepared for 1996, 1999, 2002, and 2006. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento ozone nonattainment area. The air quality attainment plans and reports present comprehensive strategies to reduce ROG, NO_x, and PM₁₀ emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and stationary-, mobile-, and indirect-source control measures.

The SJVAPCD also prepares and submits AQAPs, triennial assessments, and rate-of-progress milestone evaluations in compliance with the requirements set forth in the CCAA. Table 3-3 summarizes SJVAPCD's most current AQAPs.

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

Construction-Related Emissions of Criteria Air Pollutants and Precursors

Construction-related emissions are described as “short-term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive PM₁₀ dust emissions. Fugitive PM₁₀ dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Ozone precursor emissions of ROG and NO_x are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings.

**Table 3-3
Summary of San Joaquin Valley Air Pollution Control District Air Quality Plans**

Pollutant	Plan Title	Date	Status
Ozone	Extreme Ozone Attainment Demonstration Plan, San Joaquin Valley Air Basin Plan Demonstrating Attainment Of Federal 1-hour Ozone Standards	October 2004, Amended October 2005	Adopted by SJVAPCD and ARB in October 2004. Submitted to EPA in November 2004 ¹ .
	Draft Staff Report, 8-hour Ozone Reasonably Available Control Technology – State Implementation Plan (RACT SIP) Analysis	April 2006	Adopted by SJVAPCD in August 2006.
	8-hour Ozone Attainment Demonstration Plan for the San Joaquin Valley	April 2007	Adopted by SJVAPCD in April 2007. Submitted to EPA in June 2007.
Carbon Monoxide (CO)	2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan For Ten Federal Planning Areas	July 2004	Adopted by ARB July 2004.
Respirable and Fine Particulate Matter (PM ₁₀ and PM _{2.5})	2006 PM ₁₀ Plan. San Joaquin Valley Strategy for Meeting Federal Air Quality Requirements for Particulate Matter 10 Microns and Smaller	February 2006	Adopted by SJVAPCD in February 2006. Submitted to EPA.
	PM _{2.5} Plan	-	In progress. Due to EPA April 2008.
	Natural Events Action Plan for High Wind Events in the San Joaquin Valley	February 2006	Adopted by SJVAPCD in February 2006. Submitted to ARB.

¹ Effective June 15, 2005, EPA revoked in full the national 1-hour ozone ambient air quality standard, including associated designations and classifications.

Source: SJVAPCD 2005, 2006a, 2006b, 2006c, 2007a, 2007b.

The proposed project would require limited ground-disturbing activities at the Port of Stockton and Rio Vista sites. The Hood site, which has an existing barge loading facility equipped with a conveyor with an attached hopper/feeder system on-site, would not require any site preparation. The earth moving activities at the Port of Stockton would include soil removal for setting up barge loading equipment, a demonstration test of the equipment, and removal and storage of the equipment. Site preparation activities at the Rio Vista site would include minor clearing, grading, and compacting of the stockpile area, and possibly covering the stockpile area with up to 6 inches of aggregate base depending on weather conditions. In addition, the transportation of stockpile material from the Sierra Nevada foothill quarries would be a source of on-road emissions. Thus, the proposed project would result in the temporary generation of ROG, NO_x, and PM₁₀ emissions from site preparation and stockpiling activities (e.g., minor ground disturbance; construction equipment, worker commute, and material transport exhaust emissions).

For the purposes of this analysis, the maximum yearly stockpile capacities were assumed to be 130,000 tons at the Port of Stockton site, 100,000 tons at Rio Vista, and 10,000 at Hood. The stockpile sites at the Port of Stockton, Rio Vista, and Hood would be 2 acres, 3.6 acres and 0.5 acre in size, respectively. The durations of stockpiling activities are based on the assumption that no more than 100 truckloads (20 tons per truckload) would occur on a daily basis. Refer to Table 3-4 and Appendix A for a description of all assumptions used in this analysis.

As shown in Table 3-4, the SMAQMD, YSAQMD, and SJVAPCD have adopted emissions thresholds based on conservative assumptions, to evaluate the significance of a project’s impact on air quality. The CCAPCD has not adopted any quantitative thresholds with which to evaluate construction and/or operation-related air quality impacts

**Table 3-4
Summary of Modeled Project-Generated Construction-Related Emissions of Criteria Air Pollutants and Precursors¹**

	Pollutant		
	ROG	NO _x	PM ₁₀
Emissions in San Joaquin Valley – SJVAPCD (Tons/Year)			
Port of Stockton			
Site Preparation Emissions	0.01	0.14	0.01
Stockpiling On-site Emissions	0.04	0.27	0.67
On-road Emissions - Rock delivered from Ione Quarry	0.56	8.88	0.39
On-road Emissions - Rock delivered from Valley Springs Quarry	0.61	9.65	0.42
Hood			
On-road Emissions - Rock delivered from Ione Quarry	0.03	0.50	0.02
On-road Emissions - Rock delivered from Valley Springs Quarry	0.04	0.54	0.03
Rio Vista			
On-road Emissions - Rock delivered from Ione Quarry	0.46	6.02	0.30
On-road Emissions - Rock delivered from Valley Springs Quarry	0.50	6.47	0.32
Total Unmitigated (Tons/Year) - Worst Case	1.20	17.07	1.45
SJVAPCD Thresholds (Tons/Year)	10	10	–
Significant?	No	Yes	No
Emissions in Sacramento Valley – SMAQMD (lb/day)			
Rio Vista			
On-road Emissions - Rock delivered from Ione Quarry	4.71	61.11	3.04
On-road Emissions - Rock delivered from Valley Springs Quarry	4.19	54.28	2.70
Hood			
Stockpiling Onsite Emissions	0.69	4.14	5.38
On-road Emissions - Rock delivered from Ione Quarry	4.14	63.71	0.59
On-road Emissions - Rock delivered from Valley Springs Quarry	4.36	67.17	3.12
Total Unmitigated (lb/day) - Worst Case	4.71	67.17	5.38
SMAQMD Thresholds (lb/day)	–	85	–
Significant?	–	No	–
Emissions in Solano County – YSAQMD			
	Tons/Year	Tons/Year	lb/day
Rio Vista			
Site Preparation Emissions	0.04	0.44	45.16
Stockpiling On-site Emissions	0.04	0.21	36.76
Total Unmitigated (tons/year and lb/day) - Worst Case	0.08	0.65	45.16

**Table 3-4
Summary of Modeled Project-Generated Construction-Related Emissions of Criteria Air Pollutants and Precursors¹**

	Pollutant		
	ROG	NO _x	PM ₁₀
YSAQMD Thresholds (tons/year and lbs/day)	10	10	80
Significant?	No	No	No
Emissions in Amador County – ACAPCD (lb/day)			
Port of Stockton			
On-road Emissions - Rock delivered from Ione Quarry	4.06	64.11	2.82
Hood			
On-road Emissions - Rock delivered from Ione Quarry	3.52	54.16	2.52
Rio Vista			
On-road Emissions - Rock delivered from Ione Quarry	4.71	61.11	3.04
Total Unmitigated (lb/day) – Worst Case	4.71	64.11	3.04
ACAPCD Thresholds (lb/day)	274	274	383
Significant?	No	No	No
Emissions in Calaveras County – CCAPCD (Tons/Year)			
Port of Stockton			
On-road Emissions - Rock delivered from Valley Springs Quarry	0.20	3.22	0.14
Rio Vista			
On-road Emissions - Rock delivered from Valley Springs Quarry	0.20	2.61	0.13
Hood			
On-road Emissions - Rock delivered from Valley Springs Quarry	0.01	0.22	0.01
Total Emissions (Tons/Year) – 2008	0.41	6.05	0.28
CCAPCD Thresholds (Tons/Year) note about SJVAPCD thresholds	10	10	–
Significant?	No	No	–

¹ Based on EMFAC2007 and OFFROAD2007 emission factors contained in URBEMIS Version 9.2.2, using general information provided in the project description (e.g., equipment list, stockpiling volumes and area, number of truck trips), and default model settings and parameters. Stockpiling is assumed to take place at one site at a time, i.e., trucks deliver the rock to only one site at a given time.

² Site preparation includes delivery of conveyor and hopper/feeder system, installation of a concrete pad and soil removal, setting up the equipment for barge loading, conveyor demonstration, and disassembling and storage of the system. Construction equipment exhaust includes the operation of 1 cement and mortar mixer, 1 crane, 1 grader, 1 concrete truck, and 1 concrete pump for setting up equipment; 1 conveyor, 1 hopper/feeder system, 1 rubber tired dozer, 1 loader, and 1 water truck for the equipment demonstration; and 1 crane and 1 water truck for system disassembly and storage.

³ Stockpiling onsite emissions include fugitive dust and exhaust emissions from the use of 2 loaders at the Port of Stockton and Rio Vista sites and 1 loader at the Hood site.

⁴ Site preparation includes minor clearing, and grading and compaction of stockpile area, and laying of 4,670 tons of aggregate base on stockpile area. Construction equipment exhaust includes the operation of 1 grader, 10 dump trucks, 1 roller, 1 rubber tired dozer, 1 roller, and 1 water truck. A total of 212 truckloads of aggregate material would be required for the laying down of the base.

Refer to Table 3-4 and Appendix A for detailed modeling input parameters and results.

Source: Data modeled by EDAW 2007

of proposed projects. However, given the close proximity of the truck route to San Joaquin Valley, the CCAPCD recommends the use of SJVAPCD's significance thresholds and associated Guide for Assessing and Mitigating Air Quality Impacts for this project (Grewal, pers. comm., 2007).

Project-generated construction-related emissions of ROG, NO_x, and PM₁₀ were modeled using ARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions, as contained in the URBEMIS2007, version 9.2.2 computer model (Rimpo 2007). Refer to Table 3-4 and Appendix A for detailed modeling input parameters and results. Project-generated emissions are discussed separately below and in Table 3-4 by each applicable air district.

With respect to the SJVAPCD, construction-related activities would result in worst-case project-generated annual unmitigated emissions of approximately 1.2 tons/year of ROG and 17.1 tons/year of NO_x (Refer to Table 3-4). Based on the modeling conducted, construction-related activities would result in project-generated emissions of NO_x that exceed SJVAPCD's significance threshold of 10 tons/year. With respect to PM₁₀, emissions, the proposed project would be required by law to comply with SJVAPCD's Regulation VIII (Fugitive PM₁₀ Prohibitions), which would reduce fugitive dust by a minimum of 50%. According to the SJVAPCD, compliance with Regulation VIII would reduce PM₁₀ emissions to a less-than-significant level (SJVAPCD 2002).

With respect to the SMAQMD, construction-related activities would result in worst-case project-generated daily unmitigated emissions of 67.2 lb/day of NO_x, which would not exceed SMAQMD's significance threshold of 85 lb/day. In addition, according to SMAQMD, if a project's mass emissions (lb/day) of NO_x from mobile sources is determined to be less than the significance threshold using SMAQMD-recommended methodologies, then exhaust emissions of other pollutants (e.g., ROG, CO, NO₂, and SO₂) from operation of construction equipment and worker commute would also be less than significant (SMAQMD 2004). With respect to PM₁₀ emissions, SMAQMD has developed screening-level values related to the maximum actively disturbed area of the project site (SMAQMD 2004). According to those levels, PM₁₀ emissions from projects in which less than 5 acres would be actively disturbed on any given day during construction would be considered less than significant. The Hood site, which is located in Sacramento County, would involve an active disturbance area of less than 1 acre per day.

With respect to the YSAQMD, construction-related activities would result in worst-case project-generated unmitigated emissions of <0.1 ton/year ROG, 0.7 ton/year NO_x and 45 lb/day PM₁₀. Based on the modeling conducted, construction-related activities would not result in project-generated emissions that exceed YSAQMD's significance thresholds.

Project-generated emissions in Amador County would be primarily associated with on-road truck travel for rock delivery from the Ione quarry to the stockpiling sites. The rock delivery from the quarry to the Rio Vista site results in worst-case daily unmitigated emissions of 4.7 lb/day of ROG, 64.1 lb/day of NO_x, and 3.0 lb/day of PM₁₀. Based on modeling results, construction-related activities would not result in project-generated emissions that exceed ACAPCD's significance thresholds (Refer to Table 3-4).

Project-generated emissions in Calaveras County would be primarily associated with on-road truck travel from rock delivery from the Valley Springs quarry to the stockpiling sites. Rock delivery activities would result in worst-case project-generated annual unmitigated emissions of 0.4 ton/year ROG, 6.1 tons/year NO_x, and 0.3 ton/year of PM₁₀. Based on the modeling conducted, construction-related activities would not result in project-generated emissions that exceed CCAPCD's significance thresholds.

In summary, project-generated construction-related emissions of NO_x would exceed SJVAPCD's significance threshold of 10 tons/year. The Air Districts' significance thresholds approximately correlate to the reductions from heavy-duty vehicles and land use project emission reduction requirements in the SIP. Thus, project-generated construction-related emissions could conflict with or obstruct implementation of the applicable air

quality plan. As a result, this impact is considered potentially significant. Implementation of Mitigation Measure AQ-1 would reduce this impact to a **less-than-significant** level.

Mitigation Measure Air-1: Enter into a Voluntary Emissions Reduction Agreement with SJVAPCD.

The applicant shall enter into a voluntary emissions reduction agreement with the SJVAPCD to mitigate the portion of construction-generated emissions of NO_x that exceed SJVAPCD's annual emission threshold of 10 tons/year for each year of project operation. The calculation of the fee shall be determined in coordination with the SJVAPCD and paid prior to the occurrence of any construction-related activities, including replenishment of stockpiles, within areas under the jurisdiction of the SJVAPCD on a yearly basis. Implementation of Mitigation Measure Air-1 would reduce project-generated construction-related emissions of NO_x to a level less than SJVAPCD's significance threshold of 10 tons/year. With this mitigation, the remaining impacts would be less than significant.

Operation-Related Emissions of Criteria Air Pollutants and Precursors

Implementation of the proposed project would not result in a net increase of long-term operation-related emissions (e.g., regional ROG, NO_x, or PM₁₀; or local CO) from mobile, stationary, or area sources. Specifically, the long-term operation of the proposed project would not require any additional employees, and, thus, would not result in any associated employee commute trip emissions of criteria air pollutant or ozone precursor emissions from VMT. Furthermore, project implementation would not result in the operation of any new major stationary emission sources, and area source emissions associated with landscaping and maintenance activities would take place at the same level as without the project. Thus, project-generated operation-related emissions would not conflict with or obstruct implementation of the applicable air quality plan. As a result, this impact is considered **less than significant**.

The rock stockpiled at the three sites would be used during emergency flood fighting operations only. These operations could be required at any time and at any location throughout the Delta. Implementation of the proposed project moves some rock closer to the flood site in preparation for emergencies rather than moving all of the rock from a greater distance. (i.e., the source quarry sites) to the flood site. Operations during declared emergencies could result in the temporary generation of ROG, NO_x, PM₁₀, and CO emissions from minor ground disturbance at the stockpile sites; and from construction equipment, worker commute, and material transport exhaust emissions. The exact types of emission sources and amounts could vary depending on the size and location of the emergency site and thus be too speculative to determine where, when, and how these events would occur at this time. Furthermore, for the reasons discussed above, modeling project-generated emissions associated with emergency operations would also be too speculative at this time. The transport of rock from quarries and stockpiles to barge loading facilities and then to flood fighting locations in the Delta would occur with or without the project, and would occur only under a declared emergency. As such, these activities would be considered exempt from CEQA. (CEQA Guidelines, Section 15269[c]).

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed in a) above, project implementation would result in construction-related criteria air pollutant and precursor emissions that exceed SJVAPCD's significance thresholds. Thus, project-generated emissions could violate an air quality standard or contribute substantially to an existing or projected air quality violation, especially considering the nonattainment status of the areas. As a result, this impact is considered potentially significant. Implementation of Mitigation Measure AQ-1 would reduce this impact to a **less-than-significant** level.

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)?

As discussed in a) above, project-generated construction-related mitigated criteria air pollutant and precursor emissions would exceed SJVAPCD's significance thresholds. Thus, project-generated emissions could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. As a result, this impact is considered potentially significant. Implementation of Mitigation Measure AQ-1 would reduce this impact to a **less-than-significant** level.

d) Expose sensitive receptors to substantial pollutant concentrations?

Criteria Air Pollutant and Precursor Emissions

Sensitive receptors in the vicinity of the Port of Stockton site include residential and recreational facilities, including the Stockton Country Club and Louis Park located to the north of the Project Area across the Stockton Deep Water Channel located about 800 feet from the stockpiling site. The Rio Vista site is surrounded by a junkyard to the south and open grazing lands to the north. The Hood site has a residential community to the east with the nearest point being about 340 feet of the stockpiling site. A modular home park is located north of the site. As discussed in a) above, project implementation would result in emissions of criteria air pollutants and precursors that exceed SJVAPCD's significance thresholds. Thus, project generated emissions of criteria air pollutants and precursors could expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered potentially significant. Implementation of Mitigation Measure AQ-1 would reduce this impact to a **less-than-significant** level.

Toxic Air Contaminant Emissions

Short-Term Construction-Related Emissions

Project construction, including site preparations and establishment and replenishment of rock stockpiles, would result in short-term generation of diesel exhaust emissions from the use of off-road diesel equipment required for site grading and other construction activities, in addition to diesel-fueled on-road haul trucks used for hauling stockpile material. Particulate exhaust emissions from diesel fueled engines (diesel PM) were identified as a toxic air contaminant (TAC) by the ARB in 1998. The dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Salinas, pers. comm., 2004).

The duration of mobilized equipment used near sensitive receptors located along the stockpile sites would be short (less than 1 full year for the entire project, with a maximum of 3 months at one site). In addition, mobile equipment would progress along the roadways and would not operate near (within approximately 500 feet of) any one receptor for more than a few minutes per day at a time. The establishment of the proposed stockpiles at the three proposed locations would represent less than 0.5% of the 70-year exposure period for any nearby sensitive receptor in the area. This percentage could increase depending on the frequency of flood emergencies and the subsequent need to replenish the proposed stockpiles. However, the frequency of these events cannot be accurately predicted. Finally, neither of the air districts have any current guidance on TAC emissions from mobile equipment, or a threshold of significance for exposure to emissions from this equipment. In addition, diesel PM is highly dispersive and studies have shown measured concentrations of vehicle-related pollutants, including ultra-fine particles, decrease dramatically within approximately 300 feet of the source (Zhu and Hinds et al. 2002, ARB

2005). Thus, because the use of mobilized equipment would be temporary in combination with the dispersive properties of diesel PM and the distance to the closest sensitive receptor for each site, construction-related emissions would not be anticipated to expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered **less than significant**.

Long-Term Operation-Related Emissions

With respect to mobile source TAC emissions, implementation of the proposed project would not result in a net increase of long-term operation-related emissions. Specifically, the long-term operation of the proposed project would not result in any commute trip TAC emissions from VMT. Furthermore, project implementation would not result in the operation of any new major stationary emission sources. Thus, project-generated operation-related TAC emissions would not expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered **less than significant**.

As discussed in a), the rock stockpiled at the three sites would be used during emergency flood fighting operations only. These operations could be required at any time and at any location throughout the Delta. Implementation of the proposed project moves some rock closer to the flood site in preparation for emergencies rather than moving all of the rock from a greater distance. (i.e., the source quarry sites) to the flood site. Operations during declared emergencies could result in the temporary generation of diesel PM from construction equipment and material transport exhaust emissions. The exact types of emission sources and amounts could vary depending on the size and location of the emergency site and thus be too speculative to determine where, when, and how these events would occur at this time. Furthermore, for the reasons discussed above, determining the exposure of sensitive receptors to project-generated diesel PM emissions associated with emergency operations would also be too speculative at this time. However, the transport of rock from quarries and stockpiles to barge loading facilities and then to flood fighting locations in the Delta would occur only under a declared emergency, and would be considered exempt from CEQA. (CEQA Guidelines, Section 15269[c]).

e) Create objectionable odors affecting a substantial number of people?

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

The proposed project would result in diesel exhaust emissions from on-site construction equipment at the Port of Stockton and Rio Vista sites during the site preparation phases, as well as during the hauling of rock from the quarry sites. Diesel exhaust emissions would also occur from equipment used during the establishment and replenishment of stockpiles at the three sites. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. The Port of Stockton site is surrounded by heavy industry and this project would not lead to a substantial increase in odors than those that already exist around the site. The Rio Vista site is also surrounded by industrial uses and would not expose a substantial number of people to odors. The Hood site has a modular home park on the north, a residential community on the east and farmland on the other sides.

The project would not include the long-term operation of any new sources of odor. Thus, the proposed project would not create objectionable odors affecting a substantial number of people. As a result, this impact is considered **less than significant**.

As discussed in d), operations during declared emergencies could result in the temporary generation of diesel PM from construction equipment and material transport exhaust emissions. The exact types of emission sources and amounts could vary depending on the size and location of the emergency site and thus be too speculative to determine where, when, and how these events would occur at this time. Furthermore, for the reasons discussed

above, determining whether project-generated diesel PM emissions associated with emergency operations would create objectionable odors affecting a substantial number of people would also be too speculative at this time. However, the transport of rock from quarries and stockpiles to barge loading facilities and then to flood fighting locations in the Delta would occur only under a declared emergency, and would be considered exempt from CEQA. (CEQA Guidelines, Section 15269[c]).

3.4 BIOLOGICAL RESOURCES

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

ENVIRONMENTAL SETTING

SACRAMENTO–SAN JOAQUIN RIVER DELTA

The Delta, as used in this document, refers to the Primary Zone of the Delta, which was established by the State’s Delta Protection Act of 1992 to protect the core of the Delta from potential urban and suburban encroachment and to maintain the quality of the Delta environment by preserving agriculture, wildlife habitat, and recreational areas. Elevations in the Delta range from more than 15 feet below sea level to about 10 feet above sea level. The Delta is predominantly composed of low-lying islands used for agriculture (flooded row and field crops, row and field crops, and ruderal lands), but contains a mixture of natural vegetation and other land cover. Natural land cover includes a large network of levied channels, freshwater and brackish wetlands, tule islands, vernal wetlands, and

great valley riparian scrub and forest, with some patches of valley grasslands. Over 50 species of rare plants (including some listed under the state and federal Endangered Species Acts [ESA]) occur within the Delta.

The Delta provides habitat for a large number of fish and wildlife species, including 52 mammals, 22 reptile and amphibian species, 225 birds, and 54 species of fish (DWR 2007). Natural Delta habitats have been extensively modified for agriculture and water supply. As a result, many of the species that use the Delta (nine mammals, six reptile and amphibians, eight fish, 10 birds, and over 20 invertebrates [DWR 2007]) are rare, including some listed under the state and federal ESA.

The Delta is especially important for fish species. Delta waterways provide vital fish spawning, rearing, and/or migratory habitat for a diverse assemblage of native and nonnative fish species. Native species can be separated into anadromous (i.e., species that spawn in freshwater after migrating as adults from marine habitat) and resident species. Native anadromous species that occur in the Sacramento River include four runs of chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*), green and white sturgeon (*Acipenser medirostris* and *A. transmontanus*), and Pacific lamprey (*Lampetra tridentata*). Native resident species include delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento sucker (*Catostomus occidentalis*), and hardhead (*Mylopharodon conocephalus*). Nonnative anadromous species include striped bass (*Morone saxatilis*) and American shad (*Alosa sapidissima*). Nonnative resident species include largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), white and black crappie (*Pomoxis annularis* and *P. nigromaculatus*), channel catfish (*Ictalurus punctatus*), white catfish (*Ameiurus catus*), brown bullhead (*Ictalurus nebulosus*), bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), and golden shiner (*Notemigonus crysoleucas*).

The use of different Delta waterways by various fish species is influenced by variations in habitat conditions, and by the habitat requirements, life history, and daily and seasonal movements and behavior of each species. Altered flow regimes, flood control, bank protection efforts, and development have reduced available and preferred shaded riverine aquatic (SRA) habitat, and have isolated the channel from its floodplain.

SRA vegetation and instream tree and shrub debris provide important riverine fish habitat. SRA habitat is defined as the nearshore aquatic habitat occurring at the interface between a river and adjacent woody riparian habitat. The principal attributes of this cover type are: (1) an adjacent bank composed of natural, eroding substrates supporting riparian vegetation that either overhang or protrude into the water; and (2) water that contains variable amounts of woody debris, such as leaves, logs, branches, and roots and has variable depths, velocities, and currents. Riparian habitat provides structure (through SRA habitat) and food for fish species. Shade decreases water temperatures, while low overhanging branches can provide sources of food by attracting terrestrial insects. As riparian areas mature, the vegetation sloughs off into the rivers, creating structurally complex habitat that furnishes refugia from predators, creates variable water velocities, and provides habitat for aquatic invertebrates. For these reasons, many fish species are attracted to SRA habitat.

PORT OF STOCKTON

The Port of Stockton stockpile site is located on an approximately 2-acre gravel-covered open storage area that appears to be currently used as an informal parking lot for nearby warehouses. Paved pads are situated to the north and east, and would be used for access to the site. West of the site is a mixture of herbaceous and shrubby vegetation, dominated by Himalayan blackberry (*Rubus discolor*), poison hemlock (*Conium maculatum*), and alkali mallow (*Malvella leprosa*). South of the site is part of a former rail yard that has become overgrown with Himalayan blackberry, poison hemlock, and willow scrub. The willow scrub is a mix of tree and shrub species, with red willow (*Salix laevigata*) being the dominant tree. Other tree and shrub species observed include Fremont's cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), and yellow willow (*S. lutea*). The barge long-term storage and loading area is located on pavement in a developed area on the existing wharf, adjacent to the Stockton Deep Water Channel (Exhibits 2-1 and 2-5).

Wildlife use of the stockpile, staging, and loading sites is minimal. These paved and graveled areas offer little habitat value, except to a few common species such as black rats (*Rattus rattus*), rock pigeon (*Columba livia*), and house sparrow (*Passer domesticus*). Trees south of the stockpile site provide potential nesting habitat for tree-nesting raptors such as red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), or red-shouldered hawk (*Buteo lineatus*).

The Stockton Deep Water Channel in the vicinity of the Port of Stockton site is characterized by a wide, homogenous channel with little canopy or overhead vegetation and minimal bank cover (i.e., SRA habitat). Many of the fish species in the vicinity of this project site use the San Joaquin River to some degree, even if only as a migratory pathway to and from upstream spawning and rearing areas. The ship channel also is used by certain fish species (e.g., delta smelt) that make little to no use of areas in the upper segment of the San Joaquin River.

Hood

The Hood stockpile site is located on the bank of the Sacramento River, among several warehouses in a paved and graveled area. A barge loading site already exists, but the equipment may be replaced by DWR. The site is unvegetated except for sparse wild grape (*Vitus californica*) on the rip-rapped river bank, weedy vegetation such as wild oat (*Avena fatua*), and tall riparian trees such as Fremont's cottonwood north and south of the site.

Wildlife use of the stockpile and loading sites is minimal. These paved and graveled areas offer little habitat value, except to a few common species such as described at the Port of Stockton site. Tall trees near the site provide potential nesting habitat for tree-nesting raptors.

Aquatic habitat in the Sacramento River in the vicinity of Hood is characterized primarily by slow moving glides and pools, is depositional in nature, and has limited water clarity, habitat diversity, and SRA habitat. Similar to the Port of Stockton site, many of the fish species utilizing the Sacramento River in the vicinity of Hood use this lower segment of the river (Delta) to some degree, even if only as a migratory pathway to and from upstream spawning and rearing areas.

RIO VISTA

The Rio Vista stockpile site is located on about 3.6 acres of loose and sandy dredge spoils that support several types of vegetation. Disturbed ruderal vegetation covers most of the site and is composed of common tarweed (*Hemizonia pugnans*), Great Valley gumweed (*Grindelia camporum*), birds-foot trefoil (*Lotus corniculatus*), common knotweed (*Polygonum arenastrum*), prickly lettuce (*Lactuca serriola*), ripgut brome (*Bromus diandrus*), and wild oat. The stockpile site will be restricted only to areas of upland ruderal vegetation. Seasonal wetlands also occur at the site. These are composed of a mix of wetland and ruderal upland plant species, including Himalayan blackberry, curly dock (*Rumex crispus*), seaside heliotrope (*Heliotropium curassavicum*), Bermuda grass (*Cynodon dactylon*), perennial ryegrass (*Lolium perenne*), and salt grass (*Distichlis spicata*). Two patches of willow scrub are also present, comprising a mix of tree and shrub species, with narrow-leaved willow (*Salix exigua*) being the most common plant. Willow scrub has an understory of nonnative grasses including ripgut brome and wild oat.

Wildlife expected at the Rio Vista site include common species that use disturbed grasslands. Typical examples include western fence lizard (*Sceloporus occidentalis*), western meadowlark (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and black-tailed jackrabbit (*Lepus californicus*). No evidence of use by burrowing mammals was documented at the site.

Aquatic habitat in the Sacramento River in the vicinity of Rio Vista is similar to those conditions described above for Hood.

SPECIAL-STATUS SPECIES

Special-status species include plants and animals in the following categories:

- ▶ Species listed or proposed for listing as threatened or endangered under ESA or the California Endangered Species Act (CESA).
- ▶ Species considered as candidates for listing as threatened or endangered under ESA or CESA.
- ▶ Species identified by California Department of Fish and Game (DFG) as California Species of Special Concern.
- ▶ Plants listed as endangered or rare under the California Native Plant Protection Act.
- ▶ Animals fully protected under the California Fish and Game Code.
- ▶ Plants on California Native Plant Society (CNPS) List 1B (plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere) or CNPS List 2 (plants considered by CNPS to be rare, threatened or endangered in California but more common elsewhere). The CNPS lists are used by both DFG and the U.S. Fish and Wildlife Service (USFWS) when considering formal species protection under ESA and CESA.

Special-Status Plants

Over 50 species of rare plants occur within the Delta (DWR 2007); however, no habitat for special-status plants occurs at the three sites considered in this document. The Port of Stockton and Hood sites are either paved or graveled. The Rio Vista site is on disturbed dredge spoils, but does contain ruderal vegetation that would be disturbed by the project. An EDAW botanist evaluated the CNPS (2007) list of species on the Rio Vista U.S. Geological Survey Quadrangle, and eight surrounding quadrangles (Appendix B) and determined that none of the species was likely to occur in the ruderal grasslands at the Rio Vista site.

Special-Status Wildlife

Overall, the Delta provides habitat for several special-status species, including nine mammals, six reptile and amphibians, 10 birds, and over 20 invertebrates (DWR 2007). Special-status wildlife species documented in the California Natural Diversity Database (CNDDDB) (2007) within a 5-mile radius of each site are listed in Appendix C. This appendix also includes species identified on the USFWS (2007) lists of species that could be affected by projects in the U.S. Geological Survey Stockton West, Courtland, and Rio Vista Quadrangles. Species on this list were considered in this evaluation of potential impacts to special-status species. Species with the potential to occur at the sites, and be affected as a result of this project, are presented in Table 3-5. Species that could occur at any of the project sites are discussed in more detail following the table.

Sacramento and Antioch Dunes Anthicid Beetles

Sacramento and Antioch Dunes anthicid beetles are not listed as California species of special concern, nor are they listed under ESA or CESA. They are listed by the CNDDDB as “extremely endangered” within California since they meet at least one of the following criteria: <6 viable records known; or <1,000 individuals, or <2,000 acres of occupied habitat remain. Life histories of Sacramento and Antioch Dunes anthicid beetles are poorly known. Adults are known to be scavengers of dead insects, and larvae are thought to have a similar diet as adults. The Antioch Dunes anthicid beetle appears more restricted in habitat, using barren sandy soils, while the Sacramento anthicid beetle will use vegetated loose sandy soils and dredge spoils. Vegetation associations of the Sacramento anthicid beetle are poorly known, but they have been captured in loose sand among *Arundo* and willows (DFG 2006). Both species were captured near the Rio Vista site in dredge spoils in 1987 (CNDDDB 2007).

Swainson's Hawk

Swainson's hawk is state listed as threatened. Historically, Swainson's hawks nested throughout lowland California. As many as 17,000 Swainson's hawk pairs may have nested in California at one time (DFG 1994). In 2006, their population in California was estimated to be over 2,000 breeding pairs (Anderson et. al. 2007). Swainson's hawks typically occur in California only during the breeding season (March through September) and winter in Mexico and South America. The Central Valley population migrates only as far south as Central Mexico. In recent years, a small number of individuals have wintered in the Delta (City of Sacramento 2003). Migrant Swainson's hawks begin to arrive in the Central Valley in March. Nesting territories are usually established by April, with incubation and rearing of young occurring through June (Estep 1989). Swainson's hawk is most commonly found in large trees in grasslands, low shrublands, and agricultural habitats. Nests occur in riparian woodlands, roadside trees, trees along field borders, and isolated trees. Swainson's hawk could use trees near each of the project sites for nesting.

White-Tailed Kite

The white-tailed kite is a state-listed, fully protected small raptor, which lives in dry grass savannas, meadows, and cultivated land with trees, up to 9,000 feet above sea level. It usually nests in isolated trees in riparian, agricultural, and other open areas, and may use the same tree for several seasons. White-tailed kite could use trees near each of the project sites for nesting.

Special-Status Fish

A total of eight special-status fish species have the potential to occur in the Delta, as described below (Table 3-5). Of the eight species, green sturgeon, Central Valley steelhead distinct population segment, Sacramento River winter-run chinook salmon evolutionarily significant unit (ESU), and Central Valley spring-run chinook salmon ESU are federally listed as endangered or threatened species. Sacramento River winter-run chinook salmon ESU (endangered) and Central Valley spring-run chinook salmon ESU (threatened) are also listed under CESA as endangered and threatened, respectively. USFWS delisted the Sacramento splittail from its threatened status on September 22, 2003. The National Marine Fisheries Service (NMFS) determined that listing is not warranted for Central Valley fall-late fall-run chinook salmon ESU; however, this species is designated a species of concern by NMFS and species of special concern by DFG because of concerns about specific risk factors. The remaining species (i.e., hardhead and longfin smelt) are considered species of special concern by DFG. Descriptions of the special-status fish species supported by Delta waterways are provided below.

Fall-/Late Fall-Run Chinook Salmon

Adult fall-/late fall-run chinook salmon enter the Sacramento and San Joaquin River systems from July through April and spawn from October through February. During spawning, the female digs a redd (gravel nest) in which she deposits her eggs, which are then fertilized by the male. Newly emerged fry remain in shallow, lower-velocity edgewater, particularly where debris congregates and makes the fish less visible to predators (DFG 1998).

Juveniles typically rear in freshwater (in their natal streams, the Sacramento River system, and the Delta) for up to 5 months before entering the ocean. Juveniles migrate downstream during January through June. Important winter habitat for juvenile chinook salmon include flooded bars, side channels, and overbank areas with relatively low water velocities. Juvenile chinook salmon have been found to successfully rear in floodplain habitat, which routinely floods but is dry at other times. Growth rates appear to be enhanced by the conditions found in floodplain habitat.

Table 3-5 Special-Status Species Known to Occur in the Vicinity of the Port of Stockton, Hood, and Rio Vista Sites					
Species	Habitat	Potential for Occurrence	CEQA	DFG	USFWS NMFS
Invertebrates					
Sacramento anthicid beetle <i>Anthicus sacramento</i>	Interior sand dunes and sand bars; reported in association with <i>Arundo</i> and willow, but vegetation associations are unclear.	Could occur at Rio Vista site; species was trapped nearby in 1987.	X	---	---
Antioch Dunes anthicid beetle <i>Anthicus antiochensis</i>	Bare, unvegetated interior sand dunes and sand bars	Could occur at Rio Vista site; species was trapped nearby in 1987.	X	---	---
Birds					
Burrowing owl <i>Athene cunicularia</i>	Grasslands with short vegetation and agricultural areas	Unlikely to occur: no suitable nesting and foraging habitat at any sites. Vegetation at Rio Vista site is tall, and there was no indication of burrowing animals using the site.	---	SC	---
Swainson's hawk <i>Buteo swainsoni</i>	Nests in trees, forages in agricultural fields and grasslands with very short vegetation.	Could occur: suitable nesting habitat present near all sites.	---	ST	---
White-tailed kite <i>Elanus leucurus</i>	Open habitat for foraging; trees (isolated or within stands) for nesting and roosting	Could occur: suitable nesting habitat present near all sites.	---	FP	---
Mammals					
American badger <i>Taxidea taxus</i>	Grasslands and open scrub with loose-textured soils for burrowing	Unlikely to occur; there was no indication of burrowing animals using grasslands at the Rio Vista site.	---	SC	
Fish					
Central Valley steelhead <i>Oncorhynchus mykiss</i>	Requires cold, freshwater streams with suitable gravel for spawning	Occurs in the Sacramento-San Joaquin River Delta and tributaries	---	---	T
Sacramento winter-run chinook salmon <i>Oncorhynchus tshawytscha</i>	Requires cold, freshwater streams with suitable gravel for spawning	Occurs in the Sacramento-San Joaquin River Delta and Sacramento River and tributaries	---	E	E

Table 3-5 Special-Status Species Known to Occur in the Vicinity of the Port of Stockton, Hood, and Rio Vista Sites															
Species	Habitat	Potential for Occurrence	CEQA	DFG	USFWS NMFS										
Central Valley spring-run chinook salmon <i>Oncorhynchus tshawytscha</i>	Requires cold, freshwater streams with suitable gravel for spawning	Occurs in the Sacramento–San Joaquin River Delta and Sacramento River and tributaries	---	T	T										
Central Valley fall/late fall–run chinook salmon <i>Oncorhynchus tshawytscha</i>	Requires cold, freshwater streams with suitable gravel for spawning	Occurs in the Sacramento–San Joaquin River Delta and tributaries	---	SC	---										
Green sturgeon <i>Acipenser medirostris</i>	Requires cold, freshwater streams with suitable gravel for spawning	Occurs in the Sacramento–San Joaquin River Delta and tributaries.	---	---	T										
Delta smelt <i>Hypomesus transpacificus</i>	Spawns in tidally influenced freshwater wetlands and seasonally submerged uplands	Occurs in the Sacramento–San Joaquin River Delta.	---	T	T										
Longfin smelt <i>Spirinchus thaleichthys</i>	Spawns in tidally influenced freshwater wetlands and seasonally submerged uplands	Occurs in the Sacramento–San Joaquin River Delta.	---	SC	---										
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	Spawning and juvenile rearing from winter to early summer in shallow weedy areas inundated during seasonal flooding in the lower reaches and flood bypasses of the Sacramento River.	Occurs in the Sacramento–San Joaquin River Delta and tributaries.	---	SC	---										
Hardhead <i>Mylopharodon conocephalus</i>	Spawning occurs in pools and side pools of rivers and creeks; juveniles rear in pools of rivers and creeks, and shallow to deeper water of lakes and reservoirs.	Occurs in the Sacramento and San Joaquin rivers, tributaries, and Delta.	---	SC	---										
San Joaquin roach <i>Lavinia symmetricus</i> sp.	Spawning occurs in pools and side pools of small rivers and creeks; juveniles rear in pools of small rivers and creeks.	Occurs in the San Joaquin River, tributaries, and Delta.	---	SC	---										
<p>California Environmental Quality Act (CEQA) Section 15380 of the CEQA Guidelines defines endangered, rare and threatened species. This status is noted for species that are not otherwise listed by DFG or USFWS.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">California Department of Fish and Game (DFG)</td> <td style="width: 50%;">U.S. Fish and Wildlife Service and National Marine Fisheries Service</td> </tr> <tr> <td>E Listed as endangered in California</td> <td>E Federal endangered</td> </tr> <tr> <td>T Listed as threatened in California</td> <td>T Federal threatened</td> </tr> <tr> <td>SC California Species of Special Concern</td> <td>C Federal candidate</td> </tr> <tr> <td>FP Fully protected</td> <td></td> </tr> </table> <p>Source: Compiled by EDAW in 2007</p>						California Department of Fish and Game (DFG)	U.S. Fish and Wildlife Service and National Marine Fisheries Service	E Listed as endangered in California	E Federal endangered	T Listed as threatened in California	T Federal threatened	SC California Species of Special Concern	C Federal candidate	FP Fully protected	
California Department of Fish and Game (DFG)	U.S. Fish and Wildlife Service and National Marine Fisheries Service														
E Listed as endangered in California	E Federal endangered														
T Listed as threatened in California	T Federal threatened														
SC California Species of Special Concern	C Federal candidate														
FP Fully protected															

Winter-Run Chinook Salmon

Adult winter-run chinook salmon leave the ocean and migrate through the Delta into the Sacramento River system from November through July. Salmon migrate upstream past the Red Bluff Diversion Dam (RBDD) on the Sacramento River from mid-December through July, and most of the spawning population has passed RBDD by late June. Winter-run chinook salmon spawn from mid-April through August, and incubation continues through October. The primary spawning grounds in the Sacramento River are above RBDD.

Juvenile winter-run chinook salmon rear and emigrate in the Sacramento River from July through March (Hallock and Fisher 1985). Juveniles descending the Sacramento River above RBDD from August through October and possibly November are mostly pre-smolts (smolts are juveniles that are physiologically ready to enter seawater) and probably rear in the Sacramento River below RBDD. Winter-run salmon smolts may migrate through the Delta and bay to the ocean from December through as late as May (Stevens 1989). The Sacramento River channel is the main migration route through the Delta.

Spring-Run Chinook Salmon

Spring-run chinook salmon historically were the second most abundant run of Central Valley chinook salmon (Fisher 1994). Current surveys indicate that remnant, nonsustaining spring-run chinook salmon populations may be found in Cottonwood, Battle, Antelope, and Big Chico Creeks (DWR 1997). The Feather River Fish Hatchery sustains the spring-run population on the Feather River, but the genetic integrity of that run is questionable (DWR 1997). Historical records indicate that adult spring-run chinook salmon enter the mainstem Sacramento River in February and March and continue to their spawning streams, where they then hold in deep, cold pools until they spawn. Spawning occurs in gravel beds in late August through October, and emergence takes place in March and April. Spring-run chinook salmon appear to emigrate at two different life stages: fry and yearlings. Fry move between February and June, while the yearling spring-run emigrate October to March, peaking in November (Cramer and Demko 1997). Juvenile spring-run chinook salmon may leave their natal streams as fry soon after emergence or rear for several months to a year before migrating as smolts or yearlings (Yoshiyama et al. 1998).

Steelhead

The upstream migration of adult steelhead in the mainstem Sacramento River historically started in July, peaked in September, and continued through February or March. Central Valley steelhead spawn mainly from January through March, but spawning has been reported from late December through April (McEwan and Jackson 1996). During spawning, the female digs a redd (gravel nest) in which she deposits her eggs, which are then fertilized by the male. Steelhead fry usually emerge from the gravel 2 to 8 weeks after hatching, between February and May, sometimes extending into June (Barnhart 1986, Reynolds et al. 1993). Newly emerged steelhead fry move to shallow, protected areas along streambanks but move to faster, deeper areas of the river as they grow. Juvenile steelhead rear throughout the year and may spend from 1 to 3 years in freshwater before emigrating to the ocean. Smoltification, the physiological adaptation that juvenile salmonids undergo to tolerate saline waters, occurs in juveniles as they begin their downstream migration. Smolting steelhead generally emigrate from March to June (Barnhart 1986, Reynolds et al. 1993).

Green Sturgeon

Green sturgeon has recently been listed as threatened by NMFS (71 Federal Register [FR] 17757, April 7, 2006). Green sturgeon are found in the lower reaches of large rivers, including the Sacramento–San Joaquin River basin, and in the Eel, Mad, Klamath, and Smith Rivers. Green sturgeon adults and juveniles are found throughout the upper Sacramento River, as indicated by observations incidental to winter-run chinook monitoring at the RBDD in Tehama County (NMFS 2005). Green sturgeon spawn predominantly in the upper Sacramento River. They are thought to spawn every 3–5 years (Tracy 1990). Their spawning period is March to July, with a peak in mid-April

to mid-June (Moyle et al. 1992). Juveniles inhabit the estuary until they are approximately 4–6 years old, when they migrate to the ocean (Kohlhorst et al. 1991). Green sturgeon is found primarily in the Sacramento River, occasionally in the Feather River, and is unlikely to enter smaller tributaries to these rivers.

Delta Smelt

Delta smelt occur in the Sacramento-San Joaquin Delta where, for most of the year, they are typically associated with the freshwater edge of the saltwater/freshwater mixing zone, in the portion of the water column that has relatively low water velocities. The species moves inland to areas of flooded terrestrial vegetation for spawning. Spawning season varies from year to year and may occur from February to July, but mainly from April through May (Moyle 2002). The nearest known spawning area for this species is in the Yolo Bypass, to the west of the project study area. Delta smelt were federally listed as a threatened species in March 1993 (58 FR 12854). Critical habitat for the species was designated in December 1994 and includes the Delta and Sacramento River up to the city of Sacramento (59 FR 65256). Delta smelt are tolerant of a wide range of salinity and typically rear in shallow, fresh or slightly brackish waters of the estuary.

Longfin Smelt

Longfin smelt is a state and federal Species of Concern. Distribution of longfin smelt is centered in the west Delta, Suisun Bay, and San Pablo Bay. In wet years, longfin smelt are distributed more toward San Pablo Bay and in dry years more toward the west Delta. Peak spawning occurs between February and April in upper Suisun Bay and the lower and middle Delta (Moyle et al. 1995). Spawning rarely occurs upstream of Medford Island in the San Joaquin River and Rio Vista on the Sacramento River. Spawning occurs in freshwater primarily from January through April in upper Suisun Bay and in the Delta. The eggs are adhesive and are deposited on rocks or aquatic plants. Larval abundance in the Bay-Delta estuary peaks from February to April. Larvae and juveniles generally move downstream and rear in Suisun and San Pablo Bays (Moyle et al. 1995). Larval longfin smelt generally are collected below Medford Island in the San Joaquin River and below Rio Vista on the Sacramento River, indicating that spawning rarely occurs above these locations (Moyle et al. 1995).

Sacramento Splittail

Recent data indicate that Sacramento splittail occur in the Sacramento River as far upstream as RBDD (Sommer et al. 1997), and that some adults spend the summer in the mainstem Sacramento River rather than returning to the estuary (Baxter 1999). Sacramento splittail spawn over flooded terrestrial or aquatic vegetation (Moyle 2002, Wang 1986). Sacramento splittail spawn in early March and May in lower reaches of the Sacramento River (Moyle et al. 1995). Spawning has been observed to occur as early as January and to continue through July (Wang 1986). Larval splittail are commonly found in the shallow, vegetated areas where spawning occurs. Larvae eventually move into deeper, open-water habitats as they grow and become juvenile. During late winter and spring, young-of-year juvenile splittail (i.e., those less than 1 year old) are found in floodplain habitat, sloughs, rivers, and Delta channels near spawning habitat. Juvenile splittail gradually move from shallow, nearshore habitats to the deeper, open water habitats of Suisun and San Pablo Bays (Wang 1986). In 1999, after 4 years of candidate status, the splittail was listed as threatened under the ESA (64 FR 25, March 10, 1999). On September 22, 2003, USFWS delisted splittail as a threatened species, indicating that habitat restoration actions implemented through the CALFED Bay-Delta Program and the Central Valley Project Improvement Act are likely to keep the splittail from becoming endangered in the foreseeable future (68 FR 55139, September 22, 2003).

Hardhead

Hardhead are widely distributed throughout the low- to mid-elevation streams in the main Sacramento–San Joaquin drainage, including the Sacramento River system. Undisturbed portions of larger streams at low to middle elevations are preferred by hardhead. Hardhead are able to withstand summer water temperatures above 20°C; however, they will select lower temperatures when they are available. Hardhead are fairly intolerant of low-

oxygenated waters, particularly at higher water temperatures. Pools with sand-gravel substrates and slow water velocities are the preferred habitat; adult fish inhabit the lower half of the water column, while the juvenile fish remain in the shallow water closer to the stream edges. Hardhead typically feed on small invertebrates and aquatic plants at the bottom of quiet water (Moyle 2002). Hardhead is a state species of special concern.

San Joaquin Roach

California roach are distributed throughout the state; however, there is a specific subspecies found in the San Joaquin River drainage. California roach occupy small, warm streams with intermittent flow in mid-elevation foothills. Dense populations often occur in isolated pools. They are tolerant of high temperatures (30 degrees Celsius [°C] to 35°C) and low oxygen levels, although they also can be found in cold, well-oxygenated systems; human-modified habitats; and the main channels of larger rivers (Moyle 2002). The subspecies found in the San Joaquin River system, including the Stockton Deep Water Channel, is a California species of special concern.

SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies, or that are afforded specific consideration through CEQA, Section 1600 of the California Fish and Game Code, and/or Section 404 of the federal CWA. The seasonal wetland habitat at the Rio Vista site may be protected under Section 404 of CWA; aquatic habitat at each of the loading sites may also be regulated under Section 404 of CWA. For the purpose of this analysis, both are considered sensitive habitats.

Other sensitive habitats in the Delta include, but are not limited to, riverine and riparian habitat, and freshwater, brackish, and salt marsh.

DISCUSSION

Information obtained from biological studies and field and reconnaissance-level surveys previously conducted on project sites, aerial photographs, CNDDDB records, and CNPS database records were used to assess potential impacts on biological resources that could result from implementation of the project. Project actions that could cause impacts to biological resources are described in Chapter 2, "Project Description."

This analysis focuses on project-related effects associated with emergency preparedness activities. Implementation of emergency activities including anticipated uses of stockpiled rock are described in Section 2.6.1 and 2.6.2 of this document. Rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. Use of rock for flood emergency response, and the resulting impacts, would occur with or without the proposed project and be less than significant given the state of existing habitat expected at a levee breach. The proposed project would simply allow a quicker response to emergencies.

Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year, and in any of the habitats present, including sensitive habitats and habitat for special-status plant, wildlife, and fish species. The locations of potential breaches cannot be predicted with enough specificity to accurately describe all potential impacts in advance; however, general impacts can be described. A levee breach would cause a catastrophic change in habitat at the breach site. Habitat would be scoured away by high water velocities at the breach, making the aquatic habitat essentially unusable for fish and invertebrates at the site, and there would be new, temporarily flooded habitat behind the breach. Depending on the particular site of a levee breach, substantial mortality could occur to any plants or animals washed through the breach without the project. Emergency levee protection work could occur either before, or following, a breach and would stop the breach and minimize further loss of fish and other animals through the breach. With the proposed project, emergency actions could be implemented quicker

than without the proposed project, which would provide faster stabilization of the levee breach and minimize direct flood-induced mortalities.

If emergency response activities were to be required, three types of general impacts would potentially occur:

1. Mortality of special-status species. Depending on the location and timing of the emergency response, rock may be placed in locations occupied by special-status species. Injury or death of special-status species may result directly from crushing if the species is not very mobile (e.g., plants, some invertebrates, or animal eggs and young) and cannot move out of the way.
2. Loss of habitat for special-status species. Habitat for special-status plant, bird, mammal, invertebrate, and fish species occurs at locations throughout the Delta. Emergency use of rock would have to occur in very specific locations, and there would be little to no flexibility in where the rock would be placed. Consequently, the destruction of special-status species habitat may be unavoidable.
3. Loss of sensitive habitat. Sensitive habitats, including riparian scrub and forest, salt marsh, and freshwater and brackish wetlands, occur throughout the Delta. As described above for special-status species habitat, there is little to no flexibility in placement of the rock. As a result, loss of sensitive habitats may be unavoidable.

The DFG, USFWS, and NMFS have mechanisms in place to provide emergency assistance for the protection of natural resources, and to determine appropriate compensation for impacts to natural resources that occur by actions covered under an emergency order. There is a great degree of uncertainty about if, where, and when the stockpiled rock could be used, no ability to predict site-specific conditions and uses of the rock, and no ability to predict or quantify specific impacts resulting from its use. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Given the uncertainties inherent to the use of the stockpiled rock during an emergency, the speculative nature of the presence and/or actual animal and plant mortality occurring at the site of a levee breach with or without the proposed project, and the existing mechanisms that resource agencies have in place to determine appropriate compensation for impacts to natural resources that occur by actions covered under an emergency order, it is concluded that impacts to biological resources resulting from its use are too speculative to discuss further and would be mitigated, as necessary, under existing mechanisms.

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?**

Antioch Dunes and Sacramento Anthicid Beetles

Neither the Antioch dunes nor the Sacramento anthicid beetle is listed as a special-status species by DFG or USFWS; however, they may be considered endangered, rare, or threatened under Section 15380 of the CEQA Guidelines. The Rio Vista site is located very near a location where Antioch dunes and Sacramento anthicid beetles were documented in 1987. Habitat within the stockpile site is vegetated, and so Antioch Dunes anthicid beetle is not likely to be present within the stockpile site. Sacramento anthicid beetle has been documented in loose soils in willow and *Arundo* vegetation. Only upland ruderal vegetation will be removed by the project, and willows have specifically been avoided with a 20-foot buffer. Given this avoidance of willow vegetation, and the relatively small footprint (3.6 acres) of the Rio Vista stockpile site, it is unlikely that the project would result in a substantial reduction in range or number of Sacramento anthicid beetle. Therefore this potential impact is **less than significant**.

Swainson's Hawk, White-tailed Kite, and other Raptors

Swainson's hawk is a California threatened species, and white-tailed kite is fully protected under California Fish and Game Code. All raptors and their active nests are protected under Section 3503.5 of the California Fish and Game Code and the Migratory Bird Treaty Act. Tree-nesting raptors such as Swainson's hawk, white-tailed kite, and more common species such as red-tailed hawk and red-shouldered hawk may use trees near the sites for nesting.

The stockpiling of rock at the sites would occur through June 2008, during the raptor nesting season (approximately March through August), and could cause the abandonment and subsequent loss of raptor nests as a result of disturbance. Emergency use of the stockpiled rock would occur under an emergency order, and any impacts to nesting raptors would be mitigated under that order; however, any impacts would need to be documented. Replenishing stockpiles following an emergency could occur during the nesting season. If this activity resulted in the failure of any raptor nest it would be a **potentially significant** impact.

The following mitigation measure is recommended to reduce potential impact to nesting raptors to a **less-than-significant** level.

Mitigation Measure BIO-1: Conduct Raptor Nesting Surveys and Monitoring.

This measure applies to activities that either start during the March through August raptor breeding season, or start prior to that season but where activities lapse for 2 weeks or more. If rock would be stockpiled or replenished during the March through August nesting season, a qualified biologist shall conduct a survey for any nesting raptors, including Swainson's hawk and white-tailed kite, within 500 feet of all sites where rock is being placed or moved. In the event activities would start late in the breeding season (e.g., after May 1), multiple surveys are recommended, however, at least one survey shall be conducted no more than 2 weeks in advance of the start of activities. Any active raptor nests within a 500-foot buffer from activities shall be documented and reported to DFG. If stockpiling or replenishment would occur within 500 feet of an active raptor nest, all work within 500 feet of the active nest shall be stopped until the nest is no longer active, or until DFG is satisfied that activities would not endanger the nest.

Special-Status Fish Species

Delta waterways adjacent to all of the project sites provides habitat for several special-status fish species (as described above). Additionally, Delta waterways are designated as critical habitat for several fish species listed under the federal ESA and as essential fish habitat (EFH) for Pacific salmon under the Magnuson-Stevens Fishery Conservation and Management Act (as amended). Staging of equipment (i.e., barges and conveyors) and placing rock during emergency operations would result in impacts to aquatic habitats in Delta waterways. Given the uncertainties inherent to the use of the stockpiled rock during an emergency, the speculative nature of the presence and/or actual fish mortality occurring at the site of a levee breach with or without the proposed project, and the existing mechanisms that resource agencies have in place to determine appropriate compensation for impacts to natural resources that occur by actions covered under an emergency order, it is concluded that impacts to special-status fish species are too speculative to discuss further and would be mitigated, as necessary, under existing mechanisms. In addition, some of the other mitigation measures presented below provide additional mitigation of impacts to special-status fish species.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

The Rio Vista stockpile site has been designed to avoid any potentially jurisdictional seasonal wetlands, riparian habitat, or other sensitive natural community; work is restricted to common upland vegetation community types, with

a buffer of 20-feet from the nearest wetland vegetation. The 20-foot buffer was flagged by EDAW wetland biologists on October 3, 2007. No potentially jurisdictional wetlands are present at the Port of Stockton or Hood stockpile sites. Degradation of open water habitat at the barge loading areas would be avoided through the implementation of best management practices (BMPs) developed as part of a storm water pollution prevention plan (SWPPP) (see Section 3.8, "Hydrology and Water Quality," below). With the implementation of these BMPs and Mitigation Measure Bio-2, the project is not likely to have an effect on sensitive habitats, and this potential impact is **less than significant**.

Mitigation Measure BIO-2: Install and Maintain Fencing of the 20-Foot Buffer at Rio Vista.

In order to prevent inadvertent discharge of sediments or other fill into potentially jurisdictional wetlands at the Rio Vista site, DWR shall install orange exclusion fencing on T-posts (or equivalent), with silt fence material installed along the bottom, on the limit of the 20-foot buffer flagged by EDAW on October 3, 2007. The fencing shall be maintained annually, and may be replaced with permanent fencing, if the site will be used long-term.

If fill, including sediments, enters the buffer, DWR shall immediately have the location and extent of the accidental discharge evaluated and documented by a qualified wetland specialist. If the wetland specialist determines that the accidental discharge is not limited to upland vegetation, DWR shall immediately notify the USACE and RWQCB, and shall compensate for any impacts to wetlands (e.g., through on-site restoration and/or the purchase of credits at an approved mitigation bank) to ensure that there is no net loss of wetland functions and services.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Please refer to discussion in item b.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Emergency preparedness activities (e.g., stockpiling of rocks and equipment staging) at each of the project sites is not expected to result in substantial interference 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. Upland areas at all of the sites are characterized as having habitats that support common and ruderal plant communities and common wildlife species. Impact to sensitive resources would be avoided (refer to discussion item b). Delta waterways adjacent to the project sites provide fish spawning, rearing, and/or migratory habitat for a diverse assemblage of native and nonnative fish species; however, potential effects to aquatic habitats would be minimal. This impact would be **less than significant**.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Please refer to discussion in item f.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The proposed project would not conflict with any adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plans or General Plans. The Solano HCP has not yet been adopted, and DWR is not a participating agency. The Solano County General Plan Update relies substantially on the Solano HCP. The only site located within the plan area is

the Rio Vista site, which is located within an area identified for vernal pool grassland and Swainson's hawk conservation (especially nest trees). No vernal pool habitat occurs at the site, and no potential nest trees would be removed.

Project activities at the Port of Stockton and Hood sites would not require the removal of vegetation. Degradation of water quality at the barge loading sites would be minimal or avoided (see section 3.8, "Hydrology and Water Quality"). This impact would be **less than significant**.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

ENVIRONMENTAL SETTING

Although little is known concerning the earliest occupants of the Delta region, it is clear that much of the Great Valley and the riverine environments surrounding the meandering San Joaquin and Sacramento Rivers have been occupied throughout much of the Holocene. The reconstruction of Native American lifeways during the late Paleo-Indian to early Archaic Periods (approximately 11,000 B.P. to 4,000 B.P.) has proven difficult given the rapid erosional patterns of the Central Valley and the Delta in particular. These processes have deeply buried the evidence of much of these early cultures. More recent Upper Archaic and Emergent Period sites, however, are known throughout the region.

Prehistoric occupation of the region was intensive, particularly along primary drainage channels. Natural levees near the waterways provided useful occupation sites near the water and associated floral and faunal resources. Historically, the Central Valley has generally been associated with farming and ranching. Many of the towns throughout the Central Valley were established by people supplying those headed into the California gold fields.

DISCUSSION

Project actions that could cause impacts to cultural resources are described in Chapter 2, “Project Description.” This analysis focuses on project-related effects associated with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality for municipal and agricultural diversions in the central and south Delta including the SWP, CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year. The locations of potential breaches cannot be predicted with enough specificity to accurately describe all potential impacts in advance; however, general impacts of mobilization and use of the rock can be described. If emergency response activities were to be required, three types of general impacts would potentially occur:

1. Impact a historical resource. Depending on the location and timing of the emergency response, rock may be placed in locations containing an existing historic resource. However, this impact is unlikely to occur because the activities would take place on working levees, which are generally not historic resources, although as mentioned, the areas where levee repairs would be needed is unknown.
2. Impact an archaeological resource. Depending on the location and timing of the emergency response, rock may be placed in locations containing an existing archaeological resource. However, this impact is unlikely to occur because the activities would take place on working levees, which are manmade structures using aggregate from unknown quarry locations, although as mentioned, the areas where levee repairs would be needed is unknown.
3. Impact a paleontological resource. Depending on the location and timing of the emergency response, rock may be placed in locations containing an existing historic resource. However, this impact is unlikely to occur because the activities would take place on working levees, which are manmade structures using aggregate from unknown quarry locations, although as mentioned, the areas where levee repairs would be needed is unknown.

There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used, emergency response actions will be taken during any such emergency irrespective of the proposed project, and effects on cultural resources will be essentially the same with or without the proposed project, impacts to cultural resources associated with emergency operations are difficult to assess. It is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Given the uncertainties inherent to the use of the stockpiled rock, it is concluded that impacts to cultural resources resulting from its use are too speculative to discuss further.

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Development that consists of structure alterations or subsurface excavations could result in a significant impact to previously unidentified cultural resources. Cultural resources, whether prehistoric or historic, are physical manifestations of cultural activity. As such, they constitute an important nonrenewable resource, which has the potential of increasing our understanding of older or extinct cultures.

Ground disturbance would take place at the Rio Vista site and very minimally at the Port of Stockton site. However, the concrete pad would be installed at the Port of Stockton on the existing levee adjacent to the wharf area which consists of fill material; the small amount of proposed land excavation would not cause substantial change to a historical resource. Preparation of the Rio Vista site would include minor clearing, grading and compaction of the stockpile area, and possibly covering the stockpile area with aggregate base depending on weather conditions.

The first Europeans to visit the Delta region were the Spanish explorers in the 1770s, including Pedro Fages and Juan Bautista de Anza. Early Euroamerican settlement of the area began in 1844 when the Mexican government granted John Bidwell the 17,726-acre Rancho Los Ulpinos, located along the Sacramento River. The project site was part of the rancho, which took its name from the Julpun, a subtribe of Miwok Indians who occupied the western banks of the Sacramento River. A record search was conducted by the North Central Information Center

in September 2007 for the Rio Vista site; no recorded resources were identified. Therefore, it is unlikely that the project would disrupt a historical resource and the project would have a **less-than-significant** impact.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The Port of Stockton site would not require any site preparation for the stockpiling area and would require minor ground disturbance on fill material on the levee to install a concrete pad for emergency barge loading operations. The Hood site would require no site preparation. The Rio Vista site would require some ground disturbance on the area used in the past for placing dredge spoils from the river. Although no known archaeological sites are documented within the Rio Vista site and the required ground preparations would not likely penetrate below the dredge spoils placed on the site, the potential exists to encounter previously undiscovered cultural material during project-related construction activities (i.e., trenching, grading). Because project-related construction activities could disturb previously unknown, buried, and historic (eligible or potentially eligible for listing on the California Register of Historical Resources [CRHR]) cultural resources, this would be a **potentially significant** impact. Implementation of the following mitigation measure would reduce the project's potential to disturb buried historic cultural resources to a **less-than-significant** level:

Mitigation Measure CUL-1: Immediately Halt Construction if any Cultural Resources are Discovered.

If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during project-related construction activities, ground disturbances in the area of the find shall be halted and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist, to be retained by DWR, shall determine whether the resource is potentially significant per the CRHR and develop appropriate mitigation. Mitigation may include, but not be limited to, in-field documentation, archival research, archaeological testing, data recovery excavations, or recordation, and shall be implemented before resuming construction in the immediate vicinity.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As mentioned, the Hood site would not require any site preparation and disturbance, and the Port of Stockton site would only disturb fill material along the wharf, for installation of a concrete pad for emergency operations. Neither of the two sites would have the potential to directly or indirectly destroy a unique paleontological resource. The Rio Vista site would require some ground disturbance and grading to prepare the site for the proposed use. The mining area would require removal of some of the softer topsoil, which consists of mounds of dredge spoils placed there as a result of years of dredging the adjacent Sacramento River, and would place a layer of aggregate on the ground surface to ensure that the riprap stockpile does not sink into the soil.

The Rio Vista site is located in a historic alluvial floodplain of the Delta, and the geologic unit overlying the site consists of recently formed Holocene age alluvium, which is less than 11,000 years old. The overlying Holocene age alluvial materials were historically excavated from the Sacramento River to this site. This excavation, combined with artificial levees and berms, has created a depressed area, or pit, approximately 6 feet deep and suitable for spoiling of suction dredge materials. Sand removal activities occurred on the site to maintain the permanent structural features of the site, including berms, levees, access roads, and the discharge spillway (State of California et al. 1993).

Minor grading of the site would move primarily surface materials dredged from the river, and would not penetrate beneath the Holocene alluvium. By definition, to be considered a "fossil" an object must be at least 11,000 years old. Therefore, project-related earthmoving activities would have **no impact** on unique, paleontological resources.

d) Disturb any human remains, including those interred outside of formal cemeteries?

As mentioned, the Hood site would not require any site preparation and disturbance. The concrete pad at the Port site would be 6- to 12-inch thick 20-foot by 30-foot reinforced concrete pad that would be installed approximately 15 feet from the edge of the levee. Installation of the concrete pad would require removal of approximately 600 to 700 cubic feet of fill material. The Rio Vista site would require some ground disturbance to grade and compact the stockpile area. The mining area would require removal of some of the soft topsoil, which consists of dredge spoils placed there from dredging the adjacent Sacramento River, and would place a layer of aggregate on the ground surface to ensure that stored riprap does not sink into the soil.

Based on documentary research, no evidence suggests that any prehistoric or historic-era marked or unmarked human interments are present within or in the immediate vicinity of the Rio Vista site. According to the documentary research, approximately the north half of the project area was surveyed for cultural resources in the past. Historic maps show the area as swamp land, indicating a low probability for cultural resources; the area may have been used as a gathering/hunting area but was unlikely to have been used for some form of longer-term habitation/occupation that would leave evidence that might be seen during project operations.

Due to the disturbed nature of the site and the adjacent levee, the likelihood of uncovering human remains is minimal. However, there is a possibility that unmarked, previously unknown Native American or European-American graves could be present within the Rio Vista project site. Potential disturbance of previously undiscovered human remains during project construction activities would be a **potentially significant** impact. Implementation of the following mitigation measure would reduce the project's potential for disturbance of human remains to a **less-than-significant** level.

Mitigation Measure CUL-2: Immediately Halt Construction if any Human Remains are Discovered.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the contractor and/or DWR shall immediately halt potentially damaging excavation in the area of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, DWR, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section (PRC) 5097.9.

Implementation of this Mitigation Measure CUL-4 will reduce the potential impacts to human remains to a **less-than-significant** level.

3.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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? (Refer to California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

ENVIRONMENTAL SETTING

The Delta area forms the eastern portion of the wider San Francisco Estuary, which includes the San Francisco, San Pablo, and Suisun Bays. The Delta collects water from California’s largest watershed, which encompasses roughly 45% of the state’s surface area and stretches from the eastern slopes of the Coastal Ranges to the western slopes of the Sierra Nevada. It resembles other deltas of the world in that it is at the mouth of rivers, receives sediment deposits from these rivers, and was once a vast tidal marsh. The Sacramento–San Joaquin River Delta is fundamentally different from other delta systems, however, in that it is not formed primarily by the deposition of sediment from upstream. Instead, it is a low-lying region where sediment from the watershed commingled with vast quantities of organic matter deposited by tules and other marsh plants. For some 6,000 years, sediment accumulation in the Delta kept up with a slow rise in sea level, forming thick deposits of peat capped by tidal marshes. A century and a half of farming has reversed this process, creating artificial islands that are mostly below sea level, protected only by fragile levees. (Public Policy Institute of California 2007.)

The legal boundary of the Delta is within three subunits of the Great Valley Geomorphic Province. The subunit known as the Delta province is characterized by Holocene deposits and includes the low-lying lands that extend along the Sacramento River. The boundary of the Delta is arbitrarily fixed at the zero-elevation contour, which coincides with the contact between the organic and inorganic soils. Prior to human intervention, this region was dominated by tidal marshes that were traversed by meandering sloughs. Over time, however, the sloughs were altered and the marshes drained. Numerous islands have been created by the construction of a system of artificial levees. The River Floodplain province is adjacent to the Delta province and consists of unconsolidated inorganic soils that were formed by the deposition of sediment when flood waters overtopped the river's natural levees. (Sacramento County 2007.)

Port of Stockton Site: This project area consists of an island feature situated within the low-lying floodplains just east of the Delta. The surrounding topography is characteristic of a highly dissected alluvial plain with numerous river systems meandering to the west, including the San Joaquin and Calaveras Rivers. Rough and Ready Island is located on a nearly level surface with elevations ranging from 10 feet below mean sea level (msl) to +15 feet msl along the perimeter levee (Port of Stockton 2003). The island is currently protected from flooding through a series of levees that surround the perimeter of the island and provide 100-year flood protection.

The island is characterized by deep, poorly drained, and fine textured soils that contain a high percentage of organic materials and formed in floodplains (NRCS 1992). These soils have been drained through a vast system of levees and dikes to allow for agricultural usage and, more recently, other various forms of development. Soils found on the island include the following: the Egbert mucky clay loam, partially drained, 0 to 2% slopes (152); Egbert-Urban land complex, partially drained, 0 to 2% slopes (155); Merritt silty clay loam, partially drained, 0 to 2% slopes (197); Scribner clay loam, sandy substratum, partially drained, 0 to 2% slopes (244); Urban land (260); and Dumps (150).

These soils are generally characterized by very slow or slow runoff and have a slow permeability (NRCS 2002). The exception to this is the Scribner clay loam, which contains a sandy substratum that allows for rapid permeability below a depth of 40 inches (NRCS 1992). The proposed stockpile site is graded and covered with gravel. At the proposed barge loading area at the Stockton Deep Water Channel, the existing landscape has been so altered by urban development that identification of the soils is unfeasible (Port of Stockton 2003).

Hood Site: This project site is located on the levee of the Sacramento River, in Sacramento County. The present-day landscape of Sacramento County has been shaped over time by the ongoing processes of erosion and deposition. Material eroded from the ancestral Sierra Nevada, formed over 100 million years ago, was deposited in an ancient sea that once occupied the Sacramento Valley floor. As this ancient sea receded from the valley about 10 to 15 million years ago, tectonic uplifts altered the geomorphology of the Sierra Nevada. Glaciation, volcanism, and a series of interglacial seas followed the uplifting, adding layers of sediment to the valley floor. Under the present geologic conditions, the alteration of the local geomorphology continues through stream erosion of the valley sediments and subsequent deposition in adjacent floodplains. (Sacramento County 2007.)

Rio Vista Site: The Rio Vista site is located in a historic alluvial floodplain of the Delta, and the geologic unit underlying site consists of recently formed Holocene age alluvium, which is less than 11,000 years old. The overlying Holocene age alluvial materials were historically excavated from the Sacramento River to this site. This excavation, combined with artificial levees and berms, has created a depressed area, or pit, approximately 6 feet deep and suitable for spoiling of suction dredge materials. Sand removal activities occurred on the site to maintain the permanent structural features of the site, including berms, levees, access roads, and the discharge spillway (State of California et al. 1993).

DISCUSSION

This analysis focuses on project-related effects associated with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are

described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

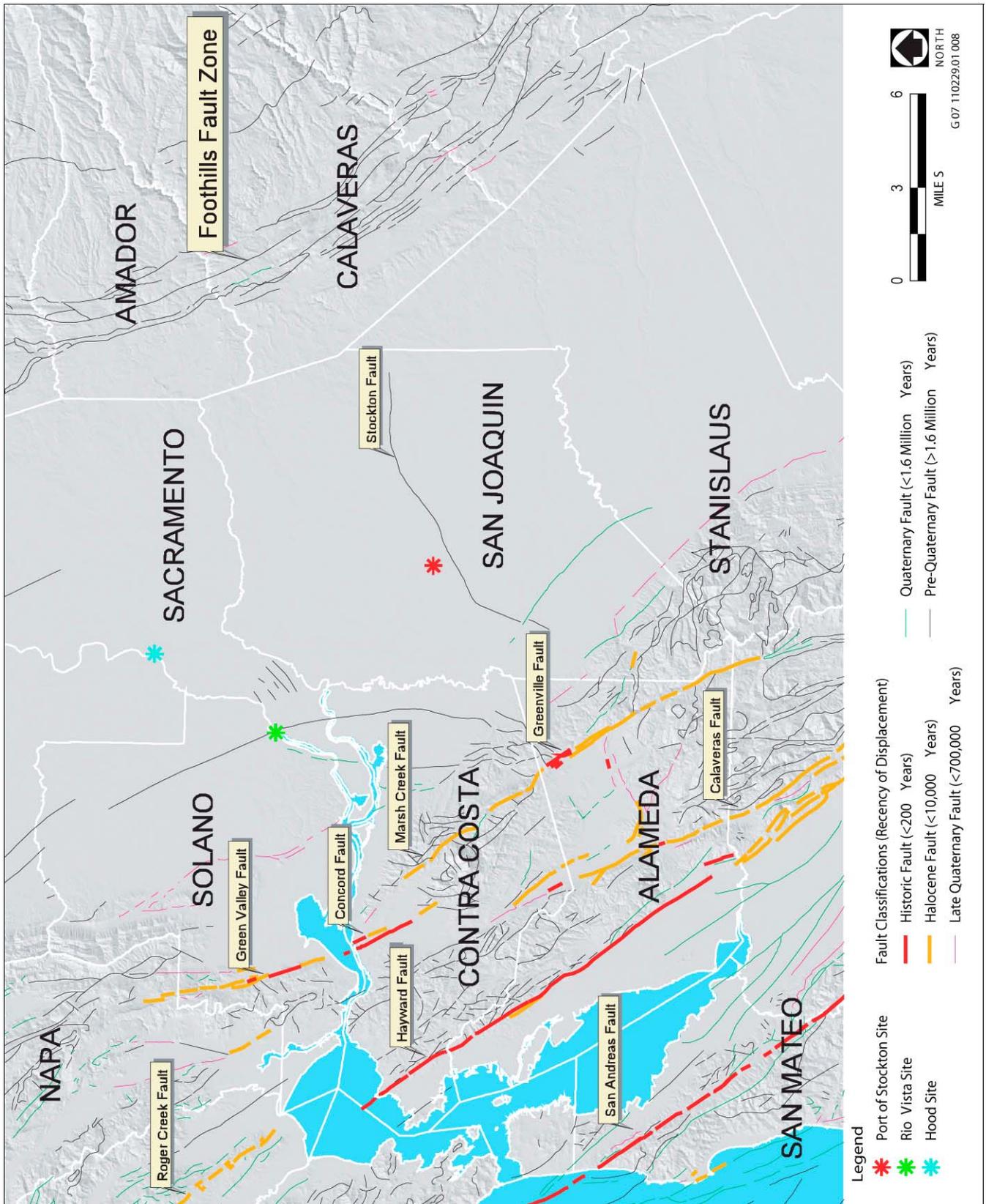
Because of the great degree of uncertainty about if, where, and when the stockpiled rock could be used, it is not possible to predict site-specific conditions and uses of the rock, or predict and quantify specific impacts resulting from its use. However, the project would expedite emergency levee repairs which would provide beneficial impacts to the surrounding community by limiting the impacts of a potential geologic catastrophe inducing a levee failure.

- 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? (Refer to California Geological Survey Special Publication 42.)**

The proposed project does not propose the construction of any new structures. The project consists of stockpiling riprap materials and setting up barge loading facilities to facilitate emergency levee repairs. The three proposed sites consist of previously utilized industrial areas; the port stockpile area consists of a graded lot with gravel cover that is currently used to store construction materials; the Hood site contains existing warehousing, a roadway/ storage area and an existing barge loading facility; and the Rio Vista site consists of a site currently used for surface mining, and contains river dredge spoils that have been stored and hauled off-site since the 1950s.

According to the *Fault Activity Map of California* (Port of Stockton 2003), the nearest faults to the site exhibiting historic displacement (activity within the last 200 years) are the Concord-Green Valley, Hayward, and Greenville Fault zones, located approximately 40 miles southwest, 45 miles southwest, and 30 miles west of the project vicinity, respectively. Portions of the Calaveras Fault zone also have been rated as being active within the last 200 years and those portions are located approximately 45 miles west of the project vicinity. Other notable active faults within 100 miles are the Dunnigan Hills (Zamora) (65 miles north-northwest), Ortigalita (50 miles southwest), Healdsburg-Rodgers Creek (60 miles northwest), West Napa (45 miles northwest), and San Andreas (65 miles west) Faults. (Exhibit 3-1 shows the Regional Fault Locations in the vicinity of the three project sites.)

A seismically active, concealed (blind) fold and thrust belt, referred to as the Coast Range-Central Valley (CRCV) Geomorphic Boundary, lies approximately 15 to 20 miles west of Stockton. Earthquakes associated with this fault system include the 6.1 moment magnitude (Mw) Kettleman Hills and 6.5 Mw Coalinga events (Wakabayashi and Smith 1994). Published estimates of the CRCV slip rate derived from previous studies range from 1 to 10 millimeters per year, and estimated reoccurrence intervals of the Coalinga-type events range from 200 to 2,000 years. The concealed CRCV thrust is speculated to have produced the Vacaville-Winters earthquake (estimated 6.75 Modified Mercalli Intensity) (Wakabayashi and Smith 1994).



Source: California Geological Survey 2000; and Environmental Science Associates 2002

Regional Fault Locations

Exhibit 3-1

There are no known active faults (defined by the State of California as faults that show evidence of movement during the past 11,000 years) within the project vicinity. The nearest active fault is the Greenville Fault, which has been considered part of the San Andreas Fault system. The portion of this fault that has experienced historic displacement is located approximately 25 miles to the west of Rough and Ready Island (U.S. Navy 1998).

The nearest Quaternary Fault (2 million years ago to present) to the project area showing evidence of activity within the past 1.6 million years is the Vernalis Fault located approximately 14 miles southwest of Rough and Ready Island (Jennings 1994, Bartow 1991). Another Quaternary fault, the San Joaquin Fault, is located along the foot of the Coast Ranges approximately 20 miles west of the project vicinity. The nearest mapped fault trace, the Stockton Fault, is not considered an active fault.

As mentioned above, the three project sites are within the vicinity of several fault zones that have exhibited historic displacement (activity within the last 200 years), including Concord-Green Valley, Hayward, and Greenville Faults, and the Calaveras Fault zone. However, due to the nature of the project, which consists of stockpiling rocks on previously disturbed flat graded lots for emergency response to levee failure, the project would not pose a substantial risk or threat of injury or death resulting from the rupture of a known fault shown on an Alquist-Priolo Earthquake map, and the project would have a **less-than-significant** impact.

ii) Strong seismic ground shaking?

As mentioned above, the proposed project sites are located within the vicinity of several fault zones that have exhibited historic displacement (activity within the last 200 years), which could cause strong seismic ground shaking at the three project locations. However, due to the nature of the project, which consists of stockpiling rocks on previously disturbed flat graded lots for emergency response to levee failure, the project would not pose a substantial risk or threat of injury or death resulting from strong seismic ground shaking, and the project would have a **less-than-significant** impact.

iii) Seismic-related ground failure, including liquefaction?

Liquefaction is a process whereby unconsolidated, granular, and saturated soil lose strength and fail when subjected to ground motion. Liquefaction only occurs in saturated soil, and its effects are most commonly observed in low-lying areas near bodies of water such as rivers, lakes, bays, and oceans (University of Washington 2000). The areas believed to have the greatest potential for liquefaction are those in which the water table is less than 20 feet below ground and the soils are predominately clean, relatively uniform low-density sands. Clayey type soils are generally not subject to liquefaction. The three potential project sites are located in areas known to contain high potential for liquefaction. However, due to the nature of the project, which consists of stockpiling rocks on previously disturbed flat graded lots for emergency response to levee failure, the project would not pose a substantial risk or threat of injury or death resulting from ground failure including liquefaction, and the project would have a **less-than-significant** impact.

iv) Landslides?

Given the level topography of the project area, the possibility of landslides is low and the project would have **no impact**.

b) Result in substantial soil erosion or the loss of topsoil?

The Hood site and the Port of Stockton site would not require any site preparation for stockpile activities. The Port of Stockton site would require minimal site preparation including the installation of a concrete pad at the proposed barge loading area. The Rio Vista site would require some site preparation. Site preparation activities at Rio Vista would include minor clearing, grading and compaction of the stockpile area (3.6 acres); and covering of the stockpile area with up to 4,670 tons of aggregated base depending on weather conditions.

Proposed project construction could cause a short-term increase in wind and water erosion at the Rio Vista site and along the wharf on Rough and Ready Island. To ensure that the project would not result in substantial erosion or loss of topsoil, DWR would implement Best Management Practices (BMPs) for all construction activities in accordance with applicable federal and state regulations. Before the start of any construction work, clearing, or site grading associated with preparation of the Rio Vista or Port of Stockton sites, and any stockpiling activities at all three sites, measures to control soil erosion and waste discharges would be prepared. DWR would require all contractors conducting work at the sites to implement the measures to control soil erosion and waste discharges of other construction-related contaminants, and the general contractor(s) and subcontractor(s) conducting the work would be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

The plans developed by DWR or its contractor(s) would identify the grading, erosion, and tracking control BMPs and specifications that are necessary to avoid and minimize water quality impacts to the extent practicable. Standard erosion control measures (e.g., management, structural, and vegetative controls) would be implemented for all construction activities that expose soil. Grading operations would be conducted to eliminate direct routes for conveying potentially contaminated runoff to drainage channels. Erosion control barriers such as silt fences and mulching material would be installed, and disturbed areas would be reseeded with grass or other plants where necessary. Tracking controls shall be required year-round, as needed, to reduce the tracking of sediment and debris from the construction site. At a minimum, entrances and exits shall be inspected daily, and controls implemented as needed. The following specific BMPs would be implemented:

- ▶ Conduct all work according to site-specific construction plans that identify areas for clearing, and grading so that ground disturbance is minimized.
- ▶ Avoid riparian and wetland vegetation wherever possible and identify vegetation to be retained for habitat maintenance (i.e., as identified through preconstruction biological surveys), cover cleared areas with mulches, install silt fences near riparian areas or streams to control erosion and trap sediment, and reseed cleared areas with native vegetation.
- ▶ Stabilize disturbed soils before the onset of the winter rainfall season.
- ▶ Stabilize and protect stockpiles from exposure to erosion and flooding.
- ▶ Stabilize all construction access by providing a point of entrance/exit to the construction sites to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- ▶ Grade each construction entrance/exit to prevent runoff from leaving the construction site, and ensure that all runoff from the stabilized entrances/exits are routed through a sediment-trapping device before discharge.
- ▶ Ensure that entry/exitways are able to support the heaviest vehicles and equipment that will use them.

BMPs would also specify appropriate hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants. Specific measures applicable to the project include, but are not limited to, the following:

- ▶ Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- ▶ Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.

- ▶ Maintain controlled construction staging, site entrance, concrete washout, and fueling areas at least 100 feet away from stream channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- ▶ Prevent raw cement; concrete or concrete washings; asphalt, paint, or other coating material; oil or other petroleum products; or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- ▶ Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

Construction activities at the Port of Stockton site involving installation of the concrete pad would require removal of approximately 20–30 cubic yards of soil. Construction activities at the port site, such as grading activities could result in impacts to water quality in the area. However, the Port of Stockton has an environmental compliance program which requires projects to meet guidelines established in the existing Port of Stockton municipal and industrial NPDES permit, which ensures that all tenants of the Port comply with the same stipulations.

The Port has implemented a comprehensive SWPPP under this permit to minimize impacts to water quality. The Port administers a Port-wide Municipal Storm Water Management Program, which includes participation by all Port tenants. Construction activities carried out by the Port or its contractors are subject to the conditions in the Port’s municipal NPDES permit as outlined in Port-wide SWPPP, which requires all construction activities to utilize BMPs.

Implementation of the specified BMPs for all construction activities and compliance with the Port of Stockton’s NPDES program would ensure that the project would have a **less-than-significant** impact.

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?

Subsidence has created major problems for flood control, particularly in the Delta. As levees sink under their own weight and are weakened by the erosive force of water, expensive periodic rebuilding is necessary. It is estimated that the Delta is subsiding at a rate of just over 3 inches per year. Many islands in the Delta that, at one time, were at or above sea level are now below sea level (Sacramento County 2007). The Port of Stockton site would utilize a flat site that is graded with gravel cover for the stockpile, which does not pose a significant threat for unstable soils. The concrete pad that would be installed to support the hopper/feeder system for the conveyor at the Port of Stockton would be installed 15 feet away from the edge of the levee to ensure the stability of the levee bank. The Rio Vista stockpile site consists of a previously surfaced mined area and contains dredge spoils that have been stored and hauled off-site since the 1950s. To ensure that this site is stable, the project would grade and compact the soils, and if weather conditions dictate, aggregate would then be placed over the excavated ground cover. Compaction, and laying down of aggregate base if needed, would both serve to increase the stability of the soils. The Hood site proposes placing the stockpile on top of an existing levee, which poses a concern that the levee could collapse under the increased weight. However, a soil stability analysis was conducted at the Hood site, which determined that locating the stockpile at the specified location would ensure that the project would have a less-than-significant impact related to soil stability. (Rennie, pers. comm., 2007) Since the project consists of previously utilized industrial areas located in relatively flat areas, and would include site preparations that reduce the potential for soil stability impacts, the project would have a **less-than-significant** impact.

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?

The project would not create or place structures on expansive soils. The project consists of stockpiling riprap for emergency levee repairs on the Delta. The Hood site would utilize an open lot with existing graded gravel located between existing warehouses adjacent to the Sacramento River, and the Port of Stockton site would utilize a graded lot with gravel cover, utilized to store construction materials. The Rio Vista site would require some ground disturbance at the stockpile area, which would require removal of some of the soft topsoil consisting of dredge spoils, and would grade and compact the ground surface to ensure that when storing the riprap it does not sink into the soil. The Rio Vista area is largely underlain by expansive soil deposits. Although these soils can be an expensive nuisance, awareness of their existence prior to construction often means that the problem can be eliminated through foundation design (Solano County 2006a). However, the project would not place any structures on potentially expansive soils. Furthermore, the stockpile area would be covered with approximately 6 inches of aggregate gravel that would reduce the potential for soil expansion to occur. Therefore, the project would have **no impact**.

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?

The project consists of stockpiling rock materials and use of barge loading facilities for emergency levee repair operations in the Delta. The project would not involve the use of septic tanks or alternative wastewater disposal systems that could be affected by poor soils. Therefore, **no impact** would occur related to adequate support of such facilities.

3.7 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The proposed project would consist of stockpiling and storing riprap materials for levee repair in emergency situations. Riprap materials consist of small to medium pieces of rock, which are generally obtained from remnants of quarry mining activities. Riprap materials do not contain hazardous materials or waste.

Rock stockpiling and barge loading facilities that would be part of the proposed project would be located at the Port of Stockton in Stockton, on property along the Sacramento River in Hood, and on state-owned land in Rio

Vista. See Exhibits 2-1 through 2-4 for maps and images of the proposed sites and their surrounding areas. The Hood site has been used in the past for storage of riprap materials used for emergency levee repair, and adding additional levee repair materials would not interfere with the previous activities. None of the sites are currently being used by emergency response agencies, and no emergency response facilities exist in the project vicinity. Research of the EPA Enviromapper, a tool used to map various types of environmental information (e.g., toxic releases, hazardous wastes, Superfund sites), showed that the Rio Vista site, the Hood site, and the Port of Stockton site are not listed as hazardous materials sites.

DISCUSSION

This analysis focuses on project-related effects associated only with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The Rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year. The locations of potential breaches cannot be predicted with enough specificity to accurately describe all potential impacts in advance; however, general impacts of mobilization and use of the rock can be described. If emergency response activities were to be required, these activities would help to expedite levee repairs which would provide beneficial impacts to the surrounding community by limiting the impacts that a levee failure could have related to the release of a hazardous substance.

There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used, site-specific conditions where rock would be used, and specific hazards and hazardous materials-related impacts resulting from its use. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Given the uncertainties inherent to the use of the stockpiled rock, it is concluded that hazards and hazardous materials related impacts resulting from its use are too speculative to discuss further.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed project would consist of stockpiling riprap materials and mobilization of these materials for levee repair in emergency situations. Riprap materials do not contain hazardous materials and consist of small to medium pieces of rock, which are generally obtained from remnants of quarry mining activities. Activities associated with stockpiling rock and barge loading in an emergency situation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, the project would have **no impact**.

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?

The proposed project would consist of stockpiling riprap materials and mobilization of these materials for levee repair in emergency situations. Riprap materials do not contain hazardous materials, and consists of small to medium pieces of rock, which are generally remnants from quarry mining activities. Activities associated with stockpiling and barge loading in an emergency situation would not 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, and the project would have **no impact**.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The proposed project would consist of stockpiling riprap materials and mobilization of these materials for levee repair in emergency situations. Riprap materials do not contain hazardous materials or wastes, and consists of small to medium pieces of rock, which are generally remnants from quarry mining activities. Activities associated with stockpiling rock and barge loading would not place or emit hazardous wastes or materials within one-quarter mile of an existing or proposed school, and the project would have **no impact**.

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?

A computerized database search of various agency lists was conducted for the project site and surrounding area to identify potential hazardous contamination sites. The EPA Enviromapper, which is a tool used to map various types of environmental information, including toxic releases, hazardous wastes, and Superfund sites, was used to identify hazardous materials sites. According to the database, the Rio Vista site, the Hood site, and the Port of Stockton site were not listed as a hazardous materials site. The project would not create a significant hazard to the public or the environment, and there would be **no impact**.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?

The Rio Vista site is located approximately 1.5 miles from the Rio Vista Municipal airport. The municipal airport does not contain a land use plan area, and the proposed use of the project site to stockpile riprap materials would have **no impact** on the airport.

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?

None of the three proposed stockpile sites are located within the vicinity of a private airport, and the project would have **no impact**.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not place any permanent or temporary physical barriers on any existing public streets. Furthermore, none of the sites are currently being utilized by emergency response agencies, and no emergency response facilities exist in the project vicinity. The Hood site has been used in the past for storage of materials utilized for emergency levee repair, and adding additional levee repair materials would not interfere

with the previous activities. The Port of Stockton entry to Rough and Ready Island is a regulated area requiring permission for entrance, and all of the sites have been previously used for storage or extraction of materials. Stockpiling levee materials on the proposed three sites would have **no impact** on an existing emergency response or evacuation plan.

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?

The project consists of stockpiling levee repair materials for expediting emergency response to levee failures in the Delta, which would have no impact on wildlands and would not expose any individuals or structures to wildland fire areas. The project would have **no impact**.

3.8 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 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"/>

ENVIRONMENTAL SETTING

The three stockpile locations are located in previously disturbed areas. At the Port of Stockton site, the proposed barge loading area would be located along the wharf approximately 1,000 feet northeast of the stockpile site and would be accessed by way of Humphrey's Drive and Embarcadero Drive (Exhibit 2-5). Barge loading equipment would include a conveyor (minimum 80 feet long with 4-foot-wide belt), hopper/feeder system, and intermediate support barge. The rock conveyor and hopper/feeder system would be capable of loading barges from shore with up to 24-inch minus rock at a maximum rate of 500 tons per hour. All components of the barge loading equipment (conveyor, hopper/feeder system, modular barge) would be staged on land in a long-term storage area adjacent to the barge loading area. In addition, the Port of Stockton site is currently paved and the project would not alter the existing drainage pattern.

At the Hood site, Dutra Group currently leases the northern portion of the property and has established a barge loading facility equipped with a conveyor with an attached hopper/feeder system and an intermediate support barge anchored next to the riverbank by spud piles (Exhibits 2-6 and 2-7). DWR has established a water quality sampling station in the Sacramento River. The Hood site is graded with gravel cover and the project would not alter the existing drainage pattern.

At the Rio Vista site, ASTA Construction currently leases the property and uses the site for surface mining of dredge spoils that were deposited on the site in the early to mid-1900s. The Rio Vista site would require additional grading and compaction of the surface mining area. However, the site would not be paved and the additional aggregate, if applied, would allow water to infiltrate into the ground.

DISCUSSION

Project actions that could cause impacts to hydrology and water quality are described in Chapter 2, "Project Description." This analysis focuses on project-related effects associated only with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The Rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year. The locations of potential breaches and the need for temporary channel closures cannot be predicted with enough specificity to accurately describe all potential impacts in advance; however, in general, impacts of mobilization and use of the rock could result in increased turbidity along impacted waterways, which would otherwise degrade water quality in the affected area. However, the project could also have beneficial hydrologic impacts by allowing a quicker response time for levee repairs, which would reduce the potential exposure of people and structures to a significant risk of loss, injury, or death involving flooding.

There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used, site-specific conditions where rock would be used, and the ability to predict or quantify specific impacts resulting from its use. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too

speculative to evaluate. Given the uncertainties inherent to the use of the stockpiled rock, it is concluded that impacts to hydrology and water quality resulting from its use are too speculative to discuss further.

a) Violate any water quality standards or waste discharge requirements?

Section 303 of the federal Clean Water Act requires states to develop water quality standards to protect the beneficial uses of receiving waters. In accordance with California's Porter/Cologne Act, the Regional Water Quality Control Boards (RWQCBs) of the State Water Resources Control Board (SWRCB) are required to develop water quality objectives that ensure their region meets the requirements of Section 303 of the Clean Water Act.

To ensure that the project would not violate any water quality standards or waste discharge requirements, DWR would implement Best Management Practices (BMPs) for all construction activities in accordance with applicable federal and state regulations that provide for protecting the quality of stormwater discharge at all three project sites. Before the start of any construction work, clearing, or site grading associated with preparation of the Rio Vista or Port of Stockton sites, and any stockpiling activities at all three sites, measures to control soil erosion and waste discharges would be prepared. DWR would require all contractors conducting work at the sites to implement the measures to control soil erosion and waste discharges of other construction-related contaminants, and the general contractor(s) and subcontractor(s) conducting the work would be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

The plans developed by DWR or its contractor(s) would identify the grading, erosion and tracking control BMPs and specifications that are necessary to avoid and minimize water quality impacts to the extent practicable. Standard erosion control measures (e.g., management, structural, and vegetative controls) would be implemented for all construction activities that expose soil. Grading operations would be conducted to eliminate direct routes for conveying potentially contaminated runoff to drainage channels. Erosion control barriers such as silt fences and mulching material would be installed, and disturbed areas would be reseeded with grass or other plants where necessary. Tracking controls shall be required year-round, as needed, to reduce the tracking of sediment and debris from the construction site. At a minimum, entrances and exits shall be inspected daily, and controls implemented as needed.

The following specific BMPs would be implemented:

- ▶ Conduct all work according to site-specific construction plans that identify areas for clearing, and grading so that ground disturbance is minimized.
- ▶ Avoid riparian and wetland vegetation wherever possible and identify vegetation to be retained for habitat maintenance (i.e., as identified through preconstruction biological surveys), cover cleared areas with mulches, install silt fences near riparian areas or streams to control erosion and trap sediment, and reseed cleared areas with native vegetation.
- ▶ Stabilize disturbed soils before the onset of the winter rainfall season.
- ▶ Stabilize and protect stockpiles from exposure to erosion and flooding.
- ▶ Stabilize all construction access by providing a point of entrance/exit to the construction sites that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- ▶ Grade each construction entrance/exit to prevent runoff from leaving the construction site, and ensure that all runoff from the stabilized entrances/exits are routed through a sediment-trapping device before discharge.
- ▶ Ensure that entry/exitways are able to support the heaviest vehicles and equipment that will use them.

BMPs would also specify appropriate hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants. Specific measures applicable to the project include, but are not limited to, the following:

- ▶ Develop and implement strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways.
- ▶ Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.
- ▶ Maintain controlled construction staging, site entrance, concrete washout, and fueling areas at least 100 feet away from stream channels or wetlands to minimize accidental spills and runoff of contaminants in stormwater.
- ▶ Prevent raw cement; concrete or concrete washings; asphalt, paint, or other coating material; oil or other petroleum products; or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
- ▶ Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the RWQCB of any spills and cleanup procedures.

Construction activities at the Port of Stockton site involving installation of the concrete pad would require removal of approximately 20–30 cubic yards of soil. Construction activities at the port site, such as grading activities could result in impacts to water quality in the area. However, the Port of Stockton has an environmental compliance program which requires projects to meet guidelines established in the existing Port of Stockton municipal and industrial NPDES permit, which ensures that all tenants of the Port comply with the same stipulations.

The Port has implemented a comprehensive SWPPP under this permit to minimize impacts to water quality. The Port administers a Port-wide Municipal Storm Water Management Program, which includes participation by all Port tenants. Construction activities carried out by the Port or its contractors are subject to the conditions in the Port’s municipal NPDES permit as outlined in Port-wide SWPPP, which requires all construction activities to utilize BMPs.

Implementation of the specified BMPs for all construction activities and compliance with the Port of Stockton’s NPDES program would ensure that the project would have a **less-than-significant** impact.

- 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)?**

The project is limited to transporting and stockpiling rocks and would have **no impact** on groundwater quality.

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?

The three stockpile locations are located in previously disturbed areas. The Hood site would not require any additional grading, and the Port of Stockton site is paved and the land disturbance required in preparation for the installation of the proposed concrete pad would be minimal. The greatest potential water quality impact would occur at the Rio Vista site and could cause waterborne silt during site grading operations if effective erosion control measures are not implemented. However, site grading of the Rio Vista site would be required to comply with the California Building Code, which would ensure the use of BMPs that would minimize erosion and siltation during construction.

BMPs ensure that the project site does not directly or indirectly discharge sediments into surface waters as a result of construction activities, and that water quality protection measures are implemented by the project applicants/construction contractor during construction. Therefore this would be a **less-than-significant** impact.

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?

As mentioned, the three stockpile sites are proposed on previously developed sites. The Port of Stockton site is paved and the Hood site is graded with gravel cover and was used in the past as a loading and unloading area; therefore, these two sites would have no impact on the existing drainage pattern of the sites. The Rio Vista site would require additional grading and covering of the surface mining area with additional aggregate. However, the site would not be paved and the additional aggregate would allow water to infiltrate into the ground. Therefore, the project is not expected to increase the rate or amount of surface runoff in a manner that would result in on-site or off-site flooding and the project would have a **less-than-significant** impact.

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?

Of the three sites, the only impervious surfaces that would be constructed would be a concrete pad at the Port of Stockton site, which would support the conveyor when it was deployed. However, the area that the concrete pad would be located is a highly disturbed area and the pad would add minimal amounts of impervious surface to the area. Because of the relatively small amount of impervious surfaces being constructed, increases in stormwater runoff would be minimal and the impacts would be **less than significant**.

f) Otherwise substantially degrade water quality?

Please refer to discussion in item a.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The project does not propose any housing or remove protections against flooding for housing. Therefore, the project would have **no impact**.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project does not propose any new structures. Therefore, the project would have **no impact**.

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?

The project would provide a stockpile of fill materials in three strategic locations in the Delta to expedite effective emergency response to levee breaches throughout the Delta area. The project is proposed in order to reduce the amount of loss, injury, and death caused by possible flooding as a result of the failure of a levee or dam. Therefore, the project would have a **no impact**.

j) Result in inundation by seiche, tsunami, or mudflow?

The project would provide a stockpile of fill materials in three strategic locations in the Delta to expedite effective emergency response to levee breaches throughout the Delta area. The Delta, consisting of a substantial network of riverways and channelized waterways, is not susceptible to seiche, tsunami, or mudflow; therefore, the project would have **no impact**.

3.9 LAND USE AND PLANNING

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

ENVIRONMENTAL SETTING

Port of Stockton Site: The City of Stockton’s existing general plan land use diagram designates the entire Rough and Ready Island for Institutional uses. The land use diagram of the City of Stockton’s (City’s) general plan may be amended to show an Industrial land use designation for the entire island. In addition, the Project Area may be subject to a rezone from the Public Lands (P-L) zoning district to the proposed Port (PT) zoning district. In the event that the proposed PT zoning district is not adopted into the City’s Planning and Zoning Code, the City may initiate a rezoning of the project area to the M-2 zoning district. The proposed project is consistent with all of these zoning designations (Port of Stockton 2003).

Hood Site: The existing Sacramento County General Plan land use designation for the site is Intensive Industrial (Sacramento County 2006). The zoning for the site is Industrial.

Rio Vista Site: The site has been used as a dredge spoil site since the 1950s. The Existing Solano County General Plan land use designation for the site is Extensive Agriculture (Solano County 2006b). The site is zoned Agriculture.

DISCUSSION

This analysis focuses on project-related effects associated only with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The Rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality and for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used, site-specific conditions where rock would be used, and the ability to predict or quantify specific impacts resulting from its use. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Emergency levee repairs would take place in order to protect the existing land uses from the effects of water inundation; therefore, the project would provide beneficial impacts to the surrounding community by limiting the impacts that a levee failure could have on the existing land uses throughout the Delta.

a) Physically divide an established community?

The three project sites are previously disturbed areas located within notable industrialized areas. Rough and Ready Island is a highly industrialized area at the Port of Stockton. An existing storage lot would be used for stockpiling riprap. The proposed emergency barge loading area would be located along the developed waterfront wharf area. The Hood site contains several warehouse buildings and an open lot area that has been used in the past for storing riprap and other construction materials. The Rio Vista site was used in the past for extracting sand and for storing dredge spoils (State of California et al. 1993). The project would not physically divide an established community because the project would utilize sites previously developed for industrial purposes. Therefore, the project would have **no impact**.

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

The three project sites are previously disturbed areas located within notable industrialized areas. The proposed uses of the three sites would comply with the designated land uses and zoning for the sites. All of the sites are set aside and planned for future industrial use, and under the proposed project the sites would have similar uses to their current and past uses. Therefore, the project would have **no impact**.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The proposed project would not conflict with any adopted Habitat Conservation Plan (HCP), or Natural Communities Conservation Plan (NCCP). The Solano HCP has not yet been adopted, and DWR is not a participating agency. The Solano County General Plan Update relies substantially on the Solano HCP. The only site located within the plan area is the Rio Vista site, which is located within an area identified for vernal pool grassland and Swainson’s hawk conservation (especially nest trees). No vernal pool habitat occurs at the site, and no potential nest trees would be removed.

Project activities at the Port of Stockton and Hood sites would not require the removal of vegetation. Degradation of water quality at the barge loading sites would be minimal or avoided (see section 3.8, “Hydrology and Water Quality”). This impact would be **less than significant**.

3.10 MINERAL RESOURCES

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

ENVIRONMENTAL SETTING

The California Division of Mines and Geology and the State Mining and Geology Board are responsible for administering the mineral lands inventory process under the Surface Mining and Reclamation Act of 1975 (SMARA). Areas are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs), and lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources where geologic data indicate the presence of significant measured resources. MRZ-2 areas are designated by the Mining and Geology Board as “regionally significant.”

DISCUSSION

This analysis focuses on project-related effects associated only with emergency preparedness activities. Implementation of emergency activities including anticipated uses of stockpiled rock are described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The Rock could be placed on the water side slope and/or crest of a levee, or on the landside slope or toe, to stabilize or buttress levee stability to prevent a levee from breaching. In the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality and for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies. Use of stockpiled rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies.

There is a great degree of uncertainty and speculation about if, where, and when the stockpiled rock could be used, site-specific conditions where rock would be used, and the ability to predict or quantify specific impacts resulting from its use. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Given the uncertainties inherent to the use of the stockpiled rock, it is concluded that impacts to mineral resources resulting from its use are too speculative to discuss further.

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

According to the San Joaquin County Extractive Resources Element, Volume III of the general plan (San Joaquin County 1992) the Port of Stockton site is not located within a Mineral Resource Zone and is not known to contain any regionally significant mineral resources. According to the *Solano County General Plan Geology and Soils Background Report* (Solano County 2006a), the Rio Vista site is not located within a Mineral Resource Zone and is not known to contain any regionally significant mineral resources. According to the Sacramento County Conservation Element, (Sacramento County 2007) the Hood site is not located within a Mineral Resource Zone and is not known to contain any regionally significant mineral resources. Since the project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state the project would have **no impact**.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The three proposed project sites are not designated as a mineral resource zone or locally important mineral recovery site. The proposed project would not result in the loss of any known mineral resources and there would be **no impact**.

3.11 NOISE

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	Noise. Would the project result in:				
a)	Exposure of persons to or generation of 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	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)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	For a project 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"/>

ENVIRONMENTAL SETTING

The proposed project would involve three distinct project sites where noise-generating activities would be concentrated. Descriptions of the existing noise environment, sensitive receptors, and applicable regulatory information for each site are provided in this section.

PORT OF STOCKTON

The project site is located entirely in the City of Stockton and is surrounded primarily by industrial land uses. The existing noise environment is primarily influenced by heavy-duty trucks entering the site and in the surrounding vicinity for loading and unloading materials and heavy-duty equipment at nearby warehouses for transporting products. Existing noise-sensitive land uses in the vicinity include the Stockton Country Club (e.g., single family residences) and Louis Park across the Stockton Deep Water Channel, the closest of which is approximately 900 feet to the north from the barge loading site and 1,600 feet from the stockpile site (See Exhibit 2-1).

Hood

The town of Hood is a small agricultural community located in rural Sacramento County. River Road, which crosses between the site and the rural residential area, is regularly used by trucks hauling agricultural goods to I-5 several miles west of the town, by use of Hood-Franklin Road. The existing noise environment is primarily influenced by surface transportation noise emanating from vehicular traffic on nearby roadways (e.g., River Road, Hood-Franklin Road) and heavy-duty equipment associated with agricultural activities. To a far lesser extent, other intermittent noise is generated from typical outdoor activities at the surrounding residences (e.g., people talking, operation of landscaping equipment, car doors slamming, and dogs barking).

Existing noise-sensitive land uses in the vicinity include residences (i.e., mobile home park and single-family residences to the north, the closest of which is approximately 200 feet from the project site (See Exhibit 2-2). Site access would be from I-5 via Hood-Franklin Road, passing through approximately 4 blocks of rural residential areas, including a small community park.

RIO VISTA

The Rio Vista site is surrounded by a junkyard to the south and open grazing lands to the north. The site would be accessed from Airport Road and would be reached via I-5 to Highway 12, turning north onto River Road on the west side of the Sacramento River, and passing through an industrial area which then intersects with Airport Road. ASTA Construction has an existing entrance to the surface mining site from Airport Road. The existing noise environment is primarily influenced by activities at the nearby junkyard, industrial warehouses, and agricultural land uses (e.g., heavy-duty equipment).

Existing noise-sensitive land uses in the vicinity include single family residences immediately southwest of the Rio Vista Municipal Airport, the closest of which is approximately 1.5 miles from the project site (See Exhibit 2-3).

REGULATORY SETTING

The noise standards applicable to the three project sites for regulatory compliance purposes are as follows; the Port of Stockton site is located in the City of Stockton, the Hood site is located in southern Sacramento County, and the Rio Vista site is located in Solano County, while the nearest sensitive receptors to the project site are located in the town of Rio Vista.

LOCAL PLANS AND POLICIES

Sacramento County

General Plan Noise Element

The Noise Element of the Sacramento County General Plan contains the following policies applicable to the proposed project:

- ▶ **NO-1:** Noise created by new transportation noise sources should be mitigated so as not to exceed 60 dBA Community Noise Equivalent and Day-Night noise level (CNEL/ L_{dn}) at the outdoor activity areas of any affected residential lands or land use situated in the unincorporated areas. When a practical application of the best available noise-reduction technology cannot achieve the 60 dBA CNEL/ L_{dn} standard, then an exterior noise level of 65 dBA CNEL/ L_{dn} may be allowed in outdoor activity areas.

- ▶ **NO-2:** Noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table 3-6, as measured immediately within the property line of any affected residentially-designated lands or residential land use situated in the unincorporated areas.

Table 3-6 Noise Level Performance Standards for Residential Areas Affected by Non-Transportation Noise		
Statistical Noise Level Descriptor	Exterior Noise Level Standards (dBA)	
	Day (7 a.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)
L_{50}^a	50	45
L_{max}^b	70	65

a The noise level exceeded 50% of the time in any one hour.
b The maximum instantaneous noise level during a specific period of time.
dBA = A-weighted decibels
Source: Sacramento County 2007

Noise Ordinance

In addition, the Sacramento County Noise Control Ordinance sets limits for exterior noise levels on designated agricultural and residential property and interior noise levels pertaining to multiple dwelling units (Table 3-7). The ordinance states that exterior noise shall not exceed 55 A-weighted decibels (dBA) during any cumulative 30-minute period in any hour during the day (7 a.m. to 10 p.m.) and 50 dBA during any cumulative 30-minute period in any hour during the night (10 p.m. to 7 a.m.). The ordinance sets somewhat higher noise limits for time intervals of shorter duration; however, noise in agricultural and residential areas must never exceed 75 dBA during the day and 70 dBA at night.

City of Stockton

General Plan

The Noise Element of the City of Stockton General Plan contains the following policies and standards (Refer to Table 3-8) applicable to the proposed project:

HS-2.11 Limiting Construction Activities

The City shall limit construction activities to the hours of 7 a.m. to 7 p.m., Monday through Saturday. No construction shall occur on Sundays or national holidays without a written permit from the City.

Municipal Code

The City of Stockton Municipal Code contains the following standards applicable to the proposed project:

Division 16-340 Noise Standards

16-340.020 - Activities Exempt from Noise Regulations

The following activities shall be exempt from the provisions of this Division:

Table 3-7	
Sacramento County Noise Ordinance for Agricultural and Residential Property	
Cumulative Period	Standards (dBA) Day (7 a.m.-10 p.m.)/Night (10 p.m.-7 a.m.)
Exterior Noise Standards ^{1,3}	
30 min/hr	55 / 50
15 min/hr	60 / 55
5 min/hr	65 / 60
1 min/hr	70 / 65
Never to exceed	75 / 70
Cumulative Period	Standards (dBA) Night (10 p.m.-7 a.m.)
Interior Noise Standards ^{2,4}	
5 min/hr	45
1 min/hr	50
Any period of time	55
¹ Noise created over the designated period at any location may not cause the noise levels on a designated agricultural or residential property to exceed these standards. ² Noise created over the designated period in an apartment, condominium, townhouse, duplex, or multiple dwelling units may not cause the noise level in a neighboring unit to exceed these standards. ³ Exterior noise limits must be reduced by 5 dBA for impulsive or simple tone noises, or for noises consisting of speech or music. ⁴ If the ambient level exceeds the fifth noise level category for exterior noise standards, the maximum ambient noise level shall be the noise limit for the category.	
Source: County of Sacramento Noise Control Ordinance 2006	

Table 3-8			
City of Stockton Maximum Allowable Ambient Noise Exposure by Land Use (County Noise Standards)			
Land Use Type	Noise Level, L _{dn} , dBA		
	Normally Acceptable (dBA)	Conditionally Acceptable (dBA)	Normally Unacceptable (dBA)
Residential	<60	60–70	70+
Hotels, Motels	<60	60–75	75+
Schools, Libraries, Churches, Hospitals, Extended Care Facilities	<60	60–70	70+
Auditoriums, Concert Halls, Amphitheaters	-	<70	70+
Sports Arenas, Outdoor Spectator Sports	<55	55–70	75+
Playgrounds, Neighborhood Parks	<70	–	70+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<70	70–80	80+
Office Buildings, Businesses, Commercial and Professional	<65	65–75	75+
Mining, Industrial, Manufacturing, Utilities, Agriculture	<70	70–80	80+
City of Stockton General Plan 2006			

- A. Emergency exemption. The emission of sound for the purpose of alerting persons to the existence of an emergency, or the emission of sound in the performance of emergency work. Does not include permanently-installed emergency generators.
- E. State or Federal pre-exempted activities. Any activity, to the extent the regulation of it has been preempted by State or Federal law.
- F. Public health and safety activities. All transportation, flood control, and utility company maintenance and construction operations at any time on public rights-of-way, and those situations that may occur on private property deemed necessary to serve the best interest of the public and to protect the public's health and well being, including, debris and limb removal, removal of damaged poles and vehicles, removal of downed wires, repairing traffic signals, repair of water hydrants and mains, gas lines, oil lines, and sewers, restoring electrical service, street sweeping, unplugging sewers, vacuuming catch basins, etc. The regular testing of motorized equipment and pumps shall not be exempt.

16-340.030 - Activities Deemed Violations of this Division

The following acts are a violation of this Division and are therefore prohibited.

16-340.030A Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10 p.m. and 7 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

Solano County

General Plan Noise Element

The Noise Element of the Solano County General Plan contains the following policies applicable to the proposed project:

- 1. The county and cities should place restrictions on trucking in residential and commercial areas, limiting delivery and loading times to daytime periods when ambient noise levels are highest,
- 2. The county and cities should establish specific truck routes where noise conflicts with land uses are least likely to occur.

Policy 6. The county and cities should place restrictions on noise-emitting construction activities based on standards for construction equipment listed in Table 3-11. (These noise standards are relatively lenient since such activities are temporary and difficult to avoid, i.e., CNEL's as measured at the boundary of a construction site where these standards are enforced will still exceed acceptable standards for normal conditions, Table 3-9.) To date, Solano County has not adopted a county noise ordinance.

City of Rio Vista

General Plan Noise Element

The City of Rio Vista General Plan Noise Element contains the following policies applicable to the receptors potentially affected by the proposed project:

- 1. The City shall regulate construction noise to reduce impacts on adjacent uses consistent with Section 513 of the Zoning Ordinance (Noise Regulation).

2. Noise associated with construction activities shall be exempt from the noise standards cited in Table 11-3 of the Noise Element (recreated in Table 3-10 below).
3. The City shall limit construction activities to between the hours of 7 a.m. and 5 p.m. unless an exemption is received from the City to cover special circumstances.

Table 3-9 Solano County Land Use Compatibility Chart for Exterior Community Noise			
Land Use Category	Noise Level, CNEL, dBA		
	Normally Acceptable (dBA)	Conditionally Acceptable (dBA)	Normally Unacceptable (dBA)
Residential	<65	65–75	75+
Hotels, Motels	<65	65–75	75+
Schools, Libraries, Churches, Hospitals, Extended Care Facilities	<65	65–75	75+
Auditoriums, Concert Halls, Amphitheaters	<60	60–70	70+
Playgrounds, Neighborhood Parks	<65	65–75	75+
Golf Courses, Riding Stables, Water Recreation	<70	70–80	80+
Office Buildings, Businesses, Commercial and Professional	<75	75–80	80+
Commercial Retail, Movie theaters, restaurants	<75	75–80	80+
Commercial wholesale, industrial, manufacturing, utilities, etc.	<80	80–85	85+
Noise sensitive manufacturing, and communications	<70	70–80	80+
Solano County General Plan 1995			

Table 3-10 Noise Standards for New Uses Affected by Non-Transportation Noise City of Rio Vista Noise Element			
Land Use Category	Outdoor Activity Area – L _{eq}		Interior - L _{eq}
	Daytime (dBA)	Nighttime (dBA)	Day and Night (dBA)
Residential	50	45	35
Transient lodging	55	-	40
Hospitals and nursing homes	50	45	35
Theaters and auditoriums	-	-	35
Churches, meeting halls, schools, and libraries	55	-	40
Office Buildings	55	-	45
Commercial buildings	55	-	45
Playgrounds and parks	65	-	-
Industry	65	65	50
City of Rio Vista County General Plan 2001			

**Table 3-11
Maximum Allowable Noise Levels From Construction Equipment**

Equipment Type	Peak Noise Level in dBA at 50 feet
Earthmoving	75
Front loader backhoes	75
Dozers	75
Tractors	75
Scrapers	80
Graders	75
Truck	75
Paver	80
Materials Handling	
Concrete mixer	75
Concrete pump	75
Crane	75
Derrick	75
Stationary	
Pumps	75
Generators	75
Compressors	75
Impact	
Pile drivers	95
Jackhammers	75
Rock drills	80
Pneumatic tools	80
Other	
Saws	75
Vibrator	75

Source: Solano County Noise Workbook Appendices 1977

- The City shall require all internal combustion engines used in conjunction with construction activities to be muffled according to the equipment manufacturer's requirements.

Municipal Code

The City of Rio Vista Zoning Code contains the following standards applicable to the receptors potentially affected by the proposed project:

17.52.030 Construction Equipment Noise: "It is unlawful for any person within a residential zone, or within a radius of five hundred (500) feet from to operate equipment or perform any outside construction or repair work on buildings or structures within the city between the hours of seven p.m. and seven a.m. or on Sundays. Emergency works are excepted."

DISCUSSION

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Project-generated noise levels would be primarily associated with construction activities including site preparation at the Rio Vista site, installation of the concrete pad and emergency demonstration operation at the Port of Stockton site, material transport (e.g., hauling of riprap to the stockpile areas), stockpile construction, and other miscellaneous activities. These activities, including delivery of riprap to the stockpile sites would occur during normal working hours (7 a.m. to 7 p.m.). Additional project-generated noise would occur temporarily during emergency events that require use of the stockpiled riprap, and during replenishment of stockpiles following use of the rock during an emergency. However, as with the original stockpiling activity, delivery of riprap to replenish stockpiles following an emergency event would occur during normal working hours.

ON-SITE SHORT-TERM CONSTRUCTION SOURCE NOISE

Construction noise would be limited to the Rio Vista site and the Port of Stockton site barge loading area in construction of a concrete pad, and demonstration of the emergency operations. The Hood site would not require any on-site construction activity. Construction activities at each site are described below:

Port of Stockton Site

The concrete pad at the Port site would be 6- to 12-inch thick 20- by 30-foot reinforced concrete pad that would be installed approximately 15 feet from the edge of the levee. Installation of the concrete pad would require removal of approximately 600 to 700 cubic feet of soil.

The proposed demonstration operation of the temporary barge loading facility would include delivery of equipment to the site and demonstration, which would then be stored at the site until needed for deployment during an emergency flood fighting event. The demonstration test would be performed when the equipment is delivered to the site. The demonstration would include setting up the equipment (2–3 days) and loading up to 500 tons of 24-inch minus rock onto a rock barge (1 day). Upon completion of the demonstration, the system would be disassembled (2–3 days) and staged in the long-term storage location adjacent to the barge loading area.

Equipment used for the installation of the concrete pad and demonstration would be a crane, loader, conveyor, feeder/hopper, barge and tug. According to the EPA, the noise levels typically associated with the activities above can range from 79 to 91 dBA at 50 feet, as indicated in Table 3-10. The simultaneous operation of on-site construction equipment associated with the project, as identified above, could result in combined intermittent noise levels up to approximately 95 dBA at 50 feet from the site. Based on these equipment noise levels and a typical noise-attenuation rate of 6 dBA per doubling of distance, exterior noise levels at noise-sensitive receptors located approximately 900 feet from the project site (e.g., rural residences) could exceed 70 dBA.

Noise from construction activities that occurs between 7 a.m. and 7 p.m. is exempt from the provisions of the City of Stockton standards. All construction activities, including delivery of rock riprap to establish the stockpiles as well as replenish them following use of the rock during a declared emergency would occur during the daytime hours (working hours would be from 7 a.m. to 7 p.m.). Therefore, construction activities would not occur during more noise-sensitive hours (e.g., evening, nighttime, and early morning) and construction-generated source noise would not result in the annoyance and/or sleep disruption to occupants of any existing noise-sensitive land uses in the project vicinity. Thus, this portion of the project would have a **less-than-significant** impact

Rio Vista Site

The Rio Vista site would require grading, compaction and possibly installation of 6 inches of aggregate base materials. On-site earth-moving equipment required for the above work would likely include an excavator, grader, roller compactor, bulldozer, water truck, and 5-10 off-highway trucks. According to the EPA, the noise levels typically associated with the site preparation phase can range from 79 to 91 dBA at 50 feet, as indicated in Table 3-12.

Table 3-12 Typical Equipment Noise Levels		
Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control ¹
Truck	91	75
Grader	85	75
Loader	79	75
Roller compactor	81	75
Bulldozer	80	75
Water truck	91	75
Excavator	88	80
Concrete Pump	82	NA
Concrete Mixer	85	NA
Crane	83	NA

¹Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturers' specifications.
 NA – Not Available
 Sources: EPA 1971 and Federal Transit Administration 2006

The simultaneous operation of on-site construction equipment, as identified above, could result in combined worst-case intermittent noise levels up to approximately 99 dBA at 50 feet from the site, without feasible noise control in place. Based on these equipment noise levels and a typical noise-attenuation rate of 6 dBA per doubling of distance, exterior noise levels at noise-sensitive receptors located approximately 4,400 feet from the project site (e.g., residences located in Rio Vista city limits) would exceed 50 dBA under worst-case conditions. Though the project site would be located in unincorporated Solano County, the affected noise-sensitive receptors would be located in incorporated Rio Vista, where the applicable noise standard is more protective than that applicable in Solano County. Thus, construction-generated noise could result in the exposure of persons to or generation of noise levels in excess of applicable standards (i.e., Rio Vista noise standard of 50 dBA L_{eq} for exterior residential dwellings), annoyance and/or sleep disruption to occupants of existing noise-sensitive land uses in the project vicinity, and/or create a substantial temporary increase in ambient noise levels. As a result, this impact is considered **significant**. Implementation of Mitigation Measure NOI-1 would reduce this impact to a **less-than-significant** level.

NOI-1: Implement Measures to Control Construction Equipment Noise Levels.

The contractor and/or DWR shall properly maintain construction equipment, and equip with noise control devices, such as exhaust mufflers or engine shrouds, in accordance with manufacturers' specifications. Upon successful implementation of Mitigation Measure NOI-1, worst-case noise levels at off-site receptors would be approximately 41 dBA. This is well below the applicable standard of 50 dBA. Thus, existing residences in the vicinity of the Rio Vista site would not experience annoyance and/or sleep disruption associated with project construction, and the impact would be **less than significant**.

OFF-SITE SHORT-TERM CONSTRUCTION NOISE

Stockpiling at the three proposed sites would require the following:

- ▶ Rio Vista site (75,000 to 100,000 tons): 100 trucks per day, 38 to 50 days.
- ▶ Hood site (10,000 tons): 100 trucks per day, 5 days.
- ▶ Port of Stockton site (130,000 tons): 100 trucks per day, 65 days.

Truck trips for all project areas could occur along roadways (e.g., Hood-Franklin Road, SR-26, SR-12, SR-88, SR-160, see Exhibit 2-4) where noise sensitive receptors could be located within 50 feet from the roadway. Typically traffic volumes have to double before noise levels increase noticeably [3 dBA (CNEL/L_{dn})] along roadways. Therefore, the addition of approximately 100 daily trips per site on the local roadway system, as compared to existing traffic volumes (See Table 3-13), would represent a negligible increase in noise levels. Consequently, construction of the project would not result in a noticeable change in the traffic noise contours of area roadways in terms of CNEL. In addition, construction activities, including delivery of rock riprap to establish the stockpiles as well as replenish them following use of the rock during a declared emergency, would occur during the daytime hours (working hours would be from 7 a.m. to 7 p.m.) and temporarily (5–65 days). Therefore, construction activities would not occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and off-site construction-generated noise would not result in the annoyance and/or sleep disruption to occupants of any existing noise-sensitive land uses in the project vicinity. Thus, the project would have a **less-than-significant** impact.

Table 3-13
2006 Average Daily Traffic Volumes

Route ¹	ADT
SR-4 at I-5	105,000
SR-160 at Hood-Franklin Rd, Hood	2,550
SR-12 at SR-86, Rio Vista	23,000
SR-12/88 at Lockeford	13,600
SR-88 at SR-124 N	10,500
SR-84 at SR-12, Rio Vista	3,000
SR-26, Valley Springs	10,300

¹Not meant to be inclusive.
Source: Caltrans 2006

LONG-TERM OPERATION-RELATED NOISE

Long-term operation of the proposed project would not result in the operation of any new noise-generating stationary equipment. In addition, long-term operation of the proposed project would not require any additional employees. Therefore, no additional daily trips would be added to the local roadway system; consequently, operation of the project would not result in a noticeable change in the traffic noise contours of area roadways. Thus, long-term on-site stationary- and area-source noise, and off-site traffic source noise would not result in the exposure of persons to or generation of noise levels in excess of applicable standards or create a substantial permanent increase in ambient noise levels in the project vicinity. As a result, there would be **no impact**.

If an emergency situation were to occur that would require the use of the stockpiled riprap and other on-site equipment a temporary increase in noise would occur. There is a great degree of uncertainty and speculation

about if, where, and when rock would need to be mobilized, and the ability to quantify the amount of rock that would be needed in an emergency situation. It is apparent that in the case of an emergency situation that rock materials would potentially be trucked to the transfer facilities and temporarily stockpiled at the proposed stockpile locations prior to barge loading during an emergency and that these activities could require stockpiling activities to take place outside of normal working hours, which could create significant noise impacts. However, emergency flood fight operations would take place whether rock is stockpiled in advance (the proposed project) or not; therefore, providing the three stockpiles of riprap would lessen the potential noise impacts during an emergency situation. Furthermore, noise from these emergency operations would be exempt from local regulations as the activities would occur only during a declared emergency, and would be necessary to protect the public.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 3-14 displays vibration levels for typical construction equipment.

Table 3-14 Typical Construction-Equipment Vibration Levels			
Equipment		PPV at 25 feet (in/sec)¹	Approximate Lv at 25 feet²
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58
<p>1 Where PPV is the peak particle velocity.</p> <p>2 Where Lv is the velocity level in decibels (VdB) referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.</p> <p>Source: Federal Transit Administration 2006</p>			

With respect to the proposed project, the use of trucks at the site would generate the maximum groundborne vibration in comparison to the other equipment mentioned above. According to the Federal Transit Administration (FTA), vibration levels associated with the use of trucks is 0.076 inches per second (in/sec) peak particle velocity (PPV) and 86 vibration decibels [VdB referenced to 1 microinch per second (μin/sec) and based on the root mean square (RMS) velocity amplitude] at 25 feet, as shown in Table 3-14. Using FTA’s recommended procedure for applying a propagation adjustment to these reference levels, which accounts for the decrease in vibration levels with an increase in distance from the source to receptor, predicted worst-case vibration levels of approximately 0.003 in/sec PPV and 59 VdB at the nearest rural residence to the proposed sites could occur from use of trucks. These vibration levels would not exceed Caltrans’ recommended standards with respect to the prevention of structural building damage (0.2 and 0.08 in/sec PPV for normal and historical buildings) or FTA’s maximum-acceptable-vibration standard with respect to human response (80 VdB for residential uses) at nearby existing vibration-sensitive land uses (Caltrans 2002, FTA 2006). In addition, the long-term operation of the proposed project would not include any major sources of vibration. Thus, project implementation would not result in the

exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This would be **less than significant** impact.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in a) above, long-term on-site stationary or area, or off-site operational traffic source noise would not result in the exposure of persons to or generation of noise levels in excess of applicable standards or create a substantial permanent increase in ambient noise levels in the project vicinity. As a result, there would be **no impact**.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in a) above, short-term on-site construction equipment and off-site truck travel could result in the exposure of persons to or generation of noise levels in excess of applicable standards or create a substantial temporary increase in ambient noise levels in the project vicinity. As a result, this impact is considered potentially significant. Implementation of mitigation measure NOI-1 would reduce this impact to a **less-than-significant** level.

e, f) 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, and for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Rio Vista site is located approximately 1.5 miles from the Rio Vista Municipal airport. The proposed use of the project site to stockpile riprap materials for emergency levee repairs would not conflict with the airport. Thus, project implementation would not be anticipated to result in the exposure of people residing or working in the project area to excessive aviation noise levels, and there would be **no impact**.

3.12 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. The project does not propose construction of new homes or buildings, and would not extend roadways or infrastructure. No housing currently exists on the sites.

DISCUSSION

Emergency levee repair operations would be required in response to breaches of existing levees throughout the Delta, and would take place as needed with or without this project. However, emergency levee repairs would occur in order to protect the existing land uses from the effects of water inundation and prevent loss of life; therefore, the project would provide beneficial impacts to the surrounding housing and population by potentially limiting the impacts that a levee failure could have on existing land uses throughout the Delta.

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

The project would provide stockpiles of riprap materials for emergency levee repair to maintain existing levees. The project does not propose construction of new homes or buildings, and would not extend roadways or infrastructure; therefore, the project would not induce population growth in the area, and the project would have **no impact** on population and housing in the Delta.

- b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?**

No housing exists on-site where rock stockpiling would occur. The project would not involve any displacement of housing or of people. Therefore, there would be **no impact**.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No housing exists on-site where rock stockpiling would occur. The project would not involve any displacement of housing or of people. Therefore, there would be **no impact**.

3.13 PUBLIC SERVICES

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

ENVIRONMENTAL SETTING

The project would provide stockpiles of riprap materials and barge loading facilities at three strategic locations throughout the Delta for use during emergency levee repairs. The three proposed sites are previously developed sites that were used in the past for industrial activities and would continue to be used as such.

DISCUSSION

Emergency levee repair operations would be required in response to breaches of existing levees throughout the Delta, and activities would take place as needed with or without this project. However, emergency levee repairs would take place in order to protect the existing land uses from the effects of water inundation; therefore, the project would provide beneficial impacts to the surrounding public services by limiting the impacts that a levee failure could have on the surrounding infrastructure including public facilities located throughout the Delta.

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

The proposed project would not result in the need for new governmental facilities, and would not generate additional public service demands that would require new or altered facilities, including police and fire protection. The project would provide stockpiles of riprap in three strategic locations and new barge loading equipment at the Port of Stockton, which would be utilized during emergency levee repair operations that may occur throughout the Delta. The three proposed sites are previously developed sites that were used in the past for industrial activities. The project would not result in substantial adverse physical impacts associated with the provision of

new or physically altered governmental facilities, and no new or expanded recreational facilities would be necessary as a result of project implementation. Therefore, the project would have **no impact** on public services.

3.14 RECREATION

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

ENVIRONMENTAL SETTING

The project would provide stockpiles of riprap materials and barge loading facilities at three strategic locations throughout the Delta for use during emergency levee repairs. The three proposed sites are previously developed sites that were used in the past for industrial activities and would continue to be used as such. The proposed project does not include or require the construction of new recreational facilities.

DISCUSSION

Emergency levee repair operations would be required in response to breaches of existing levees throughout the Delta, and activities would be required to take place as needed with or without this project. Emergency levee repairs would take place in order to protect the existing land uses from the effects of water inundation; therefore, the project would potentially provide beneficial impacts to recreational resources located in the vicinity of a levee failure.

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?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. The project does not propose construction of new homes or buildings and would not extend roadways or infrastructure. The project would not induce population growth in the area, and therefore, would not contribute to any increased use of recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, the project would have **no impact**.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The proposed project does not include or require the construction of new recreational facilities. Further, as discussed in a) above, the proposed project is not expected to increase demand for recreational facilities such that construction or expansion of those facilities is necessary. Therefore the project would have **no impact**.

3.15 TRANSPORTATION/TRAFFIC

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Transportation/Traffic. Would the project:				
a) Cause an increase in traffic 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

ENVIRONMENTAL SETTING

The project would consist of stockpiling riprap at the three proposed sites and providing new barge loading facilities at the Port of Stockton site. The stockpiles would only be mobilized during an emergency situation. After the stockpiles are in place no truck trips would be necessary and no additional traffic would be created until the event of declared flood emergency. During a declared flood emergency, trucks would haul materials to the site on an as-needed basis to support emergency operations. Following the emergency response actions, stockpiles would be replenished to maintain the desired tonnage of riprap at the three proposed stockpile locations.

Establishment of stockpiles at the three proposed sites would include the following truck trips:

- ▶ Rio Vista site (75,000 to 100,000 tons): 100 trucks per day, 2 loaders per day, 38 to 50 days
- ▶ Hood site (10,000 tons): 100 trucks per day, 1 loader per day, 5 days
- ▶ Port of Stockton (130,000 tons): 100 trucks per day, 2 loaders per day, 65 days.

DISCUSSION

This analysis focuses on project-related effects associated only with emergency preparedness activities. Implementation of emergency activities including mobilization of and anticipated uses of stockpiled rock are

described in Sections 2.6.1 and 2.6.2 of this document. Stockpiled rock would be transferred to barges and delivered to flood fighting locations. The rock could be placed on levees to stabilize or buttress levee stability to prevent a levee from breaching, and in the event of a breach, rock may be placed to armor the ends of the breach (initially), then close the breach and rebuild the failed section of levee. Rock may also be used to armor critical portions of the levee interior. In addition, rock could be used for constructing temporary channel closures at strategic locations to improve water quality for municipal and agricultural diversions in the central and south Delta including the SWP and CVP, and local water agencies.

Use of stockpiled rock would potentially occur anywhere within the Delta, at any time of the year. The locations of potential breaches cannot be predicted with enough specificity to accurately describe all potential impacts in advance; however, general impacts of mobilization of the rock can be described. If emergency response activities were to be required, it is likely that a large number of truck trips would be required to deliver sufficient amounts of rock to repair a failed levee during an emergency event, which would result in increased truck traffic on a variety of roadway systems. Mobilization of quarry-run rock, and the resulting impacts, would occur with or without the proposed project. The proposed project would simply allow a quicker response to emergencies, which would in turn reduce the overall number of truck trips required to respond to an emergency situation.

There is a great degree of uncertainty and speculation about if, where, and when additional rock would be mobilized, site-specific conditions where rock would be used, and the ability to predict or quantify specific amounts of rock needed or which quarries would be providing the rock during an emergency situation. As a result, it is infeasible to accurately predict what measures to avoid, minimize, or compensate for impacts would be available. The CEQA Guidelines (Sections 15144–15145) require an agency to use its best effort to forecast potential impacts of a project, and recognize that some impacts may be too speculative to evaluate. Given the uncertainties inherent to the mobilization of quarry-run rock, it is concluded that impacts to transportation/traffic resulting from mobilization of additional rock are too speculative to discuss further.

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)?

The project would result in temporary increases in truck activity to the three proposed sites to stockpile riprap and to replenish stockpiles following emergency response actions. The Rio Vista site and the Hood site are accessed via River Road, which is largely rural in nature, and temporary increased levels of trucks on these roadways would not cause a substantial impact to traffic. The Port of Stockton site is a highly industrialized area, which accommodates heavy truck traffic on a daily basis. The temporary nature of truck hauling to the three sites would not create a significant increase in traffic in relation to the existing traffic load and capacity of the street systems. The project would have a **less-than-significant** impact.

b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Refer to the discussion in a) above.

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?

The three project sites are not located within an airport land use zone and the project would not result in a change in air traffic patterns. **No impact** would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project would utilize existing industrial sites, which are accessed via existing roadway systems. The Rio Vista site and the port site are located in highly industrialized areas, and the proposed project would be compatible with the surrounding land uses. Increased truck activity would not significantly increase hazards at those two locations. The Hood site is located along River Road, which is utilized heavily by agricultural related truck traffic, as well as levee support services, as the road runs adjacent to the Sacramento River. The trucks for the proposed project would be arriving to the Hood site via Hood Franklin Road, which would require passing through the rural residential area of Hood, CA. However, the rural nature of the area could accommodate additional truck traffic without significantly increasing hazards in the area. Furthermore, the project does not propose any alteration to the roadway systems accessing the three sites and would not include additional design features that would increase hazards along roadway segments. Therefore, the project would have a **less-than-significant** impact.

e) Result in inadequate emergency access?

The project does not propose any changes to the existing roadways in the project vicinity, and the sites would continue to be used for industrial purposes in accordance with existing land use designations, with slightly increased truck traffic during rock stockpiling operations. The increase in truck traffic would be small. Therefore, the project would have a **less-than-significant** impact.

f) Result in inadequate parking capacity?

As mentioned, the project does not propose any changes to the existing roadways in the project vicinity, and the sites would continue to be used for industrial purposes in accordance with existing land use designations. Furthermore, the truck traffic to the sites would only be temporary and would not add any additional workers or residents to the area that would require parking capacity. The project would have **no impact**.

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

As mentioned, the project does not propose any changes to the existing roadways in the project vicinity, and the sites would continue to be used for industrial purposes in accordance with existing land use designations. The Rio Vista site and the port site are two highly industrialized areas. The Hood site is accessed via a rural roadway, and is also historically utilized for industrial purposes. No alternative transportation facilities are located in the immediate vicinity of any of the stockpile or barge loading locations, and transportation of stockpiled rock to these sites would not conflict with alternative transportation in the three project areas. Therefore, the project would have **no impact**.

3.16 UTILITIES AND SERVICE SYSTEMS

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

ENVIRONMENTAL SETTING

The project would provide stockpiles of riprap materials and barge loading facilities at three strategic locations throughout the Delta for use during emergency levee repairs. The three proposed sites are previously developed sites that were used in the past for industrial activities and would continue to be used as such. The project does not propose construction of new homes or buildings and would not extend roadways or infrastructure.

DISCUSSION

Emergency levee repair operations would be required in response to breaches of existing levees throughout the Delta, and mobilization and use of rock for flood fighting activities would take place with or without this project. Emergency levee repairs would take place to protect the existing land uses from the effects of water inundation; therefore, the project would potentially provide beneficial impacts to existing infrastructure and utilities located in the vicinity of a levee failure.

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. Existing wastewater treatment facilities that meet applicable wastewater treatment requirements of the Regional Water Quality Control Boards would be adequate to serve the project. Therefore, the project would not result in the exceedance of any wastewater treatment requirements and there would be **no impact**.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. The project would utilize existing industrial sites and establishment and replenishment of stockpiled riprap at the three proposed sites and emergency operations would not increase the demand for wastewater treatment facilities. Dust control during construction activities and emergency operations would require the use of water; however, the amount of water would be minimal and existing facilities would have adequate capacity for watering activities. The project does not propose to develop undeveloped land or construct any new buildings or structures that would increase the population in these areas; therefore, the project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, and the project would have **no impact**.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. The project would utilize developed industrial sites and does not propose to develop undeveloped land or construct any new structures that would require extension of roadways or other infrastructure. The Port of Stockton site is currently paved, and the Hood site is graded with gravel cover. Proposed project activities at both of these sites would not alter the existing drainage pattern, and would not increase the amount of runoff at the sites. The Rio Vista site would require additional grading and covering of the surface mining area with additional aggregate. However, the site would not be paved and the additional aggregate would allow water to infiltrate into the ground. No construction of new storm water drainage facilities or expansion of existing facilities is proposed as part of the project. Therefore, there would be **no impact**.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The project would utilize developed industrial sites and does not propose to develop undeveloped land or construct any new structures that would require additional infrastructure. At the Port of Stockton site and the Hood site, riprap would be stockpiled on graded and graveled driveways. At the Rio Vista site, rock would be stockpiled in an area made up of sandy dredge spoils, and gravel would be placed over the sandy soil to provide a stable surface for stockpiling the riprap. Construction activities and movement of materials at the three sites could create dust, and the three graveled areas would require watering during construction, barge loading, and truck hauling activities to minimize the creation of dust. Water for reducing the creation of dust is generally obtained from the site or from nearby water sources such as fire hydrants or existing water spigots. Since stockpiling activities and emergency operations would be temporary and generally in response to limited emergency situations, watering activities would also be temporary and existing water sources and supply would be sufficient. Therefore, the project would have a **less-than-significant** impact.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. Workers would be onsite temporarily and would use available washroom facilities in the project vicinity. No additional wastewater demands would be generated by the project, and the project would have **no impact** on the wastewater treatment provider in the proposed project areas.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. Workers would be onsite temporarily and would use available refuse containers in the project vicinity for disposing of solid waste. Additional solid waste generated during stockpiling and emergency operations would be temporary and minimal. Therefore, the project would have a **less-than-significant** impact on the landfills that serve the three proposed project areas.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

The project would provide stockpiles of riprap materials and barge loading facilities for emergency levee repairs. Workers would be onsite temporarily and would use available refuse containers in the project vicinity in accordance with federal, state, and local statutes and regulations for disposing of solid waste. Therefore, the project would have **no impact**.

3.17 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Authority: Public Resources Code Sections 21083 and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal.App.3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal.App.3d 1337 (1990).

DISCUSSION

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

The proposed project would have the potential to **significantly affect** the environment in the areas described above. Mitigation has been proposed for air quality, biological resources, cultural resources, and noise. However, implementation of mitigation measures proposed in this chapter will reduce all adverse impacts to **less-than-significant** levels.

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

The initial study identifies impacts related to air quality and biological resources that would potentially result in cumulatively considerable impacts. Relating to air quality, the project could contribute to exceeding emissions thresholds because of the large number of truck trips required to supply rock to the three sites. Relating to biological resources, the project would potentially have an impact on several threatened and endangered species located in riparian and wetland habitat areas. However, mitigation measures would require the potential sensitive habitat areas to be fenced off, protecting the species within, and limiting the number of truck trips so that emissions stay within the allowable emissions thresholds. DWR would replenish the proposed stockpiles following use of the rock for emergency response actions, and could utilize additional sites in the future for storage of additional emergency flood fight materials; however, the use of additional sites would require compliance with all relevant ordinances and codes and would be subject to CEQA and other relevant environmental review processes. DWR would like to secure additional stockpiling area at the Port of Stockton. Such area(s) would likely comprise existing storage area that would be leased to DWR in ready-for-use condition without the need for site preparation and with all necessary permits in place. However, no specific sites are proposed at this time. The three stockpile areas are located within industrialized areas and would conform to the sites general plan land use designations. Therefore, the proposed project would not create a mandatory finding of significance from cumulative impacts for these issue areas and effects would not be considered cumulatively considerable. Therefore, this impact would be **less than significant**.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The preceding analysis clearly demonstrates that the proposed project would have beneficial direct effects on human beings by preparing the Delta for quick response to potentially catastrophic levee failures that would potentially put lives of people within the area of the flood in danger as well as cause limited to substantial property damage. The proposed project could also have environmental effects that, without mitigation, could affect human beings. Implementing the mitigation measures proposed herein, however, reduce these impacts to a **less-than-significant** level.

4 SUMMARY OF MITIGATION MEASURES

Mitigation measures that will be incorporated into project construction and operation to protect the environment are summarized below.

AIR QUALITY

Mitigation Measure Air-1: Enter into a Voluntary Emissions Reduction Agreement with SJVAPCD.

DWR shall implement the following mitigation measure to reduce project-generated construction-related emissions impacts to a less-than-significant level. DWR shall enter into a voluntary emissions reduction agreement with the SJVAPCD to mitigate the portion of construction-generated emissions of NO_x that exceed SJVAPCD's annual emission threshold of 10 tons/year for each year of project operation. The calculation of the fee shall be determined in coordination with the SJVAPCD and paid prior to the occurrence of any construction-related activities, including replenishment of stockpiles, within areas under the jurisdiction of the SJVAPCD on a yearly basis.

BIOLOGICAL RESOURCES

Mitigation Measure BIO-1: Conduct Raptor Nesting Surveys and Monitoring.

DWR shall implement the following mitigation measure to reduce potential impacts to nesting raptors to a less-than-significant level. This measure applies to activities that either start during the March through August raptor breeding season, or start prior to that season but where activities lapse for 2 weeks or more. If rock would be stockpiled or replenished during the March through August nesting season, a qualified biologist shall conduct a survey for any nesting raptors, including Swainson's hawk and white-tailed kite, within 500 feet of all sites where rock is being placed or moved. In the event activities would start late in the breeding season (e.g., after May 1), multiple surveys are recommended, however, at least one survey shall be conducted no more than 2 weeks in advance of the start of activities. Any active raptor nests within a 500-foot buffer from activities shall be documented and reported to DFG. If stockpiling or replenishment would occur within 500 feet of an active raptor nest, all work within 500 feet of the active nest shall be stopped until the nest is no longer active, or until DFG is satisfied that activities would not endanger the nest.

Mitigation Measure BIO-2: Install and Maintain Fencing of the 20-Foot Buffer at Rio Vista.

DWR shall implement the following mitigation measure to reduce potential impacts to jurisdictional wetlands to a less-than-significant level. In order to prevent inadvertent discharge of sediments or other fill into potentially jurisdictional wetlands at the Rio Vista site, DWR shall install orange exclusion fencing on T-posts (or equivalent), with silt fence material installed along the bottom, on the limit of the 20-foot buffer flagged by EDAW on October 3, 2007. The fencing shall be maintained annually, and may be replaced with permanent fencing, if the site will be used long-term.

If fill, including sediments, enters the buffer, DWR shall immediately have the location and extent of the accidental discharge evaluated and documented by a qualified wetland specialist. If the wetland specialist determines that the accidental discharge is not limited to upland vegetation, DWR shall immediately notify the USACE and RWQCB, and shall compensate for any impacts to wetlands (e.g., through on-site restoration and/or the purchase of credits at an approved mitigation bank) to ensure that there is no net loss of wetland functions and services.

CULTURAL RESOURCES

Mitigation Measure CUL-1: Immediately Halt Construction if any Cultural Resources are Discovered.

DWR shall implement the following mitigation measure to reduce the potential impacts to buried historic cultural resources to a less-than-significant level. If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during project-related construction activities, ground disturbances in the area of the find shall be halted and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist, to be retained by DWR, shall determine whether the resource is potentially significant per the California Register of Historical Resources (CRHR) and develop appropriate mitigation. Mitigation may include, but not be limited to, in-field documentation, archival research, archaeological testing, data recovery excavations, or recordation, and shall be implemented before resuming construction in the immediate vicinity.

Mitigation Measure CUL-2: Immediately Halt Construction if any Human Remains are Discovered.

DWR shall implement the following mitigation measure to reduce the potential impacts to human remains to a less-than-significant level. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the contractor and/or DWR shall immediately halt potentially damaging excavation in the area of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, DWR, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section (PRC) 5097.9.

NOISE

Mitigation Measure NOI-1: Implement Measures to Control Construction Equipment Noise Levels.

DWR shall implement the following mitigation measure to reduce potential impacts from exposure to noise from construction equipment to a less-than-significant level. The contractor and/or DWR shall properly maintain construction equipment, and equip with noise control devices, such as exhaust mufflers or engine shrouds, in accordance with manufacturers' specifications.

5 REFERENCES

- Anderson, Richard L., Julie L. Dinsdale, and Ronald Schlorff. 2007. California Swainson's Hawk Inventory: 2005-2006. Final Report P0485902. Department of Fish and Game, UC Davis Wildlife Health Center Resource Assessment Program. June 30, 2007
- ARB. *See* California Air Resources Board.
- Barnhart, R. A. 1986. Species Profiles: *Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Southwest)—Steelhead*. (Biological Report 82 [11.60], TREL-82-4.) U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Coastal Ecology Group, Waterways Experiment Station. Slidell, LA.
- Bartow, J. A., 1991. The Cenozoic Evolution of the San Joaquin Valley, California. U.S. Geological Survey Professional Paper 1501.
- Baxter, R. D. 1999. *Status of Splittail in California*. California Fish and Game 85(1):28–30.
- California Air Resources Board. 2004. *2004 Revision to the California State Implementation Plan for Carbon Monoxide*. Available: <http://www.arb.ca.gov/planning/sip/co/final_2004_co_plan_update.pdf>.
- California Air Resources Board. 2005. *Air Quality and Land Use Handbook*. Available at http://www.arb.ca.gov/ch/march_29_aq_handbook.pdf.
- California Air Resources Board. 2007. *California Air Quality Area Designations*. Available at <http://www.arb.ca.gov/aqd/aqd.htm>.
- California Department of Fish and Game. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California. November 1.
- California Department of Fish and Game. 1998. A Status Review of the Spring-Run Chinook Salmon (*Oncorhynchus tshawytscha*) in the Sacramento River Drainage. Report to the Fish and Game Commission, Candidate Species Status Report 98-01.
- California Department of Fish and Game. 2006. Special Status Invertebrate Species Accounts, updated April 4, 2006. CDFG Biogeographic Data Branch web page, accessed on October 2, 2007. <http://www.dfg.ca.gov/biogeodata/>.
- California Department of Transportation. 2002. Transportation Related Earthborne Vibrations. Sacramento, CA.
- California Department of Transportation. 2006. Traffic and Vehicle Data Systems Unit-2006 Traffic Volumes. Available: <http://traffic-counts.dot.ca.gov/2006all.htm>
- Caltrans. *See*. California Department of Transportation.
- California Department of Water Resources. 1997. *Implications of the Delay at the Suisun Marsh Salinity Control Gates on Chinook Salmon Upstream Migrants*. Environmental Services Office.
- California Department of Water Resources. 2000. *Initial Study and Mitigated Negative Declaration for the Temporary Barriers Project, 2001–2007* (SCH No. 2000112054.) Sacramento, CA.

- California Department of Water Resources. 2007. Delta Emergency Operations Plan Concept Paper. Sacramento, CA. April, 2007.
- California Native Plant Society. 2007. Online Inventory of Rare and Endangered Plants. Nine-quad search centered on Rio Vista Quad, October 3, 2007.
- California Natural Diversity Database. 2007. California Natural Diversity Database GIS Application. Maintained by the CDFG Biogeographic Data Branch, Sacramento, CA.
- City of Rio Vista. 2001. General Plan Safety and Noise Element. Available: <http://www.rio-vista-ca.com/documents/general_plan/chapter_11.pdf>. Accessed: October 24, 2007.
- City of Sacramento. 2003. Natomas Basin Habitat Conservation Plan; Sacramento and Sutter Counties, California. Sacramento, CA.
- CNDDDB. *See* California Natural Diversity Database.
- CNPS. *See* California Native Plant Society.
- Cramer, S. P., and D. B. Demko. 1997. *The Status of Late-Fall and Spring Chinook Salmon in the Sacramento River Basin Regarding the Endangered Species Act*. Submitted to the National Marine Fisheries Service on behalf of the Association of California Water Agencies and California Urban Water Agencies.
- DFG. *See* California Department of Fish and Game.
- DWR. *See* California Department of Water Resources.
- EDAW. 2007a. *Biological Constraints Analysis for the Rio vista ASTA Study Area*. August 21, 2007.
- EDAW. 2007b. *Biological Constraints Analysis for the Port of Stockton "L" Site*. August 27, 2007.
- EPA. *See* U.S. Environmental Protection Agency.
- Estep, James A. 1989. Biology, Movements, and Habitat Relationships of the Swainson's Hawk in the Central Valley of California, 1986-87. California Department of Fish and Game, Nongame Bird and Mammal Section Report.
- Federal Transit Administration. 2006 (May). Transit Noise and Vibration Impact Assessment. Washington, D.C.
- Fisher, F. W. 1994. Past and Present Status of Central Valley Chinook Salmon. *Conservation Biology* 8(3):870–873.
- FTA. *See* Federal Transit Administration.
- Grewal, Lakhmir. Air Pollution Control Officer. Calaveras County Air Pollution Control District, San Andreas, CA. October 4, 2007 - telephone conversation with Poonam Boparai of EDAW regarding significance thresholds for Calaveras County.
- Hallock, R. J., and F. W. Fisher. 1985. *Status of the Winter-Run Chinook Salmon (Oncorhynchus tshawytscha) in the Sacramento River*. (Anadromous Fisheries Branch Office Report.) California Department of Fish and Game. Sacramento, CA.

- Jennings, C. W. 1994. Fault Activity Map of California and Adjacent Areas, California Division of Mines and Geologic Data Map No. 6, 1:750,000, 1994.
- Kohlhorst, D. W., L. W. Botsford, J. S. Brennan, and G. M. Cailliet. 1991. Aspects of the structure and dynamics of an exploited central California population of white sturgeon (*Acipenser transmontanus*). Pages 277 to 283 In P. Williot, editor. *Acipenser: Actes du premier colloque international sur l'esturgeon*. CEMAGREF, Bordeaux, France.
- McEwan, D., and T. A. Jackson. 1996. *Steelhead Restoration and Management Plan for California*. California Department of Fish and Game, Inland Fisheries Division. Sacramento, CA.
- Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded*. 2nd edition. University of California Press. Berkeley, CA.
- Moyle, P. B., P. J. Foley, and R. M. Yoshiyama. 1992. *Status of green sturgeon, Acipenser medirostris, in California*. Final Report submitted to National Marine Fisheries Service. University of California, Davis. Davis, CA.
- Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayake. 1995. *Fish Species of Special Concern of California*. California Department of Fish and Game. Rancho Cordova, CA.
- National Marine Fisheries Service. 2005. *Green Sturgeon (Acipenser medirostris) Status Review Update*. Prepared by Biological Review Team, Santa Cruz Laboratory, Southwest Fisheries Science Center. Santa Cruz, CA.
- Natural Resource Conservation Service. 1992. *Soil Survey for San Joaquin County* (updated 1992).
- Natural Resource Conservation Service. 2002. USDA, National Soil Survey Center. *Official Soil Series Descriptions*. Available: <<http://www.statlab.iastate.edu/soils/osd/>>. Accessed: July 11, 2002.
- NMFS See National Marine Fisheries Service.
- NRCS. See Natural Resource Conservation Service.
- Port of Stockton. 2003. *Port of Stockton West Complex Development Plan Draft Environmental Impact Report*. Environmental Science Associates. Sacramento, CA. November 2003.
- Public Policy Institute of California. 2007. *Envisioning Futures for the Sacramento-San Joaquin Delta*, San Francisco, CA. 2007.
- Rennie, David, Senior Water Resources Engineer, Department of Water Resources. Sacramento, CA. October 23, 2007. Draft file memorandum provided to Andrea Shephard of EDAW regarding Delta Emergency Rock Stockpile and Transfer Facilities Project: Surcharge Loading/Levee Stability Analysis for Hood Stockpile Site.
- Reynolds, F. L., T. Mills, R. Benthin, and A. Low. 1993. *Central Valley Anadromous Fisheries and Associated Riparian and Wetlands Areas Protection and Restoration Action Plan*. Draft. California Department of Fish and Game, Inland Fisheries Division. Sacramento, CA.
- Rimpo Associates. 2007. *URBEMIS2007 for Windows, Version 9.2* Available at http://www.urbemis.com/software/Urbemis2007v9_2.html.
- Rimpo. See Rimpo Associates.

- Sacramento County. 2006. Sacramento County OnLine GIS Applications. Available: <http://assessorparcelviewer.saccounty.net/website/assessor/pv_blank.aspx?g=1>. Accessed: October 17, 2007.
- Sacramento County. 2007. *Sacramento County General Plan*. Available: <<http://www.planning.saccounty.net/gpupdate/gpu-index.html>>. Accessed: September 24, 2007.
- Sacramento Metropolitan Air Quality Management District. 2004. Guide to Air Quality Assessment in Sacramento County. Sacramento, CA. July. Available at <http://www.airquality.org/ceqa/2004AQMDCEQAGuidelines.pdf>.
- Salinas, Julio. Staff Toxicologist. Office of Health Hazard Assessment, Sacramento, CA. August 3, 2004—telephone conversation with Kurt Legleiter of EDAW regarding exposure period for determining health risk.
- San Joaquin County. 1992. *San Joaquin County General Plan*. Available: <<http://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=generalplan>>. Accessed: September 25, 2007.
- San Joaquin Valley Air Pollution Control District. 2002. *Guide for Assessing and Mitigating Air Quality Impacts*. Fresno, CA. Available at <http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf>.
- San Joaquin Valley Air Pollution Control District. 2005. *1-Hour Extreme Ozone Attainment Demonstration Plan*. Available at http://www.valleyair.org/Air_Quality_Plans/AQ_plans_Ozone_Final.htm.
- San Joaquin Valley Air Pollution Control District. 2006a. *2006 PM₁₀ Plan*. Available at http://www.valleyair.org/Air_Quality_Plans/06PM10.htm. February.
- San Joaquin Valley Air Pollution Control District. 2006b. *Draft Staff Report, 8-hour ozone Reasonably Available Control Technology – State Implementation Plan (RACT SIP) Analysis*. Available at http://www.valleyair.org/Workshops/postings/2006/08-17-06/RACTSIP_analysis_PH.pdf.
- San Joaquin Valley Air Pollution Control District. 2006c. *Natural Events Action Plan*. Available at http://www.valleyair.org/Air_Quality_Plans/NEAP.htm.
- San Joaquin Valley Air Pollution Control District.) 2007a. *Adopted 2007 Ozone Plan*. Available at http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_Ozone2007.htm.
- San Joaquin Valley Air Pollution Control District. 2007b. *Particulate Matter (PM_{2.5}) Status*. Available at http://www.valleyair.org/Air_Quality_Plans/AQ_plans_PM_status2.5.htm.
- SJVAPCD. See Sacramento Metropolitan Air Quality Management District.
- Solano County. 2006a. *Geology and Soils Background Report, Solano County General Plan Update*. Available: <<http://www.solanocountygeneralplan.net/documents.htm>>. Accessed: September 25, 2007.
- Solano County. 2006b. *Land Use Background Report, Solano County General Plan Update*. Available: <<http://www.solanocountygeneralplan.net/documents.htm>>. Accessed: September 25, 2007.
- Sommer, T., R. Baxter, and B. Herbold. 1997. Resilience of Splittail in the Sacramento–San Joaquin Estuary. *Transactions of the American Fisheries Society* 126:961–976.

- State of California, The Resources Agency, and The Reclamation Board. 1993. *Reclamation Plan for Material Removal Lease No. 87-2*. May 1993.
- Stevens, D. E. 1989. *When do Winter-Run Chinook Salmon Smolts Migrate through the Sacramento–San Joaquin Delta?* Memorandum: June 19, 1989. California Department of Fish and Game. Stockton, CA.
- Stirton, R. A. 1939. Cenozoic mammal remains from the San Francisco Bay region. *University of California Publications Bulletin of the Department of Geological Sciences*. 24:339–410.
- SVP. *See* Social Venture Partners.
- Tracy, C. 1990. *Memorandum: Green sturgeon meeting and comments*. State of Washington Department of Fisheries 11 p.
- U.S. Environmental Protection Agency. 2007. *Green Book, Criteria Pollutant Area Summary Report*. Available: <<http://www.epa.gov/oar/oaqps/greenbk/anc12.html>>.
- U.S. Environmental Protection Agency. 1971 (December). *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Washington, DC.
- U.S. Fish and Wildlife Service. 2007. List of species that may be affected by projects in the Stockton West, Courtland, and Rio Vista Quads. Obtained on October 2, 2007 at http://www.fws.gov/sacramento/es/spp_list.htm.
- U.S. Navy, 1998. *Environmental Assessment for the Navy Property Transfer at Rough and Ready Island, Stockton, California*. December 1998.
- University of Washington. 2000. *Soil Liquefaction Web site*. Department of Civil Engineering. Available: <<http://www.ce.washington.edu/~liquefaction/html/main.html>>. Updated January 27, 2000.
- USFWS. *See* U.S. Fish and Wildlife Service.
- Wakabayashi, J., and D. L. Smith. December 1994. *Assessment of Recurrence Intervals, Characteristic Earthquakes, and Slip Rates Associated with Thrusting along the Coast Range-Central Valley Geomorphic Boundary, California*. *Bulletin of the Seismological Society of America*, Vol. 84, No. 6, pages 1960–1970.
- Wang, J. C. S. 1986. *Fishes of the Sacramento–San Joaquin Estuary and Adjacent Waters, California: a Guide to the Early Life Histories*. (FS/10-4ATR86-9.) California Department of Water Resources. Sacramento, CA. Prepared for Interagency Ecological Study Program for the Sacramento–San Joaquin Estuary, Sacramento, CA.
- Yoshiyama, R. M., F. W. Fisher, P. B. Moyle. 1998. *Historical Abundance and Decline of Chinook Salmon in the Central Valley Region of California*. *North American Journal of Fisheries Management* 18:487–521.
- Zhu, Yifang, W. C. Hinds, S. Kim, and S. Shen. 2002. *Study of Ultrafine Particles Near a Major Highway with Heavy-duty Diesel Traffic*. *Atmospheric Environment* 36:4323–4335.

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APPENDIX A

Air Quality Modeling Data

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_SitePrep.urb9

Project Name: Port of Stockton Site Preparation

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
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10/8/2007 7:36:04 PM

2008	0.01	0.14	0.00	0.01	0.01	0.00	0.01	0.01
Mass Grading 01/01/2008-01/02/2008	0.01	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 01/03/2008-01/03/2008	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 01/04/2008-01/04/2008	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 01/07/2008-01/08/2008	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/1/2008 - 1/2/2008 - Site Preparation (setting up equipment)
 Total Acres Disturbed: 0.01
 Maximum Daily Acreage Disturbed: 0.01
 Fugitive Dust Level of Detail: Low
 Onsite Cut/Fill: 26 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

10/8/2007 7:36:05 PM

On Road Truck Travel (VMT): 20

Off-Road Equipment:

- 1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 1 Off Highway Trucks (250 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/3/2008 - 1/3/2008 - Rock Delivered for Demo

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 2875

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/4/2008 - 1/4/2008 - Conveyor demonstration

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Page: 4

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Phase: Mass Grading 1/7/2008 - 1/8/2008 - Disassemble system

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_SitePrep.urb9

Project Name: Port of Stockton Site Preparation

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 1/1/2008-1/2/2008 Active Days: 2	5.78	50.11	3.18	2.39	5.57	0.67	2.20	2.86
Mass Grading 01/01/2008-01/02/2008	5.78	50.11	3.18	2.39	5.57	0.67	2.20	2.86
Mass Grading Dust	0.00	0.00	3.17	0.00	3.17	0.66	0.00	0.66
Mass Grading Off Road Diesel	5.65	49.27	0.00	2.36	2.36	0.00	2.17	2.17
Mass Grading On Road Diesel	0.04	0.69	0.00	0.03	0.03	0.00	0.03	0.03
Mass Grading Worker Trips	0.09	0.15	0.01	0.01	0.02	0.00	0.00	0.01
Time Slice 1/3/2008-1/3/2008 Active Days: 1	9.63	127.06	0.91	5.37	6.28	0.24	4.94	5.18
Mass Grading 01/03/2008-01/03/2008	9.63	127.06	0.91	5.37	6.28	0.24	4.94	5.18
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	3.31	28.00	0.00	1.41	1.41	0.00	1.30	1.30
Mass Grading On Road Diesel	6.28	98.98	0.41	3.95	4.36	0.13	3.64	3.77
Mass Grading Worker Trips	0.04	0.07	0.00	0.00	0.01	0.00	0.00	0.00

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Time Slice 1/4/2008-1/4/2008 Active Days: 1	3.26	26.26	0.51	1.40	1.91	0.11	1.29	1.40
Mass Grading 01/04/2008-01/04/2008	3.26	26.26	0.51	1.40	1.91	0.11	1.29	1.40
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	3.20	26.17	0.00	1.40	1.40	0.00	1.29	1.29
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.05	0.09	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 1/7/2008-1/8/2008 Active Days: 2	1.42	14.23	0.50	0.52	1.02	0.11	0.48	0.58
Mass Grading 01/07/2008-01/08/2008	1.42	14.23	0.50	0.52	1.02	0.11	0.48	0.58
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	1.40	14.19	0.00	0.52	0.52	0.00	0.48	0.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/1/2008 - 1/2/2008 - Site Preparation (setting up equipment)

Total Acres Disturbed: 0.01

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 26 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 20

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Off Highway Trucks (250 hp) operating at a 0.57 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Mass Grading 1/3/2008 - 1/3/2008 - Rock Delivered for Demo

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 2875

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/4/2008 - 1/4/2008 - Conveyor demonstration

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/7/2008 - 1/8/2008 - Disassemble system

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_SitePrep.urb9

Project Name: Port of Stockton Site Preparation

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 1/1/2008-1/2/2008 Active Days: 2	5.78	50.11	3.18	2.39	5.57	0.67	2.20	2.86
Mass Grading 01/01/2008-01/02/2008	5.78	50.11	3.18	2.39	5.57	0.67	2.20	2.86
Mass Grading Dust	0.00	0.00	3.17	0.00	3.17	0.66	0.00	0.66
Mass Grading Off Road Diesel	5.65	49.27	0.00	2.36	2.36	0.00	2.17	2.17
Mass Grading On Road Diesel	0.04	0.69	0.00	0.03	0.03	0.00	0.03	0.03
Mass Grading Worker Trips	0.09	0.15	0.01	0.01	0.02	0.00	0.00	0.01
Time Slice 1/3/2008-1/3/2008 Active Days: 1	9.63	127.06	0.91	5.37	6.28	0.24	4.94	5.18
Mass Grading 01/03/2008-01/03/2008	9.63	127.06	0.91	5.37	6.28	0.24	4.94	5.18
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	3.31	28.00	0.00	1.41	1.41	0.00	1.30	1.30
Mass Grading On Road Diesel	6.28	98.98	0.41	3.95	4.36	0.13	3.64	3.77
Mass Grading Worker Trips	0.04	0.07	0.00	0.00	0.01	0.00	0.00	0.00

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Time Slice 1/4/2008-1/4/2008 Active Days: 1	3.26	26.26	0.51	1.40	1.91	0.11	1.29	1.40
Mass Grading 01/04/2008-01/04/2008	3.26	26.26	0.51	1.40	1.91	0.11	1.29	1.40
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	3.20	26.17	0.00	1.40	1.40	0.00	1.29	1.29
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.05	0.09	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 1/7/2008-1/8/2008 Active Days: 2	1.42	14.23	0.50	0.52	1.02	0.11	0.48	0.58
Mass Grading 01/07/2008-01/08/2008	1.42	14.23	0.50	0.52	1.02	0.11	0.48	0.58
Mass Grading Dust	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10
Mass Grading Off Road Diesel	1.40	14.19	0.00	0.52	0.52	0.00	0.48	0.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/1/2008 - 1/2/2008 - Site Preparation (setting up equipment)

Total Acres Disturbed: 0.01

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 26 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 20

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Off Highway Trucks (250 hp) operating at a 0.57 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Mass Grading 1/3/2008 - 1/3/2008 - Rock Delivered for Demo

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 2875

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/4/2008 - 1/4/2008 - Conveyor demonstration

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/7/2008 - 1/8/2008 - Disassemble system

Total Acres Disturbed: 0.05

Maximum Daily Acreage Disturbed: 0.05

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_Ione.urb9

Project Name: Port of Stockton Ione Quarry

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
2008	0.74	11.24	0.69	0.46	1.16	0.15	0.43	0.58
Mass Grading 01/09/2008-04/08/2008	0.74	11.24	0.69	0.46	1.16	0.15	0.43	0.58
Mass Grading Dust	0.00	0.00	0.65	0.00	0.65	0.14	0.00	0.14
Mass Grading Off Road Diesel	0.04	0.27	0.00	0.02	0.02	0.00	0.02	0.02
Mass Grading On Road Diesel	0.70	10.97	0.04	0.44	0.48	0.01	0.40	0.42
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/9/2008 - 4/8/2008 - Stockpiling On Road Emissions

Total Acres Disturbed: 2

Maximum Daily Acreage Disturbed: 2

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 9800

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_lone.urb9

Project Name: Port of Stockton lone Quarry

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 1/9/2008-4/8/2008 Active Days: 65	22.77	345.69	21.38	14.22	35.61	4.63	13.09	17.72
Mass Grading 01/09/2008-04/08/2008	22.77	345.69	21.38	14.22	35.61	4.63	13.09	17.72
Mass Grading Dust	0.00	0.00	20.00	0.00	20.00	4.18	0.00	4.18
Mass Grading Off Road Diesel	1.36	8.25	0.00	0.75	0.75	0.00	0.69	0.69
Mass Grading On Road Diesel	21.39	337.41	1.38	13.47	14.85	0.45	12.39	12.85
Mass Grading Worker Trips	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/9/2008 - 4/8/2008 - Stockpiling On Road Emissions
Total Acres Disturbed: 2
Maximum Daily Acreage Disturbed: 2
Fugitive Dust Level of Detail: Default
10 lbs per acre-day
On Road Truck Travel (VMT): 9800
Off-Road Equipment:
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_ValleySprings.urb9

Project Name: Port of Stockton Valley Springs Quarry

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
2008	0.86	13.14	0.70	0.54	1.24	0.15	0.50	0.65
Mass Grading 01/09/2008-04/08/2008	0.86	13.14	0.70	0.54	1.24	0.15	0.50	0.65
Mass Grading Dust	0.00	0.00	0.65	0.00	0.65	0.14	0.00	0.14
Mass Grading Off Road Diesel	0.04	0.27	0.00	0.02	0.02	0.00	0.02	0.02
Mass Grading On Road Diesel	0.82	12.87	0.05	0.51	0.57	0.02	0.47	0.49
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/9/2008 - 4/8/2008 - Stockpiling

Total Acres Disturbed: 2

Maximum Daily Acreage Disturbed: 2

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 11500

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Port of Stockton_ValleySprings.urb9

Project Name: Port of Stockton Valley Springs Quarry

Project Location: San Joaquin Valley APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 1/9/2008-4/8/2008 Active Days: 65	26.48	404.22	21.62	16.56	38.18	4.71	15.24	19.95
Mass Grading 01/09/2008-04/08/2008	26.48	404.22	21.62	16.56	38.18	4.71	15.24	19.95
Mass Grading Dust	0.00	0.00	20.00	0.00	20.00	4.18	0.00	4.18
Mass Grading Off Road Diesel	1.36	8.25	0.00	0.75	0.75	0.00	0.69	0.69
Mass Grading On Road Diesel	25.10	395.94	1.62	15.81	17.43	0.53	14.54	15.07
Mass Grading Worker Trips	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 1/9/2008 - 4/8/2008 - Stockpiling

Total Acres Disturbed: 2

Maximum Daily Acreage Disturbed: 2

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 11500

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Hood_Ione.urb9

Project Name: Hood CA - From Ione Quarry

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
2008	0.05	0.81	0.02	0.03	0.05	0.00	0.03	0.04
Mass Grading 06/19/2008-06/25/2008	0.05	0.81	0.02	0.03	0.05	0.00	0.03	0.04
Mass Grading Dust	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.05	0.80	0.00	0.03	0.04	0.00	0.03	0.03
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 6/19/2008 - 6/25/2008 - Stockpiling

Total Acres Disturbed: 0.5

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 10500

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Hood_Ione.urb9

Project Name: Hood CA - From Ione Quarry

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 6/19/2008-6/25/2008 Active Days: 5	21.39	322.70	6.48	13.70	20.18	1.53	12.60	14.13
Mass Grading 06/19/2008-06/25/2008	21.39	322.70	6.48	13.70	20.18	1.53	12.60	14.13
Mass Grading Dust	0.00	0.00	5.00	0.00	5.00	1.04	0.00	1.04
Mass Grading Off Road Diesel	0.68	4.12	0.00	0.38	0.38	0.00	0.35	0.35
Mass Grading On Road Diesel	20.70	318.56	1.48	13.32	14.80	0.49	12.26	12.74
Mass Grading Worker Trips	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 6/19/2008 - 6/25/2008 - Stockpiling

Total Acres Disturbed: 0.5

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 10500

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Hood_ValleySprings.urb9

Project Name: Hood CA - From Valley Springs Quarry

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
2008	0.06	0.94	0.02	0.04	0.06	0.00	0.04	0.04
Mass Grading 06/19/2008-06/25/2008	0.06	0.94	0.02	0.04	0.06	0.00	0.04	0.04
Mass Grading Dust	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.06	0.93	0.00	0.04	0.04	0.00	0.04	0.04
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 6/19/2008 - 6/25/2008 - Stockpiling

Total Acres Disturbed: 0.5

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 12300

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Hood_ValleySprings.urb9

Project Name: Hood CA - From Valley Springs Quarry

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 6/19/2008-6/25/2008	24.94	377.31	6.74	15.98	22.72	1.61	14.70	16.32
Active Days: 5								
Mass Grading 06/19/2008-06/25/2008	24.94	377.31	6.74	15.98	22.72	1.61	14.70	16.32
Mass Grading Dust	0.00	0.00	5.00	0.00	5.00	1.04	0.00	1.04
Mass Grading Off Road Diesel	0.68	4.12	0.00	0.38	0.38	0.00	0.35	0.35
Mass Grading On Road Diesel	24.25	373.17	1.73	15.61	17.34	0.57	14.36	14.93
Mass Grading Worker Trips	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 6/19/2008 - 6/25/2008 - Stockpiling

Total Acres Disturbed: 0.5

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 12300

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Rio Vista_SitePrep.urb9

Project Name: Rio Vista Site Preparation

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
2008	0.01	0.08	0.12	0.00	0.13	0.03	0.00	0.03
Mass Grading 04/09/2008-04/10/2008	0.01	0.08	0.12	0.00	0.13	0.03	0.00	0.03
Mass Grading Dust	0.00	0.00	0.12	0.00	0.12	0.03	0.00	0.03
Mass Grading Off Road Diesel	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 4/9/2008 - 4/10/2008 - Site Preparation

Total Acres Disturbed: 3.59

Maximum Daily Acreage Disturbed: 3.59

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 730 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 595.56

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\Rio Vista_SitePrep.urb9

Project Name: Rio Vista Site Preparation

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>
Time Slice 4/9/2008-4/10/2008 Active Days: 2	8.22	80.78	122.13	3.59	125.72	25.52	3.30	28.82
Mass Grading 04/09/2008-04/10/2008	8.22	80.78	122.13	3.59	125.72	25.52	3.30	28.82
Mass Grading Dust	0.00	0.00	122.04	0.00	122.04	25.49	0.00	25.49
Mass Grading Off Road Diesel	6.49	59.05	0.00	2.59	2.59	0.00	2.39	2.39
Mass Grading On Road Diesel	1.67	21.62	0.08	0.99	1.08	0.03	0.91	0.94
Mass Grading Worker Trips	0.07	0.11	0.01	0.00	0.01	0.00	0.00	0.01

Phase Assumptions

Phase: Mass Grading 4/9/2008 - 4/10/2008 - Site Preparation

Total Acres Disturbed: 3.59

Maximum Daily Acreage Disturbed: 3.59

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 730 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 595.56

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_SitePrep_mod1024.urb9

Project Name: Rio Vista Site Preparation

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
2008	0.04	0.44	0.17	0.00	0.07	0.02	0.09	0.02	0.02	0.03	44.98
Mass Grading 04/07/2008-04/10/2008	0.04	0.44	0.17	0.00	0.07	0.02	0.09	0.02	0.02	0.03	44.98
Mass Grading Dust	0.00	0.00	0.00	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.00
Mass Grading Off Road Diesel	0.04	0.36	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	35.72
Mass Grading On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.55
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72

Phase Assumptions

Phase: Mass Grading 4/7/2008 - 4/10/2008 - Site Preparation

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 1061.36

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_SitePrep_mod1024.urb9

Project Name: Rio Vista Site Preparation

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 4/7/2008-4/10/2008	21.93	219.86	84.30	0.04	36.17	8.99	45.16	7.57	8.27	15.85	22,488.59
Active Days: 4											
Mass Grading 04/07/2008-04/10/2008	21.93	219.86	84.30	0.04	36.17	8.99	45.16	7.57	8.27	15.85	22,488.59
Mass Grading Dust	0.00	0.00	0.00	0.00	36.00	0.00	36.00	7.52	0.00	7.52	0.00
Mass Grading Off Road Diesel	18.81	181.06	63.71	0.00	0.00	7.21	7.21	0.00	6.63	6.63	17,857.95
Mass Grading On Road Diesel	2.97	38.54	15.90	0.04	0.15	1.77	1.92	0.05	1.63	1.68	4,273.06
Mass Grading Worker Trips	0.16	0.26	4.68	0.00	0.02	0.01	0.03	0.01	0.01	0.02	357.58

Phase Assumptions

Phase: Mass Grading 4/7/2008 - 4/10/2008 - Site Preparation

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 1061.36

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_lone.urb9

Project Name: Rio Vista Site from Lone Quarry Hauling Emissions

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
2008	0.73	9.19	3.84	0.01	0.93	0.43	1.37	0.20	0.40	0.60	1,014.09
Mass Grading 04/11/2008-06/19/2008	0.73	9.19	3.84	0.01	0.93	0.43	1.37	0.20	0.40	0.60	1,014.09
Mass Grading Dust	0.00	0.00	0.00	0.00	0.90	0.00	0.90	0.19	0.00	0.19	0.00
Mass Grading Off Road Diesel	0.03	0.21	0.12	0.00	0.00	0.02	0.02	0.00	0.02	0.02	16.37
Mass Grading On Road Diesel	0.69	8.99	3.71	0.01	0.03	0.41	0.45	0.01	0.38	0.39	996.44
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28

Phase Assumptions

Phase: Mass Grading 4/11/2008 - 6/19/2008 - Hauling and Fugitive Dust Emissions due to transport of rock from Lone Quarry

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 9900

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_lone.urb9

Project Name: Rio Vista Site from Lone Quarry Hauling Emissions

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 4/11/2008-6/19/2008	29.10	367.76	153.68	0.37	37.40	17.26	54.66	7.98	15.88	23.86	40,563.49
Active Days: 50											
Mass Grading 04/11/2008-06/19/2008	29.10	367.76	153.68	0.37	37.40	17.26	54.66	7.98	15.88	23.86	40,563.49
Mass Grading Dust	0.00	0.00	0.00	0.00	36.00	0.00	36.00	7.52	0.00	7.52	0.00
Mass Grading Off Road Diesel	1.36	8.25	4.69	0.00	0.00	0.75	0.75	0.00	0.69	0.69	654.92
Mass Grading On Road Diesel	27.72	359.47	148.33	0.37	1.40	16.51	17.90	0.46	15.19	15.64	39,857.49
Mass Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.08

Phase Assumptions

Phase: Mass Grading 4/11/2008 - 6/19/2008 - Hauling and Fugitive Dust Emissions due to transport of rock from Lone Quarry

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 9900

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_ValleySprings.urb9

Project Name: Rio Vista Site from Ione Quarry Hauling Emissions

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
2008	0.84	10.65	4.44	0.01	0.94	0.50	1.44	0.20	0.46	0.66	1,175.13
Mass Grading 04/11/2008-06/19/2008	0.84	10.65	4.44	0.01	0.94	0.50	1.44	0.20	0.46	0.66	1,175.13
Mass Grading Dust	0.00	0.00	0.00	0.00	0.90	0.00	0.90	0.19	0.00	0.19	0.00
Mass Grading Off Road Diesel	0.03	0.21	0.12	0.00	0.00	0.02	0.02	0.00	0.02	0.02	16.37
Mass Grading On Road Diesel	0.80	10.44	4.31	0.01	0.04	0.48	0.52	0.01	0.44	0.45	1,157.48
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28

Phase Assumptions

Phase: Mass Grading 4/11/2008 - 6/19/2008 - Hauling and Fugitive Dust Emissions from Valley Springs Quarry

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 11500

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Urbemis 2007 Version 9.2.2

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\boparaip\Desktop\Work\DWR Delta EOP\Urbemis\Urbemis Files\For Honey 2\Rio Vista Update 1024\Rio Vista_ValleySprings.urb9

Project Name: Rio Vista Site from Ione Quarry Hauling Emissions

Project Location: Solano County in Yolo-Solano AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 4/11/2008-6/19/2008	33.58	425.86	177.66	0.43	37.62	19.93	57.55	8.05	18.34	26.39	47,005.10
Active Days: 50											
Mass Grading 04/11/2008-06/19/2008	33.58	425.86	177.66	0.43	37.62	19.93	57.55	8.05	18.34	26.39	47,005.10
Mass Grading Dust	0.00	0.00	0.00	0.00	36.00	0.00	36.00	7.52	0.00	7.52	0.00
Mass Grading Off Road Diesel	1.36	8.25	4.69	0.00	0.00	0.75	0.75	0.00	0.69	0.69	654.92
Mass Grading On Road Diesel	32.19	417.57	172.30	0.43	1.62	19.18	20.80	0.53	17.64	18.17	46,299.10
Mass Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.08

Phase Assumptions

Phase: Mass Grading 4/11/2008 - 6/19/2008 - Hauling and Fugitive Dust Emissions from Valley Springs Quarry

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 3.6

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 11500

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

APPENDIX B

California Native Plant Society On-Line Inventory of
Rare and Endangered Plants

APPENDIX B

CALIFORNIA NATIVE PLANT SOCIETY ON-LINE INVENTORY OF RARE AND ENDANGERED PLANTS

9-Quad Search Centered on the Rio Vista Quad., conducted October 3, 2007.

Scientific Name	Common Name	CNPS Rank
<i>Arctostaphylos auriculata</i>	Mt. Diablo manzanita	List 1B.3
<i>Aster lentus</i>	Suisun Marsh aster	List 1B.2
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris' milk-vetch	List 1B.1
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	List 1B.2
<i>Atriplex cordulata</i>	heartscale	List 1B.2
<i>Atriplex depressa</i>	brittlescale	List 1B.2
<i>Atriplex joaquiniana</i>	San Joaquin spearscale	List 1B.2
<i>Atriplex persistens</i>	vernal pool smallscale	List 1B.2
<i>Blepharizonia plumosa</i>	big tarplant	List 1B.1
<i>California macrophylla</i>	round-leaved filaree	List 1B.1
<i>Carex comosa</i>	bristly sedge	List 2.1
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	List 1B.2
<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	soft bird's-beak	List 1B.2
<i>Cryptantha hooveri</i>	Hoover's cryptantha	List 1A
<i>Downingia pusilla</i>	dwarf downingia	List 2.2
<i>Eriogonum truncatum</i>	Mt. Diablo buckwheat	List 1B.1
<i>Erysimum capitatum</i> ssp. <i>angustatum</i>	Contra Costa wallflower	List 1B.1
<i>Eschscholzia rhombipetala</i>	diamond-petaled California poppy	List 1B.1
<i>Fritillaria liliacea</i>	fragrant fritillary	List 1B.2
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	List 1B.2
<i>Hesperolinon breweri</i>	Brewer's western flax	List 1B.2
<i>Hibiscus lasiocarpus</i>	rose-mallow	List 2.2
<i>Isocoma arguta</i>	Carquinez goldenbush	List 1B.1
<i>Juglans hindsii</i>	Northern California black walnut	List 1B.1
<i>Lasthenia conjugens</i>	Contra Costa goldfields	List 1B.1
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	List 1B.2
<i>Legenere limosa</i>	legenere	List 1B.1
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	List 1B.2
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	List 1B.1
<i>Limosella subulata</i>	Delta mudwort	List 2.1
<i>Madia radiata</i>	showy madia	List 1B.1
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mouseltail	List 3.1
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	List 1B.1
<i>Neostapfia colusana</i>	Colusa grass	List 1B.1
<i>Oenothera deltoides</i> ssp. <i>howellii</i>	Antioch Dunes evening-primrose	List 1B.1
<i>Plagiobothrys hystriculus</i>	bearded popcorn-flower	List 1B.1
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	List 2.2
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	List 1B.2
<i>Scutellaria galericulata</i>	marsh skullcap	List 2.2
<i>Scutellaria lateriflora</i>	blue skullcap	List 2.2
<i>Tuctoria mucronata</i>	Crampton's tuctoria or Solano grass	List 1B.1

Source: CNPS 2007

APPENDIX C

Special-Status Species Considered for DWR Emergency Stockpile Project

APPENDIX C

SPECIAL-STATUS SPECIES CONSIDERED FOR DWR EMERGENCY STOCKPILE PROJECT

Common Name	Scientific Name	Status
PLANTS		
Suisun Marsh aster	<i>Aster lentus</i>	CNPS 1B.2
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	CNPS 1B.2
San Joaquin spearscale	<i>Atriplex joaquiniana</i>	CNPS 1B.2
round-leaved filaree	<i>California macrophyllum</i>	CNPS 1B.1
bristly sedge	<i>Carex comosa</i>	CNPS 2.1
palmate-bracted bird's-beak	<i>Cordylanthus palmatus</i>	FE
dwarf downingia	<i>Downingia pusilla</i>	CNPS 2.2
rose-mallow	<i>Hibiscus lasiocarpus</i>	CNPS 2.2
Carquinez goldenbush	<i>Isocoma arguta</i>	CNPS 1B.1
Northern California black walnut	<i>Juglans hindsii</i>	CNPS 1B.1
Delta tule pea	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	CNPS 1B.2
legenere	<i>Legenere limosa</i>	CNPS 1B.1
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	CNPS 1B.1
Delta mudwort	<i>Limosella subulata</i>	CNPS 2.1
Antioch Dunes evening-primrose	<i>Oenothera deltooides</i> ssp. <i>howellii</i>	CNPS 1B.1
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	CNPS 1B.2
blue skullcap	<i>Scutellaria lateriflora</i>	CNPS 2.2
INVERTEBRATES		
delta green ground beetle	<i>Elaphrus viridis</i>	FT
Sacramento anthicid beetle	<i>Anthicus sacramento</i>	--
Antioch Dunes anthicid beetle	<i>Anthicus antiochensis</i>	--
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE
midvalley fairy shrimp	<i>Branchinecta mesovallensis</i>	--
California linderiella	<i>Branchinecta conservatio</i>	--
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE
valley elderberry longhorn beetle (T)	<i>Desmocerus californicus dimorphus</i>	FT

Common Name	Scientific Name	Status
MAMMALS		
American badger	<i>Taxidea taxus</i>	CSC
BIRDS		
bank swallow	<i>Riparia riparia</i>	CT
black-crowned night heron	<i>Nycticorax nycticorax</i>	--
burrowing owl	<i>Athene cunicularia</i>	CSC
double-crested cormorant	<i>Phalacrocorax auritus</i>	CSC
great blue heron	<i>Ardea herodias</i>	--
great egret	<i>Ardea alba</i>	--
Swainson's hawk	<i>Buteo swainsoni</i>	FT
tricolored blackbird	<i>Agelaius tricolor</i>	CSC
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	CE, FC
white-tailed kite	<i>Elanus leucurus</i>	CFP
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE
AMPHIBIANS		
California tiger salamander	<i>Ambystoma californiense</i>	FT
California red-legged frog	<i>Rana aurora draytonii</i>	FT
REPTILES		
giant garter snake	<i>Thamnophis gigas</i>	FT
northwestern pond turtle	<i>Emys (=Clemmys) marmorata marmorata</i>	CSC
FISH		
Delta smelt	<i>Hypomesus transpacificus</i>	FT
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	CSC
green sturgeon	<i>Acipenser medirostris</i>	FT
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT
Central Valley spring-run and winter-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	FT (Spring-run) FE (Winter-run)
<p>Status Codes:</p> <p>FE Federal Endangered</p> <p>FT Federal Threatened</p> <p>FC Federal Candidate</p> <p>CE California Endangered</p> <p>CT California Threatened</p> <p>CFP California Fully Protected</p> <p>CSC California Species of Special Concern</p> <p>CNPS California Native Plant Society</p> <p>Source: CNDDDB (2007) GIS Application, record search within 5 miles of the Port of Stockton, Hood, and Rio Vista sites; USFWS (2007) list of species that may be affected by projects in the Stockton West, Courtland, and Rio Vista Quads.</p>		