DRAFT
Initial Study and Mitigated Negative Declaration
Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project

February 2014

Prepared for:

City of West Sacramento
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DRAFT MITIGATED NEGATIVE DECLARATION RALEY'S DOCK REPLACEMENT AND RICE MILL PIER REHABILITATION PROJECT

Lead Agency: City of West Sacramento

Project Proponent: City of West Sacramento

Project Location: The project is located at two sites on the west bank of the Sacramento River between the I Street Bridge and Pioneer Bridge in the City of West Sacramento, Yolo County California. The Raley's Dock Project site is located adjacent to the River Walk Park and the Rice Mill Pier Project site is located adjacent to Mill Street and Riverfront Street.

Project Description: The Proposed Project consists of two projects on the Sacramento River in the City of West Sacramento. The projects are referred to as Raley's Dock and Rice Mill Pier.

Raley's Dock

The City of West Sacramento intends to build a replacement dock with a facility that is open to the public, meets current building and safety standards, and is accessible and compliant with the California Building Code provisions of accessibility and requirements of the ADA. The Sacramento River is approximately 500 feet wide at the proposed dock location. The proposed dock would be 432 feet long overall, with a 25-foot-wide, 60-foot-long berthing dock on the downstream end and an 8-foot-wide, 372-foot-long upriver section. The new floating docks would support dead loads consisting of utilities, access gangways and landing platforms, and live (transient) loads. Vessels would be able to temporarily moor to the floating docks, and all float modules would be held in position by guide piles. The new dock would provide a new recreational boating facility with docking available for small boats, water taxis and other vessels, and the dock would meet current building code and safety standards as well as adhere to the California Building Code provisions for accessibility and be ADA-compliant.

The City of West Sacramento intends to implement the following facility improvements:

- Replace floating docks using durable, low maintenance and stable concrete floating units.
- Provide lighting and cleats on replacement docks to improve public access and safety, and to enhance aesthetics.
- Implement use of upstream debris deflector boom to protect docks from logs and other floating debris in the river.
- Reuse existing steel guide piles where possible to secure new replacement floating docks. Where reuse of existing docks is not possible due to damage, misalignment, or non-compliance with dock improvements, the existing piles will be removed and new steel pipe piles installed.
- Provide accessible gangway with adjustability for use at varying river water levels.
- Provide California Building Code and ADA-compliant access ramp and landing from top of levee to gangway entrance. The ramps would not exceed 1:12 slope and a 2.5-foot maximum rise in 30 feet.
- Where possible, use prefabricated elements for project construction such as the floating docks, gangways and access ramp to reduce construction impacts at the site.

- Utilize concrete floating docks with flotation units polyethylene-encased with foam in place of timber to provide longer service life with reduced maintenance requirements and costs.
- Removal of existing debris around the guide piles.

Rice Mill Pier

Rice Mill Pier consists of an elevated concrete deck about 12 inches thick, 18 feet wide, and 120 feet long. The pier deck elevation is approximately level with the top of the levee and during typical summer flows is about 25 feet above the river level at the waterside end of the pier. The City of West Sacramento intends to rehabilitate the existing Rice Mill Pier for public access use along the Sacramento River. The Proposed Project would include implementation of repairs and strengthening to the pier along with structural and mechanical options for full compliance with the California Building Code provisions of accessibility and the ADA.

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; however, the existing piles would be reused where possible to avoid pile driving. Fiberglass or steel pile jackets may be used to restore or increase the structural capacity of the existing piles. Strengthening of the piles may be needed, depending on the results of the seismic evaluation. The Proposed Project would also repair the existing concrete pier abutment. The abutment walls will be repaired or replaced as required. All existing openings into the abutment will be sealed, at least to the extent that access by the public or pests is precluded. A protective rail or fencing system and lighting along the pier perimeter would be provided.

Proposed Finding: Based on the information contained in the attached Initial Study, the City of West Sacramento finds that there would not be a significant effect to the environment because the mitigation measures described herein would be incorporated as part of the Proposed Project.

Public Review Period: February 26, 2014 to March 27, 2014

Mitigation Measures Incorporated into the Project to Avoid Significant Effects

Biological Resources

Pre-Construction Nesting Bird Survey and Dusk Emergence Bat Survey

The Project site supports potential nesting habitat for several special-status birds, including great blue heron (*Ardea Herodias*), great egret (*Ardea alba*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), yellow-billed magpie (*Pica nuttallii*), or other protected raptor nests. If present, the construction noise could result in harassment to nesting individuals and may temporarily disrupt foraging activities. Additionally, construction activities may remove vegetation that would support nesting birds. The large trees within the Project area support potential roosting habitat for several special-status bats, including Yuma myotis (*Myotis yumanensis*), hoary bat (*Lasiurus cinereus*), Western red bat (*Lasiurus blossevillii*), and Townsend's big-eared bat (*Corynorphinus townsendii townsendii*). If present, construction activities could result in disturbance of roosting habitat. Implementation of Mitigation Measure B-1 would reduce impacts to special-status wildlife species and all protected birds to a less than significant level.

Mitigation Measure

B-1 (Raley's Dock and Rice Mill Pier)

A. To avoid take of any special-status wildlife species protected under the CESA and/or any bird species protected under the MBTA and California Fish and Game Code, a pre-construction clearance survey for all potentially suitable habitat shall be conducted by a qualified biologist within 14 days prior to the onset of construction activities. If no nesting birds and/or special-status wildlife species are found during the survey, site preparation and construction activities may begin.

    1. If special-status wildlife species are found, consult with CDFW to develop appropriate exclusion methods. Methods for exclusion during construction may include monitoring to determine the extent of special-status wildlife activity on the site.

    2. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW recommendations for buffer distances relative to the species identified. Once construction activities commence on-site, all nests will be continuously monitored by a qualified biologist to detect any behavior changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing the change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. Pre-construction nesting surveys are not required for construction activity outside the nesting season (February 1-August 31). The removal or trimming of trees within the Project area shall be conducted during the non-breeding season, i.e. between September 1 and January 31, to avoid impacts to nesting raptors, colonial water birds and other nesting special-status birds.

    3. A qualified biologist shall conduct a dusk emergence bat survey (start 1 hour before sunset and last 3 hours), followed by a pre-dawn re-entry survey (start 1 hour before sunrise and last for 2 hours), in addition a daytime visual inspection of all potential bat roosting habitat near the Project site shall be included as part of the pre-construction clearance survey. Pre-construction surveys are required year-round for special-status bats. If roosting special-species bats are found on-site or adjacent to the Proposed Project during the surveys, the following measures shall be implemented with consultation with CDFW to reduce adverse impacts to special-status bats:

        a. Avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites.

        b. Clearing and grubbing adjacent to the roost site and lighting use near the roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.

        c. Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of the roost site shall be prohibited.

B. In addition, Worker's Awareness Training will be conducted prior to construction and will include training materials and a briefing covering all sensitive species and habitats to further educate construction personnel regarding potential adverse effects to these resources. These training materials and briefings will include the laws and regulations that protect these resources and the consequences of non-compliance with those laws and regulations. A contact person shall be provided in the event that protected biological resources are discovered at the Project site or special-status species are adversely affected by the Proposed Project.

Special-Status Fish Species Protection

Special-status fish species could be impacted by construction activities occurring in the river and on the riverbank. In addition, the spread of the CDFW-classified invasive New Zealand mud snail (*Potamopyrgu antipodarum*) within the Sacramento River could potentially disturb habitat and impact special-status fish species. Construction activities could accidentally result in spread of the New Zealand mud snail. To minimize the incidental take of the threatened Southern Distinct Population Segment (DPS) of the North American green sturgeon (*Acipenser medirostris*), Delta smelt (*Hympomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley spring-run Chinook salmon, winter-run Chinook salmon (*Oncorhynchus tshawytsha*) and Critical Habitat for these species, Mitigation Measure B-2 shall be implemented. The Sacramento splittail (*Pgonichthys macroplepidotus*) is not a listed species under the FESA; however, implementation of Mitigation Measure B-2 would also avoid impacts to the Sacramento splittail.

Mitigation Measure

B-2 (Raley's Dock and Rice Mill Pier)

A. In-water and near-water work shall be restricted to August 1 to October 31 in order to avoid vulnerable life stages. All construction work occurring within or along the banks of the river (e.g. pile driving, exploratory drilling, or levee drilling) shall occur at this time when most listed fish species are least likely to be impacted.

B. Conduct Worker's Awareness Training as described in MM B-1.

C. Prior to the commencement of and through the duration of in or near-water work, ensure that proper sediment controls and retention structures are effective and in place in order to validate that erosion, sediment, and turbidity controls and contingency measures are effective. This shall include implementation of the measures put forth in the Project's SWPPP or WPCP depending on the outcome of MM H-1.

D. Prior to the commencement of construction and through the duration of construction, prepare and implement a Spill Prevention Plan for potentially hazardous materials, as well as cleanup and reporting of spills. The Plan shall require the implementation of standard BMPs during construction to maintain water quality and control sedimentation such as:

   1. Store all equipment and materials at least 50 feet from the river unless the equipment is on established paved areas. If storage of equipment or materials within 50 feet of the river is necessary, a containment berm will be constructed around the equipment and materials. Staging and storing areas for equipment, materials, fuels, lubricants, and solvents will be located outside of the river channel and banks.

2. Provide secondary containment for stationary equipment such as motors, pumps, generators, and compressors located within or adjacent to the Sacramento River. Any equipment (i.e., barge-mounted equipment) or vehicles driven or operated within or adjacent to the river will be checked and maintained daily to prevent leaks. Conduct maintenance and fueling in an area that meets the criteria outline in the Spill Prevention Plan.

3. No fueling, cleaning or maintenance of vehicles or equipment, or placement of construction debris, spoils or trash should occur within 50 feet of the river unless it occurs in designated refueling/staging areas on existing paved surfaces with secondary containment in place. Refueling of barge-mounted equipment should occur at approved fuel locations. Contractor will inspect all equipment/vehicles for leaks prior to use and should inspected regularly during project inspection.

E. Report any incidence of take to the City of West Sacramento, USFWS and NMFS. If a listed species is observed injured or killed by project activities, contact the USFWS and NMFS within 48 hours.

F. Due to the presence of the CDFW-classified invasive New Zealand mud snail (*Potamopyrgu antipodarum*) within the Sacramento River and their potential to affect special status fish species, the following precautions shall be taken:

1. Train all project personnel in the identification, preventative measures, and physical and chemical cleaning methodologies for New Zealand mud snail prior to working on the project. Install CDFW informational posters at the project site and provide brochures and identification cards to all project personnel.

2. Establish a cleaning station on-site for the duration of the project that uses both physical and chemical cleaning methodologies and implement the preventative and treatment methodologies in accordance with CDFW. Inspect all waders, boots, gear, and other equipment for New Zealand mud snails after work in the Sacramento River. Designate a cleaning area for heavy equipment and vehicles, and clean all equipment before leaving the site in accordance with CDFW guidelines.

Sacramento River Avoidance and Minimization Measures

The Proposed Project occurs within the Sacramento River. Work within the Sacramento River is regulated by Section 10 of the Rivers and Harbors Appropriation Act and/or the Clean Water Act. Section 10 "prohibits the unauthorized obstruction or alteration of any navigable water of the U.S" (USACE 2013). The Proposed Project would impact navigable waters of the U.S. during construction activities. Potential impacts to the Sacramento River would be less than significant with the implementation of Mitigation Measure B-3.

Mitigation Measure

B-3 (Raley's Dock and Rice Mill Pier)

A. The City or its designee shall prepare and submit a preconstruction notification (PCN) under Nationwide Permit 3 to the United States Army Corps of Engineers (USACE). The PCN shall include a delineation of waters according to the "ordinary high water mark" (OHWM) as

defined by the USACE. Based on the design, the PCN shall include a detailed description of the potential impacts or fill that will be necessary to implement the project.

B. Upon authorization under the Nationwide Permit, the Proposed Project shall be implemented in accordance with the measures stipulated by the Nationwide Permit. These measures will likely include:

   1. Avoidance and minimization of sediment transport during vibratory pile driving activities

   2. Timing of pile driving activities

Cultural Resources

Unanticipated Discovery

There always remains a possibility that unrecorded cultural resources are present beneath the ground surface, and that such resources could be exposed during Project construction. CEQA requires the Lead Agency to address any unanticipated cultural resource discoveries during Project construction. Mitigation measure C-1 would reduce potential adverse impacts to less than significant with mitigation incorporated.

Mitigation Measure

C-1 (Raley's Dock and Rice Mill Pier)

A. If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 100-foot radius of the discovery and the City of West Sacramento must be contacted regarding the find. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. A Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, shall be required if the nature of the unanticipated discovery is prehistoric. A marine archaeologist shall be required if the location of the find is below the surface.

B. Work cannot continue within the no-work radius until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR.

C. If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and Project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.

D. In the event that evidence of human remains is discovered, construction activities within 100 feet of the discovery will be halted or diverted and the requirements of this mitigation measure will be implemented. In addition, the provisions of Section 7050.5 of the California

Health and Safety Code, Section 5097.98 of the California Public Resources Code, and AB 2641 will be implemented. When human remains are discovered, state law requires that the discovery be reported to the County Coroner (Section 7050.5 of the Health and Safety Code) and that reasonable protection measures be taken during construction to protect the discovery from disturbance (AB 2641). If the Coroner determines the remains are Native American, the Coroner notifies the Native American Heritage Commission which then designates a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the Public Resources Code). The designated MLD then has 48 hours from the time access to the property is granted, to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).

E. In the event that fossils are encountered, a representative sample shall be collected and analyzed by a qualified professional paleontologist to a point of identification and curated at an established accredited museum repository with permanent retrievable paleontological storage. A technical report of findings shall be prepared with an appended itemized inventory of identified specimens and submitted with the recovered specimens to the curation facility.

On-Site Awareness Training

The absence of visible cultural resources within the Project Areas does not preclude the potential for buried or submerged resources, which may not be readily identifiable to contractors. Therefore, in addition to Mitigation Measure C-1, a contractor awareness training program will contribute to the measures to address unanticipated discoveries during construction.

Mitigation Measure

C-2 (Raley's Dock and Rice Mill Pier)

A contractor awareness training program will be developed by a Registered Professional Archaeologist with demonstrated experience in the Project Area. The training program will be composed of a set of flyers, posters, and forms that will provide the contractors with: (a) a clear awareness of the potential for subsurface cultural and paleontological resources; (b) a prescribed process to follow in case of an inadvertent discovery of subsurface or submerged archaeological materials; and, (c) prescribed measures to follow in order to protect any unanticipated discovery of subsurface archaeological materials. The training materials will be approved by the Lead Agency before distribution. All contractor foremen and supervisors will be responsible for receiving the training from a Registered Professional Archaeologist, and proof of attendance at the training will be provided to the City in the form of attendance sheets. The foremen and supervisors will be responsible for disseminating the training to employees and subcontractors working on the project. A copy of the training materials must also be posted in a visible place in the job trailers throughout the duration of the project construction.

Geology and Soils

Site Specific Geotechnical Design Recommendations

Impacts associated with rupture of a known earthquake fault, strong seismic groundshaking, and seismic related ground failure, including liquefaction would be reduced to a less than significant level with Mitigation Measure G-1.

Mitigation Measure

G-1 (Raley's Dock)

A. Prior to the commencement of construction activities, a geotechnical investigation shall be conducted for the Proposed Project to obtain information on the physical properties of soil and rock around the Project site, including surface and subsurface exploration, and provide recommendations for site and structure design based on information obtained.

B. The subsurface investigation at the Project site shall consist of making a total of four logged and sampled borings to depths of 60 to 80 ±feet below the river bottom at the Raley's Dock Project location using a barge drill rig (over water). One logged and sampled boring will be located onshore near the proposed new walkway near the crown of the existing levee (50 to 80 ±foot depth). The subsurface investigation shall comply with all requirements of the Exploration Barge Anchoring and Operating Procedures and the Water Pollution Control/ Spill Contingency Plan.

   1. The borings shall be drilled using a CME-45 geotechnical exploration drill that operates with environmentally friendly "Clarity" (vegetable) hydraulic oil. Drilling from the floating drill platform shall be accomplished with a closed rotary system. Drill fluids shall be pumped through the steel drill casing only after it has been securely "set" into subsurface soils, to preventing leakage into open water

   2. At one of the over water borings a casing shall be set to allow for seismic (acoustic) testing of one of the existing piles to help determine the length of existing steel pipe piles.

   3. The sampled borings shall identify the soils typical of the site and obtain samples for laboratory testing. This data from the investigation shall be used to perform liquefaction analysis and provide an assessment of the existing piles and recommendations for new pile axial and lateral capacities to be used for final design of the Proposed Project.

   4. At completion of operations, the drill fluids (muddy water, soil cuttings and, perhaps, bentonite clay) remaining on the barge deck shall be pumped into 55-gallon drums, taken to shore, and disposed of at approved on-site disposal locations

C. The investigation findings and recommendations shall be summarized in a site-specific geotechnical engineering report. The site-specific geotechnical, soils, and foundation investigation report shall be prepared by a licensed geotechnical engineer experienced in construction methods on similar locations. The report shall provide site-specific construction methods and recommendations regarding piles and other foundation elements and seismic safety. Elements of the Proposed Project shall be designed and constructed in accordance

with the recommendations of the geotechnical report and the current California Building Code.

D. The Project Engineer and Contractor shall comply with all recommendations in the geotechnical engineering report.

Hydrology and Water Quality

Water Quality and Erosion Control

The City of West Sacramento is required to comply with the NPDES Municipal Separate Storm Sewer System permit issued by the RWQCB and the Construction General Permit. Compliance with these established programs and the required permits would ensure that the Proposed Project would not result in substantial discharges of typical stormwater pollutants; therefore, impacts would be less than significant with mitigation measures B-2 and H-1 implemented.

Mitigation Measure

H-1 (Raley's Dock and Rice Mill Pier)

Prior to starting construction, the Project engineer/contractor shall determine total acreage of ground to be disturbed by stockpiling, staging/lay-down area, access routes on unpaved surfaces, and the Project work area that results in soil disturbances. The contractor(s) shall comply with the BMPs in the 2012 Construction BMP Handbook/Portal by the California Stormwater Quality Association in the work area.

1. If the surface area to be disturbed is more than one acre, a Construction General Permit from the SWRCB will be required. This permit requires a SWPPP and Risk Assessment to be prepared by a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer, in accordance with the terms of the CWA permits, Biological Opinion, and all other permit requirements, listing the BMPs, protective measures, and conditions.

2. If the total acreage is less than one acre a water pollution control program (WPCP) (erosion and sediment control plan) would be required to implement erosion control BMP's in accordance with the terms of the CWA permits, Biological Opinion, and all other permit requirements, listing the BMPs, protective measures, and conditions.

Noise

Vibration Control and Monitoring Plan and Sensitive Receptors

The vibratory pile driving would result in the loudest noise levels during construction; however construction-related vibratory pile driving would be short-term in nature. It is anticipated that all pile-driving activities in the river could be completed within five days and drilling on the levee could be completed within two to four days. A vibratory hammer may be used to advance the steel pipe casing if difficult conditions on the levee occur. The vibratory pile driving would result in exceedance of the 70 Ldn/CNEL, dB outdoor activity noise level standard for the City of West Sacramento (Ziggurat building) and the City of Sacramento's 65 dBA "normally acceptable" exterior noise exposure standard for transient lodging (Delta King Hotel). To reduce potentially adverse noise and vibratory impacts associated with the use of vibratory hammers and other

construction noise to a less than significant level, mitigation measures N-1 and N-2, described below, shall be implemented.

Mitigation Measure

N-1 (Raley's Dock)

A. Prior to the commencement of construction activities using vibratory hammers, the Contractor shall employ the services of a Vibration Control Consultant for use in monitoring pile installation and all other construction activities involving vibrations.

    1. The Vibration Control Consultant shall perform a pre-construction survey. The pre-construction survey shall determine the condition of any property or structure, and to document any pre-existing defects, cracks, or irregularities. A post-construction survey shall be performed upon completion of all operations involving vibrations, at the same locations as the pre-construction surveys. The Consultant shall re-examine the condition of structures, and document all defects, cracks or irregularities noted in the pre-construction survey. Additionally, any defects, cracks or irregularities not noted in the pre- construction survey shall be documented.

B. Prior to construction, the Contractor shall arrange a vibration control meeting with the City of West Sacramento and Vibration Control Consultant to discuss construction procedures for the Project.

C. The Contractor shall prepare a detailed description of the means, methods, equipment and materials used, and methods for controlling vibration. The Contractor shall submit the Vibration Control and Monitoring Plan to the City of West Sacramento for approval.

Mitigation Measure

N-2 (Raley's Dock)

Where feasible, the City will implement noise-reducing construction practices such that noise that occurs during construction hours does not exceed 50 dBA-Leq at the Ziggurat building and the Delta King Hotel located in the project area. Measures that can be used to reduce construction noise include but are not limited to:

1. locating equipment as far a practical from noise-sensitive uses;
2. requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation;
3. prohibiting gasoline or diesel engines from having unmuffled exhaust;
4. when practicable, using noise-reducing enclosures around stationary noise-generating equipment; and
5. when practicable, constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) or material stock piles to block sound transmission.

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
AEP	Annual Exceedance Probabilities
BA	Biological Assessment
BOD	Biological Oxygen Demand
BRA	Biological Resources Assessment
CALFIRE	California Department of Forestry and Fire Protection
CalSTRS	California Sate Teacher's Retirement System
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CC	Community Commercial
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHRIS	California Historical Resources Information System
CIDH	Cast in drilled hole
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
DBAW	Department of Boating and Waterways
dB	Decibel
dBA	A-Weighted Decibel
DOC	California Department of Conservation
DPS	Distinct Population Segment
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Species Act
FESA	Federal Endangered Species Act
Ft	Feet
FTA	Federal Transit Administration
GHG	Greenhouse Gas
HCP	Habitat Conservation Plan
HDPE	High Density Polyethylene
HR	High Density Residential
Ldn	Day-Night Level
Leq	Equivalent Sound Level
Lmax	Maximum Sound Levels
LOS	Level of Service

MAF	Million Acre-Feet
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
Mph	Miles per Hour
MR	Medium Density Residential
NCCP	Natural Community Conservation Plan
NCIC	North Central Information Center
ND	Negative Declaration
NGVD	National Geodetic Vertical Datum
NHP	Natural Heritage Program
NMFS	National Marine Fisheries Service
NOx	Nitrous Oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	National Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHWM	Original High Water Mark
PCN	Preconstruction Notice
PM	Particulate Matter
PPB	Parts Per Billion
PPM	Parts Per Million
RGA	Rice Growers Association
RM	River Mile
RMU	River Mixed Use
ROG	Reactive Organic Gases
RP	Recreation and Parks
RWQCB	Regional Water Quality Control Board
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SVAB	Sacramento Valley Air Basin
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
U.S.	United States
UCMP	University of California Museum of Paleontology
USACE	United States Army Corps of Engineers
USFW	United States Fish and Wildlife
USGS	United States Geologic Survey
WF/PD	Water Front Planned Development
WSAFCA	West Sacramento Area Flood Control Agency
WTP	Wastewater Treatment Plant
WUSD	Washington Unified School District
YSAQMD	Yolo-Solano Air Quality Management District

SECTION 1. BACKGROUND

1.1 Summary

Project Title:	Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project
Lead Agency Name and Address:	City of West Sacramento 1110 West Capitol Avenue West Sacramento, CA 95691
Contact Person and Phone Number:	John Sneed, Project Manager City of West Sacramento 1110 West Capitol Avenue, 2nd Floor West Sacramento, CA 95691 (916) 617-4766
Project Location:	City of West Sacramento Raley's Dock: west bank of Sacramento River, about 500 feet north (upriver) of the State Route (SR) 275 Tower Bridge Rice Mill Pier: west bank of Sacramento River, about 400 feet north (upriver) of the Interstate 80/US 50 Capitol Expressway Pioneer Bridge
General Plan Designation:	Raley's Dock: Recreation-Parks (RP) Rice Mill Pier: Riverfront Mixed Use (RMU)
Zoning:	Raley's Dock: RP: Recreation-Parks Rice Mill Pier: WF/PD 41: Waterfront-Planned Development No. 41

1.2 Introduction

The City of West Sacramento is the Lead Agency for this Initial Study. The initial study has been prepared to identify and assess the anticipated environmental impacts of the proposed Raley's Dock replacement and Rice Mill Pier rehabilitation project (Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 *et seq.*) and State CEQA Guidelines (14 CCR 15000 *et seq.*). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

1.3 Surrounding Land Uses/Environmental Setting

The City of West Sacramento is located in the southeastern portion of Yolo County, within California's Central Valley (Figure 1. *Project Vicinity)*, directly west of the City of Sacramento. The City of West Sacramento is bound by the Yolo Bypass on the west, agricultural land and Solano County on the south, the Sacramento River and the City of Sacramento on the east, and the Sacramento River and agricultural land on the north. The City of West Sacramento is approximately 70 miles east of San Francisco and 350 miles north of Los Angeles.

The Proposed Project would consist of the replacement of Raley's Dock and rehabilitation of Rice Mill Pier, both located in the City of West Sacramento on the Sacramento River. The Raley's Dock Project site is approximately 0.75 mile north (upriver) from the Rice Mill Pier Project site (Figure 2. *Project Location*).

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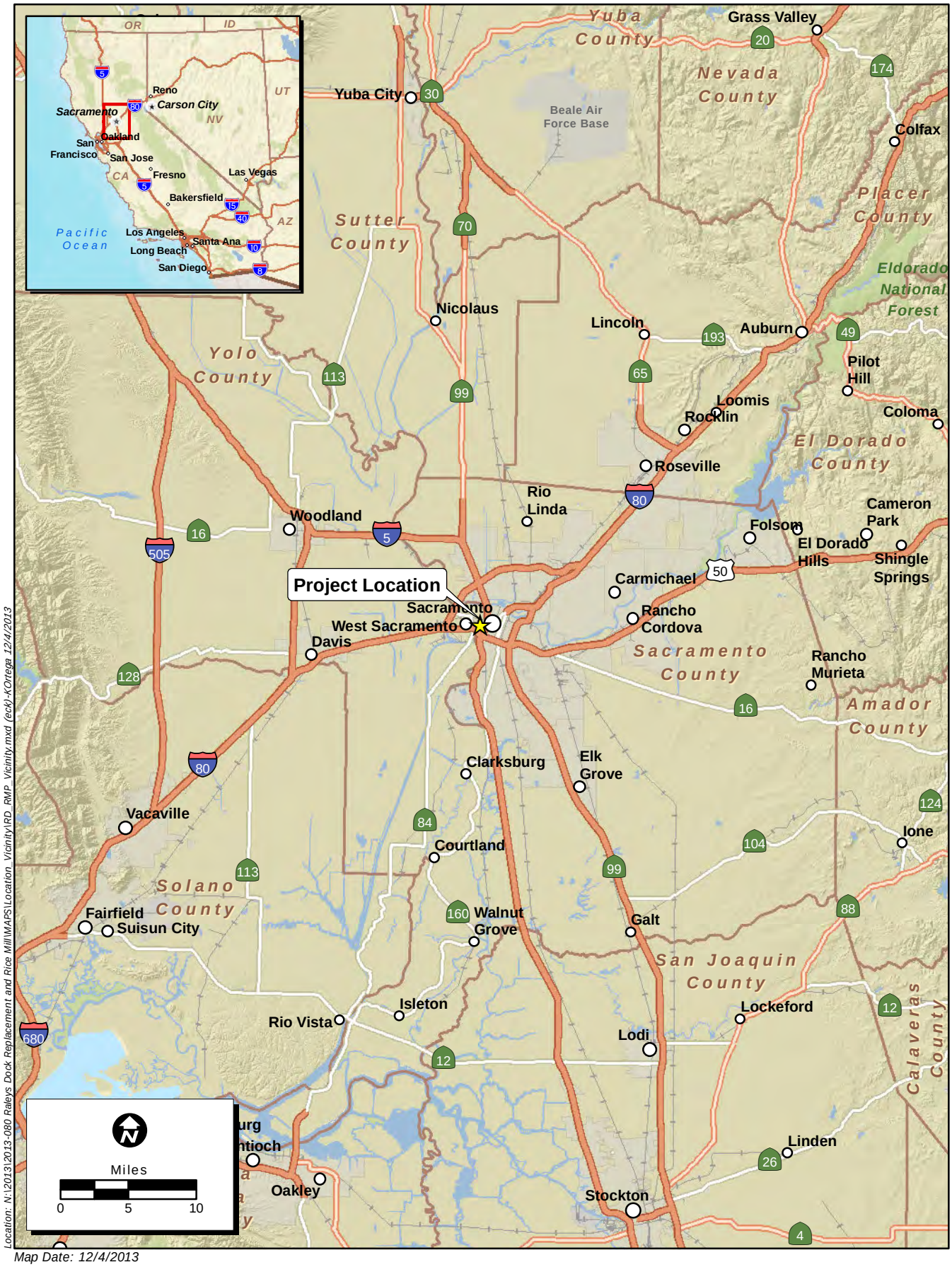

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Map Date: 12/4/2013

Service Layer Credits: Sources: USGS, ESRI, TANA, AND

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Figure 1. Project Vicinity

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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Map Date: 12/11/2013
Photo Source: NAIP 2012

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Figure 2. Project Location

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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Raley's Dock

The Raley's Dock Project site is located on the Sacramento River, about 500 feet north (upriver) of the State Route (SR) 275 Tower Bridge (Tower Bridge) (Figure 3. *Project Location Raley's Dock*). The Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Tower Bridge on the south, downtown Sacramento on the east across the river, and the I Street Bridge on the north. The Ziggurat building is located immediately adjacent to the Project site on the west and the California State Teacher's Retirement System (CalSTRS) building is just north of the Ziggurat. Direct access to the Project site is provided by the River Walk Trail (Representative Site Photos 1-5).

Representative Site Photo 1. Overview of the Raley's Dock Project site and existing piles, view east towards Downtown Sacramento, May 29, 2013.

Representative Site Photo 2. Overview of the Raley's Dock Project site and existing piles, view southeast towards Tower Bridge, 29 May, 2013.

Representative Site Photo 3. Overview of the Raley's Dock Project site and existing piles, view north towards I Street Bridge, May 29, 2013.

Representative Site Photo 4. The Ziggurat building, view west from the Raley's Dock Project site, September 17, 2013.

Representative Site Photo 5. Overview of the Raley's Landing portal where the access ramp would connect, view east from top of levee, May 29, 2013.

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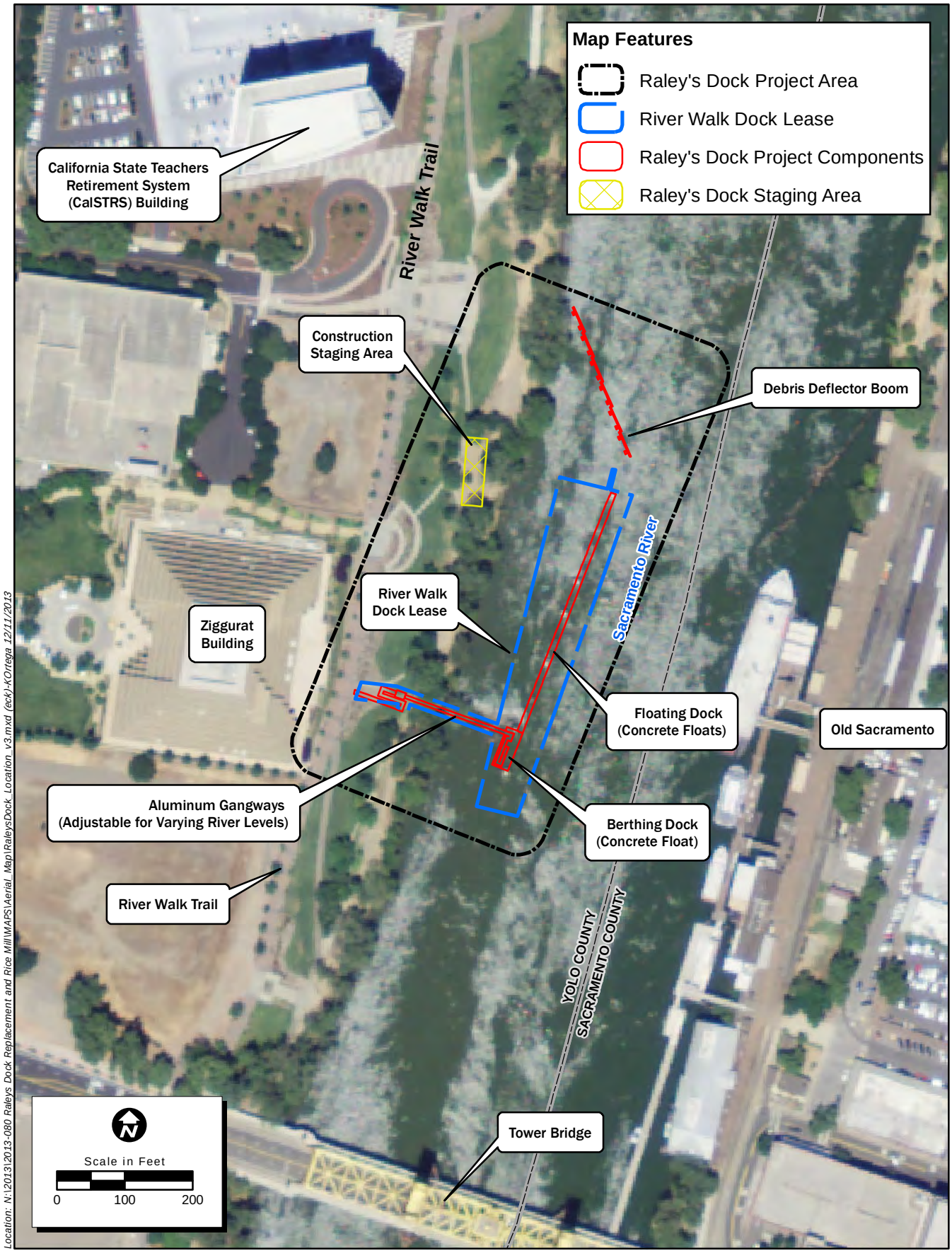

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Map Date: 12/11/2013 Photo Source: NAIP 2012 Base
Data: Site plan and Staging Areas provided by GHD.

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Figure 3. Raley's Dock Project Location

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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Rice Mill Pier

The Rice Mill Pier Project site is located on the Sacramento River, about 400 feet north (upriver) of the Interstate 80/US 50 Capitol Expressway Pioneer Bridge (Pioneer Bridge) (Figure 4. *Project Location Rice Mill Pier*). The Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Pioneer Bridge on the south, downtown Sacramento on the east across the river, and Tower Bridge on the north. The surrounding area is currently mostly vacant and located within the Bridge District Specific Plan Area, (Bridge District). Extensive infrastructure has been constructed within the District and some residential development is under construction to the northwest of the pier. Access to Rice Mill Pier is provided by Mill Street and Riverfront Street (Representative Site Photos 6-8).

Representative Site Photo 6. Overview of the Rice Mill Pier site, view east towards Sacramento, September 17, 2013.

Representative Site Photo 7. Overview of the Rice Mill Pier site with Pioneer Bridge in background, view southeast, September 17, 2013.

Representative Site Photo 8. The River Walk Trail and undeveloped land, view north from the Rice Mill Pier Project site, October 31, 2013.

Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Aerial_Map\RiceMillPier_Location_v2.mxd (eck)-KOrtega 12/11/2013

Map Date: 12/11/2013
Photo Source: NAIP 2012
Base Data: Site plan and Staging Areas provided by GHD.

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Figure 4. Rice Mill Pier Project Location

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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SECTION 2. PROJECT DESCRIPTION

2.1 Project Background

Raley's Dock

The Raley's Dock facility was originally constructed by Tom Raley, founder of the Raley's supermarket chain, who installed steel pilings, a floating wood dock, and a gangway and timber walkway from the top of the levee to the floating dock. The dock was privately owned and used by the Raley's Corporation, and later became the boarding area for the Elizabeth Louise, a steam-powered paddlewheel, and for the River Otter Taxi service. As of 2011, the dock had been barricaded and unused as a boarding area for approximately five years and was in a state of disrepair. The dock was located at West Sacramento's River Walk Park, 651 Waterfront Place, on the Sacramento River, just upstream from the Tower Bridge. The floating dock was 420 feet long and had an elevated access ramp extending from the adjacent landing at the top of levee to about 85 feet from shore. The floating dock was supported by a number of shoreward plumb dolphin piles that precluded significant displacement of the floating dock.

On July 19, 2011, the Central Valley Flood Protection Board (CVFPB) issued a Notice of Violation of California Water Code and California Code of Regulations Title 23 Waters, Division 1 because the sinking dock and collapsing gangway had become floating debris and a hazard to life and property. The Raley's Corporation and the City of West Sacramento were in discussions regarding transferring the dock and gangway to the City of West Sacramento when the CVFPB issued the Notice of Violation. The CVFPB requested that the dock be removed, before winter storms and high water further damaged the structure.

The City of West Sacramento applied to the State Lands Commission to obtain the lease for the dock area after the Raley's Corporation decided to terminate their lease of the dock on August 19, 2011. On September 21, 2011, the City Council adopted Resolution 11-71, which authorized the lease from the State Lands Commission for the docks. On October 14, 2011, the CVFPB issued a second Notice of Violation order for the immediate removal of the docks before winter storms and high water further damaged the structure. The City of West Sacramento agreed to undertake removal of the dock and gangway as ordered by the CVFPB. Removal of the dock, gangway, and levee ramp was approved by the City Council on November 16, 2011 and completed on January 12, 2012. On January 24, 2012, the State Lands Commission issued a new lease to the City of West Sacramento for the dock and gangway. Currently, the pile structures are all that remain; the floating and elevated docks and the associated gangway have been removed.

Rice Mill Pier

The rice industry has had a strong presence in the City of West Sacramento, with records showing 80 percent of rice produced in California is exported through the Port of West Sacramento. In 1918, the original Rice Storage and Milling facility was constructed by the National Rice Mills. In 1930, the building was purchased by the Rice Growers Association (RGA), who built an additional structure. The Rice Mill Pier is one of the only structures that still remain from this use.

The RGA and the State Lands Commission entered a lease agreement in 1982 for the purpose of providing public wharfage. The Rice Mill Pier and adjacent sites were included in this lease. In July 2001, the Friedman family (now known as Smart Growth Investors II, Inc.) bought the property

from the RGA. The 30-year lease expired on August 20, 2012, and the City of West Sacramento applied for a new lease through the State Lands Commission.

2.2 Project Purpose and Need

The purpose of the Proposed Project is to provide riverfront access to the public at strategic locations for a variety of recreational uses. The Sacramento River is the center of the City of West Sacramento's identity and image. It is stated in the City of West Sacramento *General Plan Policy Document* that the future vision for the City of West Sacramento is to have "both sides of the river be part of a strong, vibrant, and healthy metropolitan downtown which will provide a world class urban experience for workers, visitors, and a large residential population" (City of West Sacramento 2004). It was also stated in the City of West Sacramento *Parks Master Plan* that residents of the City expressed the need for improved access to water-related recreation such as fishing, boating, swimming, and passive use. As part of the *Parks Master Plan* action plan, the City established a goal to provide improved river access for boating and fishing (City of West Sacramento 2003). The Proposed Project would contribute to satisfying both of these needs for the City of West Sacramento.

2.3 Project Objectives

The Proposed Project objectives are to:

- Replace previously privately-owned river access facilities with publicly accessible docks and pier to provide riverfront access at strategic locations to the public for a variety of recreational uses.
- Provide public facilities that meet California Building Code and Safety Standards, are ADA-compliant, and conform with the California Department of Boating and Waterways (DBAW) guidelines and standards.

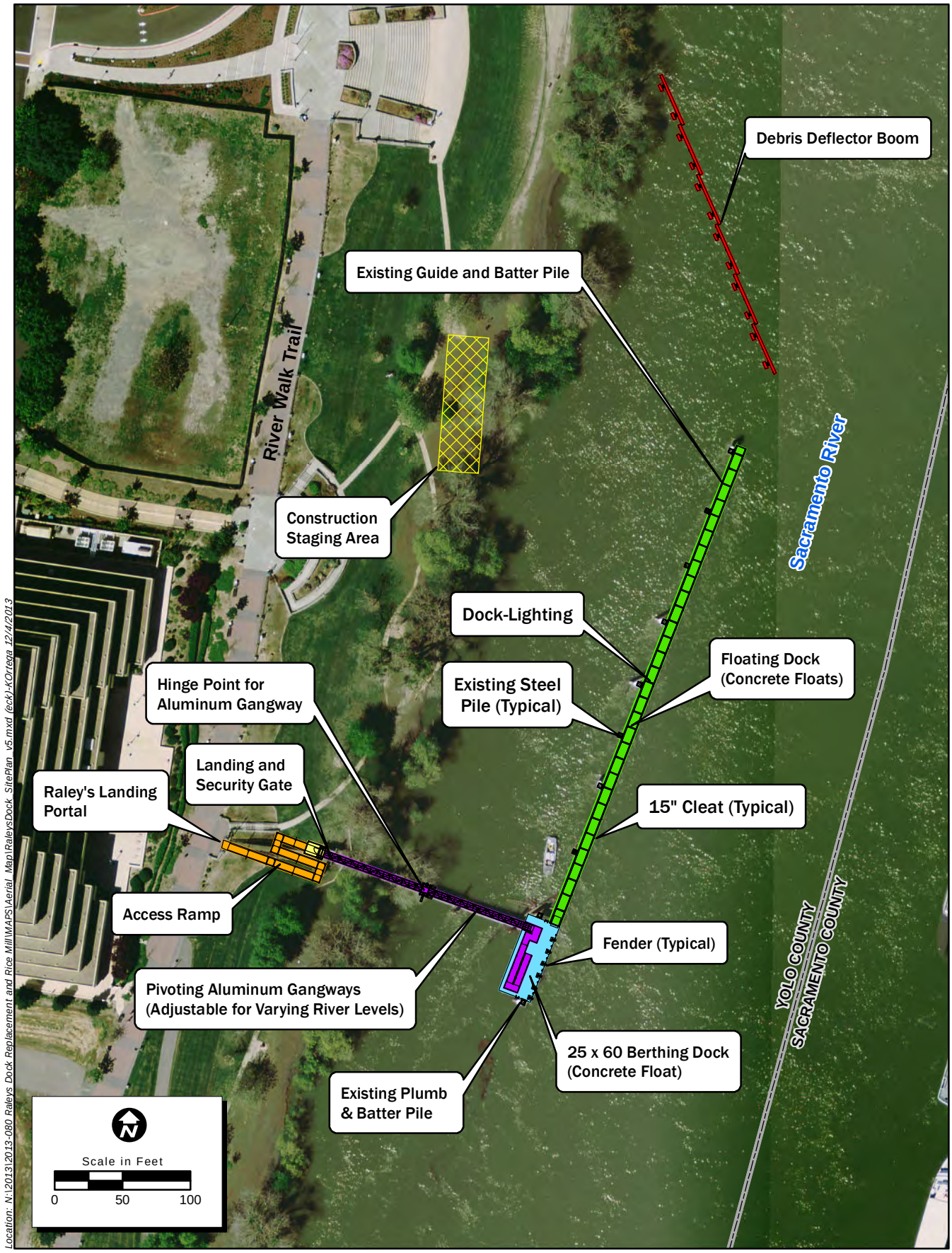
2.4 Project Characteristics

Raley's Dock Replacement

The City of West Sacramento intends to build a replacement dock with a facility that is open to the public, meets current building and safety standards, and is accessible and compliant with the requirements of the California Building Code provisions for accessibility and the ADA. The Sacramento River is approximately 500 feet wide at the proposed dock location. The proposed dock would be 432 feet long overall, with a 25-foot-wide, 60-foot-long berthing dock on the downstream end and an 8-foot-wide, 372-foot-long upriver section (Figure 5. *Raley's Dock Site Plan*). The new floating docks would support dead loads consisting of utilities, access gangways and landing platforms, and live (transient) loads. Vessels would be able to temporarily moor to the floating docks, and all float modules would be held in position by guide piles. The new dock would provide a new recreational boating facility with docking available for small boats, water taxis, and other vessels, and the dock would meet current building code and safety standards as well as adhere to the requirements of the California Building Code provisions of accessibility and the ADA.

The City of West Sacramento intends to implement the following facility improvements:

- Replace floating docks using durable, low maintenance and stable concrete floating units.
- Provide lighting and cleats on replacement docks to improve public access and safety, and to enhance aesthetics.



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Map Date: 12/4/2013
Photo Source: USGS 2011
Base Data: Site plan provided by GHD

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Figure 5. Raley's Dock Site Plan

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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- Implement use of upstream debris deflector boom to protect docks from logs and other floating debris in the river.
- Reuse existing steel guide piles where possible to secure new replacement floating docks. Where reuse of existing docks is not possible due to damage, misalignment, or non-compliance with dock improvements, the existing piles would be removed and new steel pipe piles installed.
- Provide accessible gangway with adjustability for use at varying river water levels.
- Provide California Building Code accessibility and ADA-compliant access ramp and landing from top of levee to gangway entrance. The ramps would not exceed 1:12 slope and a 2.5 foot maximum rise in 30 feet.
- Where possible, use prefabricated elements for project construction such as the floating docks, gangways and access ramp to reduce construction impacts at the site.
- Use concrete floating docks with flotation units polyethylene-encased with foam in place of timber to provide longer service life with reduced maintenance requirements and costs.
- Remove existing debris around the guide piles.

Replacement Floating Dock

The replacement of the floating dock would consist of concrete construction with sealed floatation units. The dock would be approximately 432 feet long. The downriver section (berthing dock) would be 25 feet wide and 60 feet long and the upriver section would be 8 feet wide and 372 feet long. There would be 12-inch mooring cleats mounted along the dock edge and pedestal lights along the dock.

There are a total of 24 existing steel pipe guide piles within the water column, which include twelve 30-inch diameter piles, ten 18-inch diameter piles, and two 16-inch diameter piles. The pile tip elevation is currently unknown; however, it would be confirmed by a geotechnical investigation. It is assumed to be at an elevation of -20 to -30 feet (National Geodetic Vertical Datum (NGVD) 29). The new floating dock would require that one existing 18-inch diameter pile along the longer upriver section be removed and replaced with an 18-inch diameter pile in the same location. The new pile would be installed using vibratory driving. The berthing dock and upriver floating dock would attach to the piles with pile collars.

Debris Deflector Boom

A 235-foot-long debris deflector boom would be located approximately 60 feet from the upstream end of the floating dock and would extend at a 45-degree angle from the end of the dock towards the shore. An additional 12 steel pipe piles 20 inches in diameter would be placed in the river to secure the debris deflector boom into place. The piles would be installed using vibratory driving. The debris deflector boom would consist of two 24-inch diameter high density polyethylene (HDPE) pipes stacked on top of each other and connected perpendicular to the steel pipe piles. The upper pipe would be foam filled for floatation while the bottom pipe would be open and act as ballast. The pipes would be separated into six 40-foot sections, with each section connecting to two steel pipe piles. The boom would be designed to be free floating at all times. The purpose of the debris deflector boom is to divert debris traveling down the river from getting trapped between the floating dock and the shore. This would prevent the need for costly debris removal and protect the dock from excess debris floating downstream during storms.

Gangway

The gangway would consist of an upper gangway section and a lower gangway section; each would be 5 feet wide and approximately 80 feet long. The gangways would connect at a pivot point with a transition plate. The gangway sections would be aluminum construction with a slip resistant surface and have California Building Code and ADA compliant handrails. There would be floatation boxes and cable pulleys attached to gangway ends to make the gangway adjustable for varying river water levels. Eight 18-inch existing piles would be removed and would be replaced with five new 18-inch diameter piles. New piles would be installed using vibratory driving and would be placed where the gangway attaches to the access ramp and at the gangway pivot point.

Access Ramp on Levee

The access ramp on the levee would have a concrete deck. The access ramp would extend from the existing Raley's Landing portal (see Representative Site Photo 5) and would be adjacent to the existing concrete walk that connects to River Walk Trail. It would be elevated on posts above the ordinary high water mark (OHWM) within the flood channel. The posts would be supported by cast-in-drilled-hole (CIDH) steel pipe piles drilled into the levee slope. The piles used to support the access ramp would consist of small (8-inch and 12-inch) diameter steel pipes (micropiles). Approximately thirty-two 8-inch and two 12-inch micropiles would be installed into the levee using a truck or track-mounted rotary drill rig. The access ramp would not exceed a slope of 1:12 and it would have California Building Code and ADA compliant handrails. The landing would have a lockable security gate located at the gangway entrance.

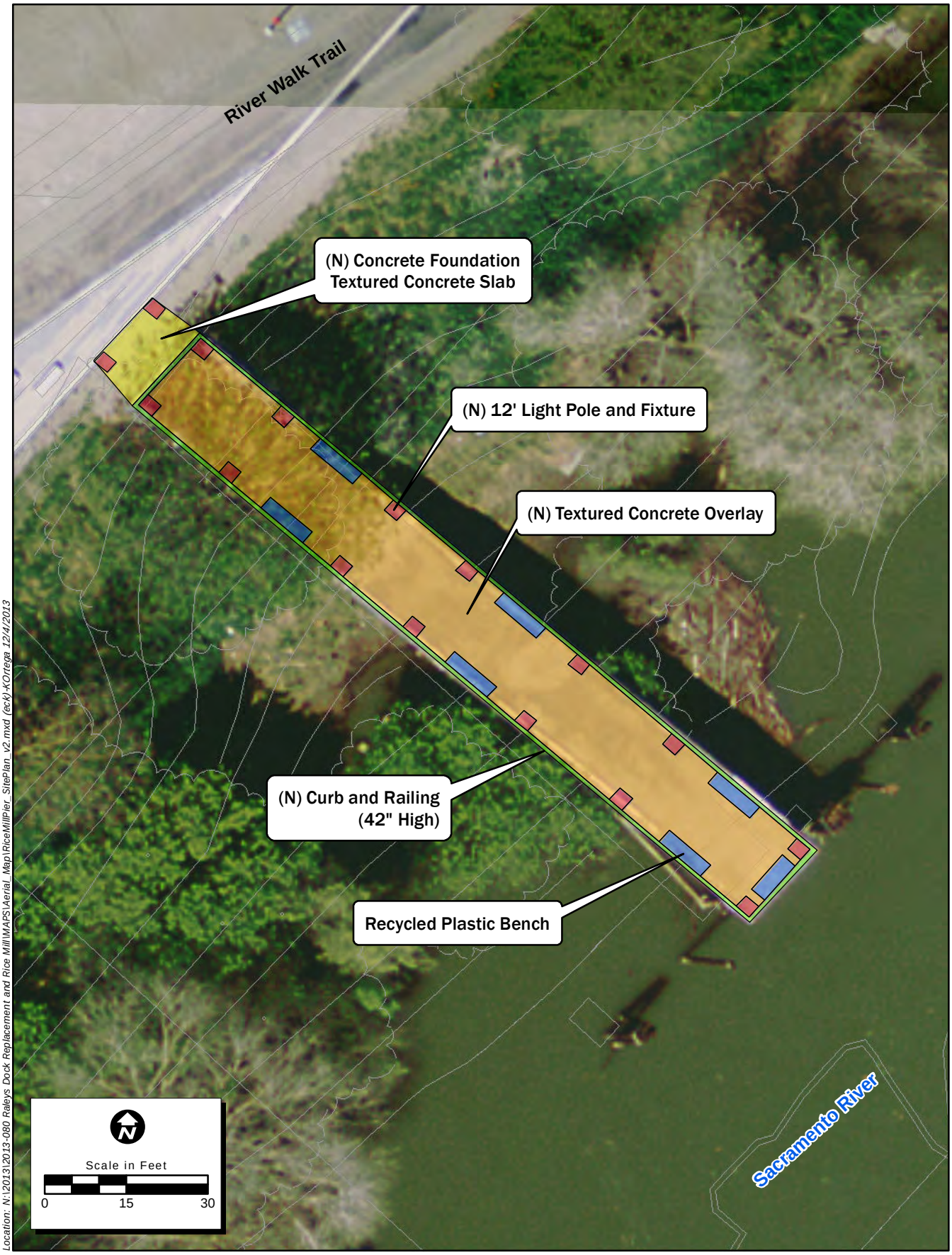
Rice Mill Pier Rehabilitation

Rice Mill Pier consists of an elevated concrete deck about 12 inches thick, 18 feet wide, and 120 feet long. The pier deck elevation is approximately level with the top of the levee and during typical summer flows is about 25 feet above the river level at the waterside end of the pier (Figure 6. *Rice Mill Pier Site Plan*). The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

Rehabilitation of Rice Mill Pier

The City of West Sacramento intends to rehabilitate the existing Rice Mill Pier for public access use along the Sacramento River. The Proposed Project would include implementation of repairs and strengthening to the pier along with structural and mechanical options for full compliance with the accessibility requirements of the California Building Code provisions for accessibility and the ADA.

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; however, the existing piles would be reused where possible to avoid pile driving.



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Map Date: 12/4/2013
Photo Source: USGS 2011
Base Data: Site plan provided by GHD

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Figure 6. Rice Mill Pier Site Plan

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

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Fiberglass or steel pile jackets may be used to restore or increase the structural capacity of the existing piles. Strengthening of the piles may be needed, depending on the results of the seismic evaluation. The Proposed Project would also repair the existing concrete pier abutment. The abutment walls would be repaired or replaced as required. All existing openings into the abutment would be sealed, at least to the extent that access by the public or pests is precluded. A protective rail or fencing system and lighting along the pier perimeter would be provided.

The City of West Sacramento is in the process of implementing a Vegetation Management Plan along the riverbank between Tower Bridge and Pioneer Bridge, where the Rice Mill Pier is located. The Vegetation Management Plan includes removal and trimming of trees, specifically removal of non-native species and trees in poor condition. The majority of the existing vegetation under the pier and existing trees immediately adjacent to the pier would be removed as part of the Vegetation Management Plan (Kirtley, Personnel Communication 2013). Any existing debris left against the pier substructure would be removed during the rehabilitation process. Currently, the Vegetation Management Plan has been partially implemented. Vegetation management has been completed for approximately three-quarters of the riverbank from Pioneer Bridge south to Tower Bridge. The rest of the work is expected to be completed before the end of 2014.

2.5 Construction

Raley's Dock Replacement

It is expected that a majority of the construction for the Raley's Dock replacement would occur from the waterside on a barge and on small work boats anchored in the Sacramento River. The new floating docks would be loaded into the river at the Broderick Boat Ramp located approximately 0.5 mile upstream form the Project site and towed to the Project site using a boat or barge. Construction of the access ramp and landings would occur from the landside on the levee (see Figure 3. *Raley's Dock Project Location* for construction staging areas).

New Pile Installation (In River)

The new piles would be transported to the Project site via the river on a barge, and the barge would be positioned where the piles are to be installed. A barge-mounted crane with an attached vibratory hammer would lift the pile into vertical position in the water (Photo 9). The pile would then be lowered into position inside the template (if used) and set in place at the river mud line. During vibratory pile driving, the pile would be stabilized by the template (if used) while the vibratory driver would install the pile to the required tip elevation. Vibratory installation would take approximately 3 to 5 minutes per pile to reach the required pile tip elevation. The time intervals between driving of each pile would vary; however, a minimum of several minutes would be required for positioning and set up. Pile installation is expected to be completed in five days; however, actual pile driving activities are anticipated to take approximately two days.

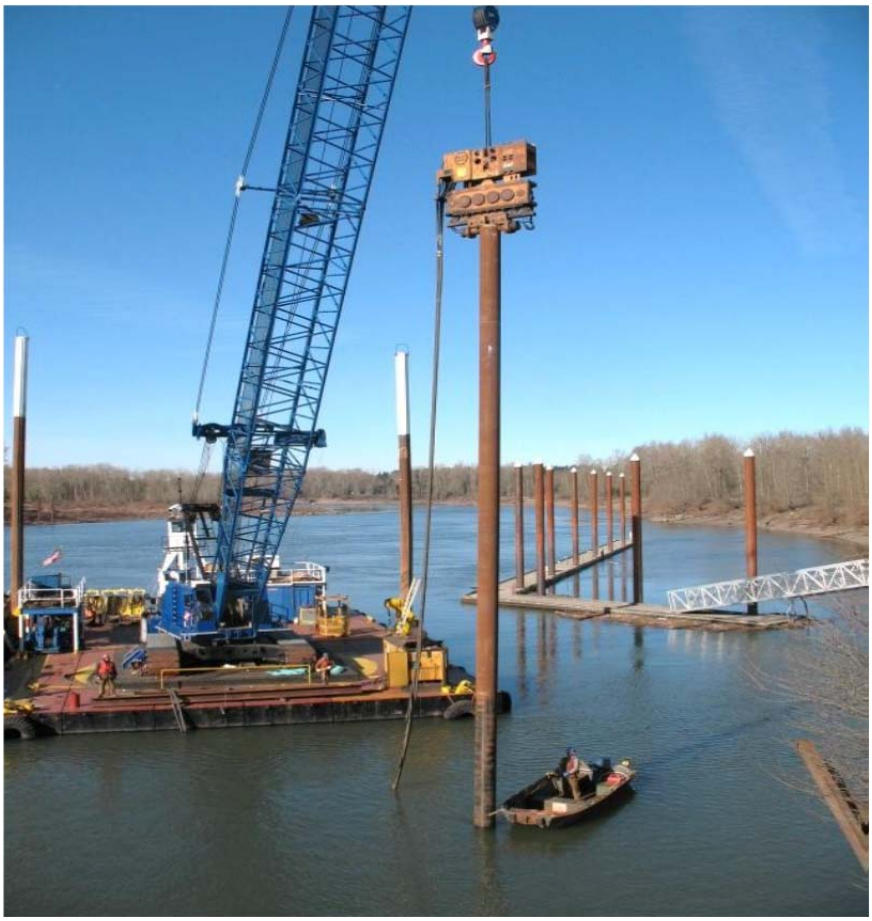

Photo 9. Example pile installation set up including: barge, crane, vibratory hammer, and steel pile.

New Pile Installation (On Levee)

The expected subsurface conditions at the levee would allow the use of rotary drilling to install the steel pipes. The required embedment depth in the levee is expected to be approximately 20 feet. The drilling equipment and methods would be suitable for drilling through the conditions to be encountered, without causing damage to any overlying or adjacent known structures or services. If difficult subsurface conditions occur, a vibratory hammer may be used to advance the steel pipe casing into the levee. It is anticipated that drilling activities would take approximately two to four days to complete. If vibratory hammers are used to advance the pile casings, a vibration monitoring plan would be provided by the contractor for approval. The vibration monitoring plan is discussed further in Section 4.12.2 Noise (XII) Environmental Checklist and Discussion item a), Mitigation Measure N-1.

Construction equipment, vehicles and boats that would be required include:

- Contractor work trucks
- Small skiffs (boats)
- Barges
- Barge-mounted crane

- Vibratory hammer (mounted on crane)
- Work Floats
- Truck crane
- Electrical generator
- Drilling equipment
- Truck or track-mounted rotary drill rig
- Concrete mixer trucks
- Tractor
- Various power and hand tools

Rice Mill Pier

The majority of the construction work and construction staging areas for the Rice Mill Pier rehabilitation would occur from the landside, along the levee (see Figure 4. *Rice Mill Pier Project Location* for construction staging areas). Access from the river may be required for repair and strengthening work on the pier substructure; however, installation of new piles and other foundation elements in the Sacramento River is not anticipated. Construction equipment and vehicles that would be required include:

- Contractor work trucks
- Electrical generator
- Concrete mixer trucks
- Scaffolding
- Man lifts
- Various power and hand tools

2.6 Project Timing

The start of construction is dependent on approval of funding for the Proposed Project. It is anticipated that construction would start as early as March of 2015. The Raley's Dock replacement is expected to take three to four months to complete, and the Rice Mill Pier rehabilitation is expected to take four months to complete.

2.7 Operations and Maintenance

Anticipated activities and uses of the Raley's Dock would include access to the Sacramento River for viewing and fishing, boating tie-up, and river taxi access and docking. The Rice Mill Pier would be used as an observation platform for views of the Sacramento River and associated wildlife.

Routine maintenance would be required for Raley's Dock and Rice Mill Pier. The maintenance would mainly consist of cleaning the dock and pier deck surfaces. Additionally, annual removal of floating debris at both sites would be required.

2.8 Regulatory Requirements, Permits, and Approvals

Table 1 shows the approvals and regulatory permits that would be required for implementation of the Proposed Project.

Table 1. Summary of Required Approvals and Regulatory Permits

Permit/Approval	Regulatory Agency	Description
Nationwide Permit 3 (NWP 3): Maintenance	U.S. Army Corps of Engineers	The USACE regulates waterways and wetlands, and is responsible for implementing and enforcing Section 10 and 404 of the CWA. The USACE regulations require that any activity that discharges fill material or requires excavation in "waters of the United States" requires a permit from the USACE. NWPs are general permits issued on nationwide basis to streamline the authorization of activities that result in minimal individual and cumulative adverse effects on the aquatic environment. NWP 3 corresponds to maintenance, which pertains to the repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill.
401 Clean Water Certification (CWA)	California State Water Resources Control Board (SWRCB) and California Regional Water Quality Control Board, Central Valley (RWQCB)	The California State Water Resources Control Board and the project's local Regional Water Quality Control Board (RWQCB) provide and oversee enforcement of water quality standards that protect water quality. The RWQCBs also regulate discharges of harmful substances to surface waters, including wetlands, under the federal CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne).
1602 Streambed Alteration Agreement	California Department of Fish and Wildlife	The CDFW requires notification for any project or activity that will take place in, or in the vicinity of, a river, stream, lake, or its tributaries. Section 1602 of the Fish and Game Code requires that state or local governmental agencies notify CDFW before construction of a project that will 1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake, 2) use materials from a streambed; or 3) result in the disposal or disposition of debris, waste, or other material containing crumbled, flaked or ground pavement where it can pass into any river, stream or lake.
Biological Assessment (BA)/FESA Section 7 Consultation	U.S. Fish and Wildlife (USFW) and National Marine Fisheries Service (NMFS)	A BA per USFWS and NMFS guidelines will be prepared to support the Section 7 Consultation process regarding any potential project related effects to federally listed and/or candidate species.
California Reclamation Board Encroachment Permit	California Department of Water Resources (DWR) and Central Valley Flood Protection Board (CVFPB)	The DWR and CVFPB oversees project activities that may affect the management objectives related to flood control. Activities subject to this type of permit include any activity that would affect levees or the floodway within/between levees, or the designated floodway if no levees are present, within the Sacramento and San Joaquin rivers and their tributaries.
402 CWA Notice of Intent National Pollutant Discharge Elimination System (NPDES) Permit	SWRQB and RWQCB	The Federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB, subsequently the nine RWQCBs. All construction projects over 1 acre requires a Stormwater Pollution Prevention Plan (SWPPP) to be prepared and implemented during construction. Construction activities less than 1 acre require a Water Pollution Control Program (WPCP) be prepared and implemented during construction.

SECTION 3. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

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.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☒ Geology and Soils
- ☐ Greenhouse Gas Emissions
- ☒ Hazards/Hazardous Materials
- ☒ Hydrology/Water Quality
- ☐ Land Use and Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population and Housing
- ☐ Public Services
- ☒ Recreation
- ☐ Transportation/Circulation
- ☐ Utilities and Service Systems
- ☒ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

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

I find that although the 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the 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 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 Project, nothing further is required. ☐

John Sneed
Project Manager

2-19-14
Date

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SECTION 4. ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

Regional Setting

The Proposed Project is located in the City of West Sacramento in Yolo County, California. Yolo County (County) contains the rich agricultural regions of California's Central Valley and the Sacramento River Delta, and more than 93 percent of the County remains in farmland and open space. The County is characterized by small and modest urban areas and open lands (Yolo County 2009). The eastern two-thirds of the County are characterized by level alluvial fans, flat plains, and basins, while the western third is characterized by rolling terraces and steep uplands used to dry-farm grain and range. The elevation ranges from slightly below sea level to 3,000 feet above sea level (Yolo County 2013).

The City of West Sacramento is located in eastern Yolo County on the flat surface of the Great Valley geomorphic province of California. Much of the historic wildlife habitat and vegetation communities have been replaced by urban and agricultural development. The City is located between the Sacramento River and the Yolo Causeway, allowing the City to retain a rich component of native plant and wildlife species. The riparian corridor along the Sacramento River, the Yolo Causeway, and several lakes, ponds, canals, agricultural lands, grasslands, urban landscapes, and parklands all provide important habitat for numerous plant and animal species. The six main habitat types in the City are riparian stands, rivers and canals, lakes, ponds and marshes, ruderal habitat, agricultural areas, and urban land (City of West Sacramento 2009c).

Visual Setting

The City of West Sacramento is modeled after a rural-to-urban transect planning model. The City transfers from natural and sparsely settled rural lands to the dense urban core. The Yolo Bypass acts as a natural zone at the western edge of the City and downtown Sacramento acts as an urban core zone at the eastern edge of the City. The City's urban character is defined by its four communities, Broderick, Bryte, Old West Sacramento, and Southport, and the extensive and overlapping system of transportation networks, watercourses, highways, and rail lines (City of West Sacramento 2009c).

Raley's Dock and Rice Mill Pier are both located within the largest contiguous urbanized part of the City. This urbanized area is bound by the Port of Sacramento on the west, the Deep Water Ship Channel on the south, the Sacramento River on the east, and the raised Sierra Northern Railroad line on the north. The area has a diverse mix of land uses and is in transition to becoming a combination of mixed-use neighborhoods and districts that incorporate the waterfront (City of West Sacramento 2009c).

<u>Scenic Highways, Scenic Vistas and Scenic Resources</u>

The California Scenic Highway Program was established to preserve and protect scenic highway corridors from changes which would diminish the aesthetic value of lands adjacent to highways. A highway can be designated "scenic" based on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers enjoyment of the view. There are no highways or roadways within Yolo County that are

officially designated as scenic highways by the California Scenic Highway Mapping System (Caltrans 2013).

The Sacramento River is a scenic vista and views of the river are provided by Tower Bridge, Pioneer Bridge, and the adjacent levees on the east and west banks of the river. There are also several heritage and contemporary landmarks within the City considered as scenic resources. Heritage landmarks include water towers, industrial towers, silos, William G. Stone Lock, and highway overpasses. Contemporary landmarks include City Hall, Raley Field, the Ziggurat building, the CalSRTS office building, and the River Walk signage and trail. On clear days, Mount Diablo, the coast range, the Sutter Buttes, and the Sierras can all be viewed from the City (City of West Sacramento 2009c). The I Street Bridge and Tower Bridge are listed as historic on the National Register Information System (NRIS) and are within view from the Raley's Dock Project site. Additionally, the Old Sacramento Historic District is listed as historic on the NRIS and is located across from the Raley's Dock Project site (ECORP 2013b).

Visual Character of the Project Site

The Project area can be characterized as urban, as the surrounding visible features include the Ziggurat building and other office buildings, Raley Field, Tower Bridge and Pioneer Bridge. Interstate 5 (I-5), Old Sacramento, the Delta King and Embassy Suites Hotel are directly across the river.

Raley's Dock

As described in 1.3 Surrounding Land Uses/Environmental Setting, the Raley's Dock Project site is located on the Sacramento River, about 500 feet north (upriver) of Tower Bridge. The Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Tower Bridge on the south, downtown Sacramento on the east, and I Street Bridge on the north. The Ziggurat building is located immediately adjacent to the Raley's Dock Project site on the west and the CalSTRS building is just north of the Ziggurat building. Direct access to Project site is provided by the River Walk Trail.

The Raley's Dock Project site currently consists of the existing steel piles from the original dock within the Sacramento River water column. The adjacent riverbank is relatively steep and partially eroded. The bank has little to no herbaceous vegetation and several large Freemont cottonwood trees are rooted into the bank. The landward portion of the site is characterized by a developed park-like setting consisting of the River Walk Park with manicured lawns, landscaping, and paved walking trails. A concrete platform with a large archway facing the river marked the entrance for the original dock as "Raley's Landing" (see 1.3 Surrounding Land Uses/Environmental Setting, Representative Site Photos 1-5).

Rice Mill Pier

As described in Section 1.3 Surrounding Land Uses/Environmental Setting, the Rice Mill Pier Project site is located on the Sacramento River, about 400 feet north (upriver) of Pioneer Bridge. The Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Pioneer Bridge on the south, downtown Sacramento on the east, and Tower Bridge on the north. Access to the Project site is provided by Mill Street and Riverfront Street.

The Rice Mill Pier Project site currently consists of the existing pier. The pier is fenced off with a 6 foot chain-link fence surrounding the entrance to the pier from the road and the area is surrounded by herbaceous weeds. The pier deck is approximately 25 feet above the water level and is supported

by concrete piles driven into the river bed and bank. The adjacent bank is relatively steep with a narrow strip of riparian trees and herbaceous weeds. The landward side of the site consists of the paved River Walk Trail and previously graded undeveloped lots. The undeveloped lots are characterized by barren land with some weed grasses and herbs scattered throughout the landscape. The surrounding area is currently mostly vacant and located within the Bridge District Specific Plan Area (Bridge District). Extensive infrastructure has been constructed within the District and some residential development has been initiated to the northwest of the Project site. The nearest structures to the pier are Pioneer Bridge to the south and Raley's Field to the north (see 1.3 Surrounding Land Uses/Environmental Setting Representative Site Photos 6-8).

4.1.2 Aesthetics (I.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Raley's Dock

The Sacramento River is a scenic vista that can be viewed from the City of West Sacramento and the City of Sacramento. The Raley's Dock Project site is located on the Sacramento River directly across from Old Sacramento and the Delta King River Cruise docking station. The replacement Raley's Dock would be similar to the previously existing floating dock; the only addition is a 235-foot debris deflector boom located 60 feet upriver from the dock. The debris deflector boom would require 12 new vertical piles in the river column; however, the majority of the structure would be at or slightly below water level. The proposed replacement dock would return the visual appearance of the site to past conditions and would be consistent with the visual character of the riverfront in Old Sacramento on the eastern river bank. The associated debris deflector boom would not block any views of the Sacramento River, and only the additional vertical piles would be visible. Therefore, a less than significant impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is located on the Sacramento River across from a relatively undeveloped portion of the eastern riverbank. A thin riparian stand covers the eastern riverbank, similar to the visual appearance of the riverbank where the Project site is located. The rehabilitated pier would improve Rice Mill Pier's existing condition and provide access for the public to enjoy views of the Sacramento River and surrounding wildlife. There would be no additional structures added to the pier and the rehabilitation would not impact views of the Sacramento River. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

Raley's Dock

The Proposed Project involves replacing a previously existing floating dock. There would be minor debris and vegetation cleanup, which would improve the visual character of the area. There are no highways surrounding the Project site that are designated as scenic by the State Scenic Highway Mapping Program. Therefore, no impact would occur.

Rice Mill Pier

The Proposed Project involves rehabilitated the existing Rice Mill Pier. There would be minor debris and vegetation cleanup surrounding the pier, and the pier deck would be resurfaced to make it accessible. A protective handrail, benches, and perimeter lighting would also be added to the pier. There are no highways surrounding the Project site that are designated as scenic by the State Scenic Highway Mapping Program. Therefore, no impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐

Raley's Dock

The previous Raley's Dock was removed from the river in January of 2012 after the CVFPB deemed it a safety hazard and ordered it to be removed. Prior to the removal, the floating dock was barricaded and left unused for five years. Since 2012, only the existing piles have remained in the water column. The proposed replacement Raley's Dock would attach to the existing piles and would be similar to the removed dock. As described in item a), the only addition from the previous dock would be the installation of a debris deflector boom approximately 60 feet upstream of the floating dock. As described in 2.4 Project Characteristics, the debris deflector boom would be 235 feet in length and would extend at a 45-degree angle from the end of the dock towards the west bank. The boom would consist of 2 pipes stacked on top of each other and connected perpendicular to 12 vertical steel pipe piles. The horizontal pipes would be free floating at the water surface and only the vertical piles would visible from the riverbank.

As described in Section 4.1.1 Environmental Setting, the existing visual character of the Raley's Dock Project site consists of steel piles within the river column surrounded by a manicured park and paved bicycle and pedestrian trail. The proposed replacement dock would attach to the existing piles and connect the existing park to the waterfront. As stated above, the vertical piles are the only visible features of the debris deflector boom, and the vertical piles would be similar in appearance to the existing vertical piles for the floating dock. Therefore, the proposed replacement Raley's Dock and debris deflector boom would be consistent with the existing conditions and would not degrade the existing visual character. A less than significant impact would occur.

Rice Mill Pier

Currently, Rice Mill Pier is an abandoned structure along the river. The entrance to the pier is blocked off with a chain-link fence and the pier deck is cracked and worn in several places. The paved River Walk Trail runs along the levee top and there are several graded undeveloped lots with

scattered herbaceous vegetation to the west of the Project site. The rehabilitated pier would enhance the current physical appearance of the facility. Repairs would be done to the pier substructure as well as the concrete deck. Additionally, the chain-link fence would be removed and a handrail would be added to the perimeter of the pier and benches and lighting would be installed. The rehabilitated pier would improve the existing site conditions and provide an enhanced viewing platform of the waterfront and the river for the public. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Raley's Dock

The replacement Raley's Dock would include exterior lighting along the perimeter of the access ramp and floating docks. The exterior lighting would provide safe access to the facility for pedestrians and boaters. The exterior lighting would create a new source of light to the area; however, the Project area is a highly urbanized area located close to downtown Sacramento, the Ziggurat and CalSTRS buildings, and several other urban land uses. The surrounding land uses and facilities currently produce a high level of nighttime and daytime light and the new source of light would not be a substantial increase to the current conditions. A less than significant impact would occur.

Rice Mill Pier

The rehabilitated Rice Mill Pier would include exterior lighting along the perimeter of the pier deck. As described in the Raley's Dock discussion above, the lighting would provide safe access to the facilities for pedestrians. The exterior lighting would provide a new source of light to the area; however, the Project is in a highly urbanized area located close to downtown Sacramento, Raley Field, and several other urban land uses. The surrounding land uses and facilities currently produce a high level of nighttime and daytime light and the new source of light would not be a substantial increase to the current conditions. A less than significant impact would occur.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

Raley's Dock

The Raley's Dock Project site is designated Recreation and Parks (RP) in the *City of West Sacramento General Plan* and is zoned Recreation-Parks (RP) (City of West Sacramento 2009a and 2009b). A review of historical aerial imagery dating back to June 14, 1993 did not show any agriculture or forest resources within the Project area in the past 20 years (Google 2013). The Project area progressively became developed to its current status over the 20-year period. As described in Section 2.1 Project Background, Raley's Dock was originally privately owned by the Raley's Corporation and was most recently used as a boarding area for the steam-powered paddlewheel Elizabeth Louise and the River Otter Taxi before it was removed in January of 2012. There has been no replacement dock since the removal and only the existing steel piles remain in

the river. The Project site is not designated as Prime Farmland and is not under a Williamson Act Contract (DOC 2011; DOC 2012).

Rice Mill Pier

The Rice Mill Pier Project site is designated Riverfront Mixed Use (RMU) in the *City of West Sacramento General Plan* and is zoned Waterfront-Planned Development No. 41 (WF/PD 41) (City of West Sacramento 2009a and 2009b). A review of historical aerial imagery dating back to June 14, 1993 did not show any agriculture or forest resources within the Project area in the past 20 years (Google 2013). As described in Section 2.1 Project Background, Rice Mill Pier was part of several structures for the Rice Storage and Milling Facility originally owned by National Rice Mills and then the Rice Growers Association. The surrounding structures were gradually demolished over the past 20 years and since 2010, the surrounding area has been graded and left undeveloped. The area is now known as the Bridge District and is currently in the process of being developed consistent with the Bridge District Specific Plan. The Project site is not designated as Prime Farmland and is not under a Williamson Act Contract (DOC 2011; DOC 2012)

4.2.2 Agriculture and Forestry Resources (II.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

Raley's Dock

The California Farmland Mapping and Monitoring Program, Yolo County Important Farmland 2010 map designates the Raley's Dock Project site as Urban and Built-Up Land. Urban and Built-Up Land is defined as land occupied by structures with a building density of at least one unit to 1.5 acres or approximately six structures to a 10-acre parcel (DOC 2011). The Project site is located on the Sacramento River and not used for agricultural purposes. The Project site is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and would not convert such farmland to non-agricultural use. No impact would occur.

Rice Mill Pier

The California Farmland Mapping and Monitoring Program, Yolo County Important Farmland 2010 map designates the Rice Mill Pier Project site as Urban and Built-Up Land (DOC 2011). The Project site is located on the Sacramento River and not used for agricultural purposes. The Project site is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and would not convert such farmland to non-agricultural use. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site is zoned RP (City of West Sacramento 2009b). The California Farmland Mapping and Monitoring Program, Yolo County Williamson Act Contract FY 2010/2011 map designates the Project site as Urban and Built-Up Land and not under a Williamson Act Contract (DOC 2012). Therefore, the Proposed Project would not result in a conflict with an agricultural zoning designation or a Williamson Act contract. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is zoned WF/PD 41 (City of West Sacramento 2009b). The California Farmland Mapping and Monitoring Program, Yolo County Williamson Act Contract FY 2010/2011 map designates the Project site as Urban and Built-Up Land and not under a Williamson Act Contract (DOC 2012). Therefore, the Proposed Project would not result in a conflict with an agricultural zoning designation or a Williamson Act contract. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

Raley's Dock

As stated in item b), the Raley's Dock Project site is zoned RP (City of West Sacramento 2009b). The Project site is not zoned for forest land, timberland, or timberland production. The Project site currently does not contain forestland or timberland and is surrounded by urban land uses and the Sacramento River. No impact would occur.

Rice Mill Pier

As stated in item b), the Rice Mill Pier project site is zoned WF/PD 41 (City of West Sacramento 2009b). The Project site is not zoned for forest land, timberland, or timberland production. The Project site currently does not contain forestland or timberland. The site is surrounded by urban land uses and the Sacramento River. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

Raley's Dock

As stated in item c), the Raley's Dock Project site is not zoned as forested land. The Project site is located primarily within the Sacramento River, with only a small portion occurring on the adjacent riverbank. The Project site is located within an urbanized area and is not located within or adjacent to forest land. The Proposed Project would not convert forest land to non-forest use. No impact would occur.

Rice Mill Pier

As stated in item c), the Rice Mill Pier Project site is not zoned as forested land. The Project site is located primarily within the Sacramento River, with only a small portion occurring on the adjacent riverbank. The Project site is located within an urbanized area and is not located within or adjacent to forestland. The Proposed Project would not convert forest land to non-forest use. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site is not located on or adjacent to Farmland or forest land. The Project site consists of existing steel piles on the Sacramento River and the adjacent levee access. The Proposed Project would be replacing a previously existing dock and would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is not located on or adjacent to Farmland or forest land. The Project site consists of an existing pier on the Sacramento River. The Proposed Project would rehabilitate the pier to provide public access to the River and would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

4.3 Air Quality

4.3.1 Environmental Setting

Regional Setting

The Project area is located in Yolo County, which is within the Sacramento Valley Air Basin (SVAB). The Project area is within the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The SVAB is bound on the west by the Coast Ranges, on the north by the Cascade Range and on the east by the Sierra Nevada Range. Counties within the SVAB include Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, Yolo, and parts of Solano and Placer counties (CEPA 2013a).

Regional Climate and Meteorology

The area's climate is Mediterranean and characterized by hot, dry summers and cool, rainy winters. During the winter season, the North Pacific storm track intermittently dominates Sacramento Valley weather, and fair weather alternates with periods of extensive clouds and precipitation. Periods of dense and persistent low-level fog, which is most prevalent between storms, are also characteristic of winter weather in the valley. The frequency and persistence of heavy fog in the valley diminishes with the approach of spring. Mean annual temperature is a relatively mild 62.2°F. Maximum average annual temperatures during the summer range from 87.1°F to 93.1°F. Temperatures sometimes exceed 100°F. Winter temperature maximums vary from 54.5°F to 60.6°F. Average low temperatures in the winter range from 40.2°F to 43.7°F. Temperatures in the winter only occasionally drop below freezing (SCS 1972).

In general, the prevailing wind in the Sacramento Valley is from the southwest, from marine (Delta) breezes flowing through the Carquinez Strait. The Carquinez Strait is the major corridor for air moving into the Sacramento Valley. Incoming airflow strength varies daily with a pronounced diurnal cycle. Influx strength is weakest in the morning and increases in the evening hours. (City of West Sacramento 2013a)

The mountains surrounding the SVAB create a barrier to airflow, which can also trap air pollutants under certain meteorological conditions. The topography of the Sacramento Valley, temperature gradients, and wind patterns create the Schultz eddy. The eddy contributes to the formation of a low-level southerly jet stream 500 to 1,000 feet above the surface that is capable of speeds in excess of 35 miles per hour (mph). This jet stream is important for air quality in the Sacramento Valley because of its ability to transport air pollutants over large distances (City of West Sacramento 2013a). However, instead of allowing the prevailing wind patterns to move north carrying the pollutants out, the Schultz eddy causes the wind pattern to circle back to the south. This phenomenon causes air pollutants in the Sacramento region to be blown south and west toward Yolo County. This phenomenon has the effect of exacerbating the pollution levels in the area and increases the likelihood of violating federal or state standards (USACE and WSAFCA 2013).

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air and intense sunlight with the Delta breeze arriving in the afternoon. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, the Schultz eddy prevents this from occurring. (USACE and WSAFCA 2013)

The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells collect over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduce the influx of outside air and allow air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap pollutants near the ground. (City of West Sacramento 2013a)

Background Information on Air Pollutants and Existing Conditions

The federal and state governments have established ambient air quality standards for six criteria pollutants: ozone, CO, NO_2, SO_2, particulate matter ($PM_{2.5}$ and PM_{10}), and lead. These standards and methodology are shown in Table 2 below.

Table 2. State and National Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)[8]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[8]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[9]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[11,12]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (6/4/13)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24¬hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three years.
9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
Source: CEPA 2013b

The YSAQMD is part of the Sacramento Ozone Non-attainment Area for the Federal 8-hour ozone standard. The Sacramento Nonattainment Area's plan for meeting the ozone standard is called the Sacramento Area Regional Ozone Attainment Plan. The Plan was adopted on November 15, 1994; however, an update to the plan is currently ongoing. The YSAQMD is responsible for enforcing the regulations of the SIP within the YSAQMD jurisdiction. (City of West Sacramento 2009c)

Table 3 provides a summary of the current attainment designations for the YSAQMD for each of the criteria pollutants. The YSAQMD is currently non-attainment for Ozone and Coarse (PM_{10}) and Fine ($PM_{2.5}$) Particulate Matter.

Table 3. State and National Attainment Status for the YSAQMD

Criteria Pollutant	Averaging Time	State Standards	National Standards
Ozone (O_3)	1-Hour	Non-attainment	N/A
	8-Hour	Non-attainment	Non-attainment
Carbon Monoxide	1-Hour	Attainment	Unclassified/Attainment
	8-Hour	Attainment	Unclassified/Attainment
Nitrogen Dioxide	1-Hour	Attainment	N/A
	Annual	N/A	Attainment
Sulfur Dioxide	1-Hour	Attainment	N/A
	24-Hour	Attainment	Attainment
	Annual	N/A	Attainment
Coarse Particulate Matter (PM_{10})	24-Hour	Non-attainment	Unclassified
	Annual average	Non-attainment	N/A
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	N/A	Partial non-attainment
	Annual average	N/A	Attainment
Sulfates	24-Hour	Attainment	N/A
Lead	30-Day Average	Attainment	N/A
	Calendar Quarter	N/A	Attainment
Hydrogen Sulfide	1-Hour	Attainment	N/A
Vinyl Chloride	24-Hour	Attainment	N/A
Visibility Reducing Particles	8-Hour	Attainment	N/A

Source: YSAQMD 2013

The nearest air quality monitoring stations in the Project vicinity include the West Sacramento-15th Street station, Davis-UCD Campus station at Campbell Road and the Woodland-Gibson Road station at Gibson Road. The following Table 4 is a summary of the air quality monitoring data for Yolo County. This data represents air quality monitoring data of O_3, NO_2, CO, SO2, PM_{10}, and $PM_{2.5}$ for the last three years (2009–2011) in which final data is available; the data for years 2012 and 2013 are preliminary. In summary, the 8-hour NAAQS for ozone was exceeded three times in 2009; zero times in 2010; and one time in 2011; the 8-hour CAAQS for ozone was exceeded 12 times in 2009; three times in 2010; and four times in 2011; the 24-hour CAAQS for PM_{10} was exceeded three times in 2009; one time in 2010; and two times in 2011; the 1-hour NAAQS for $PM_{2.5}$ was exceeded one time in 2009; one time in 2010; and seven times in 2011.

Table 4. Air Quality Monitoring Data for Previous Three Years of Complete Data

Pollutant	Time Averaging		2009 Max	2010 Max	2011 Max	Standards	
						National	State
Carbon Monoxide	8 hour		N/A	N/A	N/A	9 ppm	9 ppm
	1 hour		N/A	N/A	N/A	35 ppm	20 ppm
Nitrogen dioxide (NO2)	Annual Arithmetic Mean		N/A	N/A	N/A	53 ppb	0.030 ppm (30 ppb)
	1 hour		40 ppb	37 ppb	43 ppb	100 ppb	0.18 ppm (180 ppb)
Ozone	1 hour		0.093 ppm	0.094 ppm	0.088 ppm	N/A	0.09 ppm
	Number of days exceeded		0 days	0 days	0 days		
			Note: The CEPA website designated no exceedances, however the maximums clearly are above the standard.				
	8 hour		0.082 ppm	0.072 ppm	0.082 ppm	0.075 ppm	0.07 ppm
	Number of days exceeded	State	12 days	3 days	4 days		
		National	3 days	0 days	1 days		
Particulate Matter 10 micrometer diameter (PM_{10})	24 hour		64.6 ug/m^3	87.4 ug/m^3	67.8 ug/m^3	150 ug/m^3	50 ug/m^3
	Annual Arithmetic Mean		N/A	N/A	N/A	N/A	20 ug/m^3
	Number of days exceeded	State	3 days	1 days	2 days		
		National	0 days	0 days	0 days		
Particulate Matter 2.5 micrometer diameter ($PM_{2.5}$)	24 hour		36.5 ug/m^3	38.7 ug/m^3	43.4 ug/m^3	35 ug/m^3	N/A
	Annual Arithmetic Mean		7.5 mg/m^3	5.7 mg/m^3	7.6 mg/m^3	15 ug/m^3	12 ug/m^3
	Number of days exceeded		1 days	1 days	7 days		

Source: CEPA 2013c; U.S. EPA 2013

The Proposed Project is within the SVAB and is under the jurisdiction of the YSAQMD. As shown in Table 2, the Proposed Project is in an area currently designated as a non-attainment area under the CAAQS for 1-hour O3, 8-hour O3, and PM_{10} and non-attainment area under the NAAQS for 8- hour O3 and partial non-attainment for 24-hr $PM_{2.5}$. The YSAQMD is in attainment or unclassified for all other standards (YSAQMD 2013).

Thresholds of Significance

The YSAQMD's Governing Board has adopted project level thresholds of significance for air quality (Table 5). The following table shows the air quality thresholds for construction and operational impacts related to projects conducted within the boundaries of the YSAQMD for PM_{10}, carbon monoxide (CO), and the precursors to ozone, which are reactive organic gases (ROG) and nitrogen oxides (NOx).

Table 5. Thresholds of Significance for Criteria Pollutants of Concern

Pollutant	Thresholds of Significance
ROG	10 tons/year (54.79 lbs/day)
NOx	10 tons/year (54.79 lbs/day)
PM_{10}	80 lbs/day
CO	Violation of a state ambient air quality standard for CO.

Source: YSAQMD 2007

The YSAQMD has additional thresholds of significance for toxics, odors, and cumulative impacts, and for certain special types of projects such as general plans and federal projects. The description of these can be found in the *YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts*, adopted July 11, 2007.

Sensitive Receptors

The NAAQS and CAAQS apply at publicly accessible areas, regardless of whether those areas are populated. For the purposes of air quality analysis, sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons, are located and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (e.g., 24-hour, 8-hour, and 1-hour). Typical sensitive receptors include residences, hospitals, and schools (USACE and WSAFCA 2013).

Sensitive receptors also include those located along truck haul routes on local streets and the barge haul route on the Sacramento River. Primary truck routes in the Project vicinity include US 50, 3rd Street, 5th Street, and Interstate 5.

The Proposed Project consists of rehabilitating an existing pier and replacing a dock. The Project would serve as additional public recreational sites along the west bank of the Sacramento River within the City of West Sacramento. The Rice Mill pier is located at the southern end of the existing River Walk Trail. The surrounding area is currently mostly vacant and located within the Bridge District Specific Plan Area (Bridge District (City of West Sacramento 2009d)). Extensive infrastructure has been constructed in an area within the RGA (Rice Growers Association) Edge component of the District in preparation for construction of office, retail, and residential structures. Development has been initiated to the west and northwest of the pier within the area between Riverfront Street, 5th Street, Mill Street, and Bridge Street. The closest residential development named "The Rivermark" is approximately 850 feet northwest of the pier. The Rivermark is currently under construction and is planned for 70 units of affordable family housing (Bridge Housing 2013). The Raley's Dock is directly across the river from the area known as Old Sacramento. The Project site is located adjacent to and within River Walk Park, and is near the Ziggurat and CalSTRS buildings (Figure 3. *Raley's Dock Project Location*).

4.3.2 Air Quality (III.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

Raley's Dock

The Proposed Project would be a replacement project for a dock that has previously existed at the site, and therefore would not be adding new vehicle trips or creating additional boating activity. It would provide existing boat trips with a temporary mooring point and support recreational pedestrian use of the parkway by providing additional access. This Project would reestablish the historic use of this property and it would not be accessible to land vehicles.

The Proposed Project would not conflict with or obstruct the implementation of the Air Quality Attainment Plan because construction and operation emissions would not violate any air quality standards. There are only minor temporary construction impacts and no long-term emissions resulting from implementation of the project. No impact would occur.

Rice Mill Pier

Access to the Rice Mill Pier would be limited to pedestrians because it would not be accessible by boat and it is not anticipated that new vehicle trips would be generated to specifically use the facility Instead, the facility would serve local residents and existing users of the River Walk Trail. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐

Raley's Dock

The Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Other than short-term emissions associated with construction of the Proposed Project, there would be no additional emission sources created by this Project.

The Proposed Project footprint would be less than 5 acres combined. The *Handbook for Assessing and Mitigating Air Quality Impacts* (YSAQMD 2007) includes a list of project types and sizes that could potentially exceed the District thresholds for ROG, NOx and PM_{10}. According to the table in the handbook, the Proposed Project would be well under the District thresholds for a combined recreational project.

<u>Construction Impacts</u>

Construction of the Proposed Project would generate air pollutant emissions. Construction activities such as installation of piles and installation of improvements and travel on unpaved surfaces would generate dust and can lead to elevated concentrations of PM_{10} and $PM_{2.5}$ emissions. The operation of construction equipment for the Project would result in minor exhaust emissions well under the YSAQMD thresholds, which include ozone precursors ROG and NO_x. A less than significant impact would occur from construction with the implementation of mitigation measures B-2 and H-1.

Long-Term Operational Impacts

The Raley's Dock would replace a historic use and is not anticipated to generate new boat trips on the river. The public dock would provide another option for temporary docking for existing boaters. The Raley's Dock Project would include a debris deflector boom which would protect the dock and result in less maintenance. Long-term operation and maintenance of the Proposed Project would not generate new vehicle trips, would not geographically re-distribute vehicle travel, and would not result in a change in stationary source emissions. This Project would have a less than significant impact from long-term operation.

Rice Mill Pier

Construction Impacts

Please see Raley's Dock discussion above. A less than significant impact would occur from construction with the implementation of mitigation measures B-2 and H-1.

Long-Term Operational Impacts

Access to the Rice Mill Pier would be limited to pedestrians because it is not accessible by boat and it is not anticipated that new vehicle trips would be generated to specifically use the facility. Instead, the facility would serve local residents and existing users of the River Walk Trail.

The Proposed Project would not result in a change in long-term operational ROG, NOx, PM_{10}, $PM_{2.5}$ emissions, or ozone and particulate matter concentrations. Therefore, long-term operational impacts on air quality would be less than significant.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project 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)?	☐	☐	☒	☐

Raley's Dock

The Project is located in a designated non-attainment area for federal and state standards for ozone, non-attainment for state standards for PM_{10} and partial non-attainment for the national standard for $PM_{2.5}$. As described above, the Proposed Project is anticipated to generate negligible long-term emissions and would not result in an exceedance of an air quality threshold or standard, the Proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant (ozone, $PM_{2.5}$, and PM_{10}). Therefore, this Project would have a less than significant impact.

Rice Mill Pier

Please see Raley's Dock discussion above. This Project would have a less than significant impact.

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Raley's Dock

Air quality regulators typically define sensitive receptors as schools (preschool – 12th grade), hospitals, resident care facilities, residences, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. A project would have a significant impact on a sensitive receptor if it would result in an unacceptable health risk due to exposure to toxic air contaminant (TAC) emissions. There are no sensitive receptors in proximity to the Project area.

Construction activities would result in emissions of diesel particulate matter from heavy equipment used to transport construction materials to and from the site, as well as minor amounts of TAC emissions from motor vehicles. During construction, truck and barge traffic to and from the sites, would average approximately two trips per day for the duration of the Project. Health effects attributable to exposure to diesel particulate matter are long-term effects based on chronic exposure to emissions. Health effects are generally evaluated based on a lifetime (70 years) of exposure. Due to the short-term nature and limited extent of construction at the site, no adverse health effects would be anticipated from construction-related diesel particulate emissions. Motor vehicle emissions would not be concentrated in any one area but would be dispersed along travel routes and would not be anticipated to pose a significant health risk to receptors. Long-term emissions associated with the Proposed Project would be minimal.

The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations in either the short-term or long-term resulting in a less than significant impact.

Rice Mill Pier

Please see Raley's Dock discussion above. The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations in either the short-term or long-term resulting in a less than significant impact.

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Would the project create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Raley's Dock

Construction of the Proposed Project could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust that would create objectionable odors affecting people. Long-term operation odors of the Proposed Project would include infrequent maintenance activities that

would involve mostly work by hand with small equipment for structure and vegetation maintenance, and debris removal. Long-term impacts would include exhaust associated with boats using the dock. This is consistent with past emissions at the dock.

However, the operation of short-term construction equipment, small maintenance equipment, and boats would be temporary or transient and impacts associated with these odors are considered less than significant. Odor impacts from short-term construction and long-term operation would be less than significant.

Rice Mill Pier

The Rice Mill Pier is only accessible by pedestrian traffic and not accessible by water vehicles. Please see Raley's Dock discussion above. Odor impacts from short-term construction and long-term operation would be less than significant.

4.4 Biological Resources

4.4.1 Environmental Setting

A Biological Resources Assessment (BRA) was prepared for the Proposed Project by ECORP Consulting, Inc. (ECORP 2013a; Appendix A). The purpose of the assessment was to collect information on biological resources and potential Waters of the United States (U.S.) and Waters of the State, including wetlands on both sites, and to determine any potential biological constraints to site construction. The BRA analyzed the Raley's Dock Project site and the Rice Mill Pier Project site and the potential for sensitive vegetation communities, special-status plant and wildlife species, including species listed under the California or Federal Endangered Species Act (CESA or FESA), to occur on each site (ECORP 2013a).

To estimate the extent and approximate location of potential Waters of the U.S. and Waters of the State, including wetlands on both sites, a review was conducted of existing databases including U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online database, U.S. Geological Survey (USGS) National Hydrography Dataset, California Department of Fish and Wildlife (CDFW) vernal pool data, Natural Resources Conservation Service (NRCS) Soil Survey data, and visually assessed publically accessible on-line aerial photographs (e.g., Google Earth).

A general list of potentially occurring special-status plants and wildlife species for both sites was developed following review of CDFW's Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Electronic Inventory, USFWS species lists, and various online databases such as Calflora (ECORP 2013a).

The literature review was supplemented by a field investigation conducted by ECORP on September 17, 2013. The Biological Resources Assessment is included in Appendix A and the findings are summarized below.

Vegetation Communities

The vegetation communities found within the Project area are remnant Great Valley cottonwood riparian forest, ruderal grassland, and urban. The riparian corridor along the levee is narrow and trees are rooted at water's edge or into the steep bank.

The riparian forest is dominated by Fremont cottonwood (*Populus fremontii*), with scattered black willow (*Salix gooddingii*), box elder (*Acer negundo*), black locust (*Robinia pseudoacacia*), and tree-of-heaven (*Ailanthus altissima*). The understory vegetation is made up of weedy ruderal grassland species including yellow star-thistle (*Centaurea solstitialis*), ripgut brome (*Bromus diandrus*), wild oats (*Avena fatua*), and Bermuda grass (*Cynodon dactylon*). The understory vegetation is patchy with areas of bare ground from trampling or erosion on steep banks. Further inland, the vegetation at the Rice Mill Pier Project site is made up of ruderal grassland/paved walking trail within undeveloped lots, and the Raley's Dock Project site has a manicured lawn and paved walking trails. A list of plants observed during the field survey is included in Appendix A.

Wildlife

The Project area supports minimal wildlife movement, as there is minimal vegetative cover, presence of pedestrians, and absence of adjacent high quality wildlife habitat. The Project area probably supports nocturnal urban wildlife, such as feral cats (*Felis silvestris*), striped skunks (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoons (*Procyon lotor*) and rats (*Rattus* spp.). The trees within the riparian corridor support nesting habitat for birds such as American crow (*Corvus brachyrhynchos*), western scrub-jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*). According to the CNDDB, the state-threatened Swainson's hawk (*Buteo swainsoni*) has been documented to nest in close proximity to the Project sites. A list of wildlife observed during the field survey is included in Appendix A.

Soils

There is only one soil type that occurs within the Project area: (La) Lang sandy loam (Figure 5. *Natural Resources Conservation Service Soil Types*, Appendix A).

Potential Waters of the U.S.

The 19-foot elevation has been delineated as the ordinary high water mark (OHWM) within this reach of the Sacramento River (ECORP 2013a). There are no wetlands at either Project site (Figure 6. *Raley's Dock Ordinary High Water Mark* and Figure 7. *Rice Mill Pier Ordinary High Water Mark*, Appendix A). The Sacramento River is designated a navigable Water of the U.S. and is regulated by the Rivers and Harbors Appropriations Act (Section 10) and/or the Clean Water Act (Section 404).

Special-Status Plants

No special-status plants were observed during the field surveys, and there is no suitable habitat on either Project site for special-status plants. The Project sites are relatively disturbed and the herbaceous plants found in these areas are largely non-native weedy species. There are no wetland plant communities due to the steep bank, fluctuating water levels, and erosion. There are no previously documented occurrences of special-status plants within the two project locations, but there have been previously documented occurrences within 5 miles of the Project area according to the CNDDB (ECORP 2013a) (Figure 8. CNDDB Occurrences of Special-Status Species, Appendix A). These special-status plants include: Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Sanford's arrowhead (*Sagittaria sanfordii*), and Suisun marsh aster (*Symphyotrichum lentum*). Due to the lack of suitable habitat, these species are not expected to occur on either Project site.

Special-Status Wildlife

No special-status fish and wildlife species were observed during the field survey; however, a number of special-status wildlife species have been documented within 5 miles of the Project area (ECORP 2013a) (Figure 8. *CNDDB Occurrences of Special-Status Species*, Appendix A). Table 6 lists the special-status fish and wildlife species that have been documented within 5 miles of the Project area. In addition, The Project area lies within the upstream limits of Delta smelt Critical Habitat; the legal Delta smelt Boundary terminates at the I Street Bridge.

Table 6. Special-Status Fish and Wildlife Species Documented within 5 Miles of the Project Area

Species Common Name	Species Scientific Name
California linderiella	*Linderiella occidentalis*
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*
Sacramento Valley tiger beetle	*Cicendela hirticollis abrupta*
Chinook salmon (Sacramento River winter-run ESU)	*Oncorhyncus tshawytscha*
Chinook salmon (Central Valley spring-run ESU)	*Oncorhyncus tshawytscha*
Chinook salmon (Central Valley fall/late fall-run ESU)	*Oncorhyncus tshawytscha*
Sacramento splittail	*Pgonichthys macrolepidotus*
Sacramento perch	*Archoplites interruptus*
white-tailed kite	*Elanus leucurus*
Cooper's hawk	*Accipiter cooperii*
Swainson's hawk	*Buteo swainsoni*
burrowing owl	*Athene cunicularia*
purple martin	*Progne subis*
"Modesto" song sparrow	*Melospiza melodia*
tricolored blackbird	*Agelaius tricolor*
hoary bat	*Lasiurus cinereus*

Source: ECORP 2013a

Based on the habitats and vegetation communities present within both Project sites a list of potentially occurring special-status fish and wildlife species was developed. Table 7 provides a list of special-status wildlife species with suitable habitat within the Project area.

Table 7. Special-Status Fish and Wildlife Species with Suitable Habitat within the Project Area

Species Common Name	Species Scientific Name
Green sturgeon	*Acipenser medirostris*
Chinook salmon (Central Valley Spring-run ESU)	*Oncorhyncus tshawytscha*
Chinook salmon (Central Valley fall/late fall-run ESU)	*Oncorhyncus tshawytscha*
Chinook salmon (Sacramento River winter-run ESU)	*Oncorhyncus tshawytscha*
Steelhead (California Central Valley ESU)	*Oncorhynchus mykiss*
Delta smelt	*Hypomesus transpacificus*
Sacramento splittail	*Pogonichthys macrolepidotus*
Northwestern pond turtle	*Actinemys marmorata marmorata*
Great blue heron (rookery)	*Ardea Herodias*
Greater egret (rookery)	*Ardea alba*
White-tailed kite (nesting)	*Elanus leucurus*
Cooper's Hawk (nesting)	*Accipiter cooperii*
Swainson's Hawk (nesting)	*Buteo swainsoni*

Species Common Name	Species Scientific Name
Yellow-billed magpie (nesting)	*Pica nuttallii*
Yuma myotis	*Myotis yumanesis*
Hoary bat	*Lasiurus cinerus*
Western red bat	*Lasiurus blossevillii*
Townsend's big-eared bat	*Corynorhinus townsendii townsendii*

Source: ECORP 2013a

The special-status fish species that are known from this area use the Sacramento River for migration and/or juvenile rearing life stages. The northwestern pond turtle may rarely be found in or within the vicinity of the Project area; however, there is no suitable basking or oviposition (nesting) habitat. The large trees represent potential nesting habitat for special-status birds. There are no heron or egret rookeries within or adjacent to either Project site; future colonial water bird nesting at this location is unlikely. In addition to the nesting birds, the trees may provide roosting habitat for the special-status bats.

Wildlife/Movement/Corridors

The Proposed Project is located on the banks of the Sacramento River. There is a narrow riparian corridor on the riverbank; however, there is minimal tree and shrub cover at the top of the bank. The Rice Mill Pier Project site consists of the existing pier with remnant riparian woodland and ruderal grassland vegetation and a paved walking path. The Raley's Dock Project site riverbank consists of a narrow riparian corridor with little vegetation at the top of bank due to clearing and trampling. These locations support minimal wildlife movement during daylight hours as pedestrians are present. The Project sites most likely support nocturnal urban wildlife use from feral cats (*Felis silvestris*), striped skunks (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoons (*Procyon lotor*) and rats (*Rattus* spp.). Further, there is no adjacent terrestrial habitat that would concentrate wildlife to this area.

4.4.2 Regulatory Setting

Federal Regulations

Federal Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a HCP is developed.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the U.S. Army Corps of Engineers (USACE). The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

State or Local Regulatory Requirements

California Endangered Species Act

The CESA generally parallels the main provisions of the FESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill". CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians and reptiles, birds and mammals. Most fully protected species have since been listed as threatened

or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (California Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction, which is published in the *Inventory of Rare and Endangered Plants of California.* Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information – A Review List

California Streambed Alteration Notification/Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

City of West Sacramento General Plan

The following are goals and policies of the City of West Sacramento General Plan Policy Document (West Sacramento 2008) pertaining to biological resources that are relevant to the Proposed Project.

> *GOAL C* – To protect sensitive native vegetation and wildlife communities and habitat in West Sacramento.
>
> *Policy 1.* The city shall encourage and support development projects and programs that enhance appreciation and awareness of the natural environment.
>
> *Policy 2.* The City shall support state and federal policies for preservation and enhancement of riparian and wetland habitats by incorporating, as deemed appropriate, the findings and recommendations of the Sacramento Greenway Plan, California Department of Fish and Game and the U.S. Fish and Wildlife Service into site-specific development proposals.
>
> *Policy 3.* The City shall require site-specific surveys to identify significant wildlife habitat and vegetation resources for development projects located in or near riparian or wetland areas.
>
> *Policy 4.* The City shall support mitigation measure which provide for no net loss of riparian or wetland habitat acreage and value by regulating development in and near these habitats and promoting projects that avoid sensitive areas. Where habitat loss is unavoidable, the City shall seek replacement on at least a 1:1 basis. Replacement entails creating habitat that is similar in extent and ecological value to that displaced by the project. The replacement habitat should consist of locally occurring, native species and shall be located as close as possible to the project site or be part of a larger replacement habitat project.
>
> *Policy 5.* To minimize disturbance to wildlife, the City shall require the provision and maintenance of an adequate setback between significant wetland habitat and adjacent development. The buffer shall be landscaped with native or compatible introduced ornamental vegetation and may be used for passive recreation purposes.
>
> *Policy 9.* The City shall seek to preserve populations of rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects.
>
> *Policy 10.* The City shall not approve projects that would cause unmitigatible impacts on rare, threatened, or endangered wildlife or plant species.
>
> *Policy 11.* The City shall implement measures to ensure that development in the City does not adversely affect fishery resources in the Sacramento River, Deep Water Channel, and Lake Washington.
>
> *Policy 12.* Public access and recreation facilities shall not eliminate or degrade riparian habitat values. Trails, picnic areas, and other developments shall be sited to minimize impacts on sensitive wildlife habitat or riparian vegetation.

> *Policy 13.* The City shall promote the use of native plants, especially Valley oaks, for landscaping roadsides, parks, and private properties. In particular native plants should be used along the Sacramento River and in areas adjacent to riparian and wetland habitats.

City of West Sacramento, Municipal Code, Title 8 (Health and Safety), Ch. 8-24 – Tree Preservation

In order to promote the public health, safety and general welfare of the City, the City has enacted regulations governing the removal and preservation of certain trees on private and public property within the City in addition to the planning and maintenance of street trees within new and already established developments.

It is unlawful to perform any of the following acts with respect to a landmark (as designated by the City Council) or heritage tree (living tree with a trunk circumference of 75 inches or more or a native oak with a trunk circumference of 50 inches or more) within the city limits without a tree permit issued by the tree administrator.

- Move, remove, cut down, poison, set fire to or permit fire to burn in proximity to or perform or fail to perform any act which results in the unnatural death or destruction of a landmark or heritage tree;
- Perform any activity that will interfere with or retard the natural growth of any landmark or heritage tree;
- Perform any work or permit any work to be performed within the drip line area of a landmark or heritage tree which would endanger the tree;
- Trim or prune any branch of a landmark or heritage tree which is five inches in diameter or greater. (Ord. 04-01 § 3 (part))

During construction activity on any property upon which a landmark, heritage or street tree is located, it is unlawful for any person to perform any of the following acts without a tree permit issue by the tree administrator, which permit shall not be denied if the activities are deemed necessary for the project and proper care is taken to protect any landmark, heritage or street tree:

1. Change the appropriate amount of irrigation or drainage water provided to any landmark, heritage, or street tree;
2. Trench, grade, pave or otherwise damage or disturb any exposed roots within one foot outside the drip line area of any landmark, heritage, or street tree;
3. Park or operate any motor vehicle within one foot outside the drip line area of any landmark, heritage or street tree;
4. Place or store any equipment or construction materials within one foot outside the dripline area of any landmark, heritage, or street tree;
5. Place, apply or attach any signs, ropes, cables or any other items to any landmark, heritage or street tree;
6. Cut or trim any branch of any landmark, heritage or street tree that is five inches in diameter or greater;

7. Place or allow to flow any oil, fuel, concrete mix or other deleterious substance into or over within one foot outside the drip area of any landmark, heritage or street tree. (Ord. 04-01 § 3 [part])

CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

4.4.3 Biological Resources (IV.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project 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 Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Raley's Dock

The Raley's Dock Project Site is located on the Sacramento River, about 500 feet north (upriver) of Tower Bridge adjacent to the River Walk Trail and River Walk Park. The Project site consists of the Sacramento River and the adjacent riverbank where the trail and park are located. The Ziggurat building and other urban land uses are directly west of the Project site. The landward portion of the Project site consists of a developed park area with human presence. The riverbank has a narrow riparian corridor with little vegetation at the top due to trampling and erosion. The river portion of the Project site consists of the existing steel piles in the river water column. There were no special-status plant or wildlife species observed during the field survey; however, the Project site does support suitable habitat for several special-status wildlife species listed in Table 7.

Additionally, all native birds are protected under the MBTA, while additional protectors for raptors are afforded under the California Fish and Game Code. The Project site supports potential nesting habitat for several special-status birds, including great blue heron, great egret, white-tailed kite, Cooper's hawk, Swainson's hawk, yellow-billed magpie, or other protected raptor nests. If present, the construction noise could result in harassment to nesting individuals and may temporarily disrupt foraging activities. Additionally, construction activities may remove vegetation that would support nesting birds. The large trees within the Project area support potential roosting habitat for several special-status bats, including *Yuma myotis*, hoary bat, Western red bat, and Townsend's big-eared bat. If present, construction activities could result in disturbance of roosting habitat. Implementation of Mitigation Measure B-1, described below, would reduce impacts to special-status wildlife species and all protected birds to a less than significant level.

Short-term construction-related activities could potentially impact special-status fish species. All construction activities that result in disturbance to soil and vegetation on the bank and the channel of the Sacramento River may cause increases in sedimentation and turbidity of the water which could impact special-status fish species. As described in 2.5 Construction, new piles would be installed in the river using the vibratory driving technique. This technique vibrates the pile to the required depth which minimizes sediment disturbance and noise generation. In river pile installation would take approximately 3-5 minutes per pile, and the entire installation process is anticipated to take two days. Micropiles would also be installed in the levee to support the access ramp. The expected subsurface conditions at the levee would allow the use of rotary drilling to install the steel pipes. Installation of the micropiles could produce increased sedimentation and turbidity in the Sacramento River. In addition, other near-river construction activities associated with the Proposed Project could increase sedimentation and turbidity. Special-status fish species could be impacted by construction activities occurring in the river and on the riverbank. In addition, the spread of the CDFW-classified invasive New Zealand mud snail (*Potamopyrgu antipodarum*) within the Sacramento River could potentially disturb habitat and impact special-status fish species. Construction activities could accidentally result in spread of the New Zealand mud snail.

To avoid take of any special-status fish species protected under the FESA, the USFWS and NMFS shall be consulted pursuant to Section 7 of the Federal Endangered Species Act (ESA). A formal Biological Assessment (BA) is being prepared to address any potential adverse effects to federally listed species arising from implementation of the Proposed Project. This document also addresses any effects on Critical Habitat and shall be submitted as part of the permitting process. The BA shall be the primary support document for FESA consultation and once issued, the Proposed Project shall comply with all conditions of the Biological Opinion from the USFWS and NMFS.

To minimize the incidental take of the threatened Southern Distinct Population Segment (DPS) of the North American green sturgeon, Delta smelt, Central Valley steelhead, Central Valley spring-run

Chinook salmon, winter-run Chinook salmon and Critical Habitat for these species, Mitigation Measure B-2 shall be implemented. The Sacramento splittail is not a listed species under the FESA; however, implementation of Mitigation Measure B-2, described below, would also avoid impacts to the Sacramento splittail.

Additionally, implementation of Mitigation Measure H-1 in Section 4.9 Hydrology and Water Quality would reduce impacts to special-status fish species listed above by reducing sedimentation and turbidity in the Sacramento River.

Rice Mill Pier

The Rice Mill Pier Project site is located on the Sacramento River, about 400 feet north (upriver) of Pioneer Bridge adjacent to the River Walk Trail. The Project site consists of the Sacramento River and the adjacent riverbank where the trail is located. Graded and undeveloped lots and other urban land uses are located directly west of the Project site. The landward portion of the Project site consists of a narrow riparian corridor bordered by the River Walk Trail at the levee top. The riparian corridor contains several tree species including Fremont's cottonwood, black willow, box elder, black locust, and tree-of-heaven. The understory vegetation is made up of weedy ruderal grassland species and is patchy with areas of bare ground from trampling or erosion on the steep bank. The river portion of the Project site consists of the existing portion of the pier and substructure within the river water column. There were no special-status plant or wildlife species observed during the field survey; however, the Project site does support suitable habitat for several special-status wildlife species listed in Table 7.

Additionally, all native birds are protected under the MBTA, while additional protectors for raptors are afforded under the California Fish and Game Code. The Project site supports potential nesting habitat for several special-status birds, including great blue heron, great egret, white-tailed kite, Cooper's hawk, Swainson's hawk, yellow-billed magpie, or other protected raptor nests. If present, the construction noise could result in harassment to nesting individuals and may temporarily disrupt foraging activities. Moreover, construction activities may remove vegetation that would support nesting birds. The large trees within the Project area support potential roosting habitat for several special-status bats, including *Yuma myotis*, hoary bat, Western red bat, and Townsend's big-eared bat. If present, construction activities could result in disturbance and/or removal of roosting habitat.

Any in-water work on the pier substructure that could potentially increase sedimentation and/or turbidity in the Sacramento River and result in the spread of the New Zealand mud snail within the river, which could impact habitat for special-status fish species. Impacts to these species would be less than significant with the implementation of mitigation measures B-1 and B-2, described below, and H-1 in Section 4.9 Hydrology and Water Quality.

Pre-Construction Nesting Bird Survey and Dusk Emergence Bat Survey

Mitigation Measure

B-1 (Raley's Dock and Rice Mill Pier)

A. To avoid take of any special-status wildlife species protected under the CESA and/or any bird species protected under the MBTA and California Fish and Game Code, a pre-construction clearance survey for all potentially suitable habitat shall be conducted by a qualified biologist within 14 days prior to the onset of construction activities. If no nesting birds and/or special-

status wildlife species are found during the survey, site preparation and construction activities may begin.

1. If special-status wildlife species are found, consult with CDFW to develop appropriate exclusion methods. Methods for exclusion during construction may include monitoring to determine the extent of special-status wildlife activity on the site.

2. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW recommendations for buffer distances relative to the species identified. Once construction activities commence on-site, all nests will be continuously monitored by a qualified biologist to detect any behavior changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing the change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. Pre-construction nesting surveys are not required for construction activity outside the nesting season (February 1-August 31). The removal or trimming of trees within the Project area shall be conducted during the non-breeding season, i.e. between September 1 and January 31, to avoid impacts to nesting raptors, colonial water birds and other nesting special-status birds.

3. A qualified biologist shall conduct a dusk emergence bat survey (start 1 hour before sunset and last 3 hours), followed by a pre-dawn re-entry survey (start 1 hour before sunrise and last for 2 hours), in addition a daytime visual inspection of all potential bat roosting habitat near the Project site shall be included as part of the pre-construction clearance survey. Pre-construction surveys are required year-round for special-status bats. If roosting special-species bats are found on-site or adjacent to the Proposed Project during the surveys, the following measures shall be implemented with consultation with CDFW to reduce adverse impacts to special-status bats:

    a. Avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites.

    b. Clearing and grubbing adjacent to the roost site and lighting use near the roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.

    c. Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of the roost site shall be prohibited.

B. In addition, Worker's Awareness Training will be conducted prior to construction and include training materials and a briefing covering all sensitive species and habitats to further educate construction personnel regarding potential adverse effects to these resources. These training materials and briefings would include the laws and regulations that protect these resources and the consequences of non-compliance with those laws and regulations. A contact person shall be provided in the event that protected biological resources are discovered at the Project site or special-status species are adversely affected by the Proposed Project.

Special-Status Fish Species Protection

Mitigation Measure

B-2 (Raley's Dock and Rice Mill Pier)

A. In-water and near-water work shall be restricted to August 1 to October 31 in order to avoid vulnerable life stages. All construction work occurring within or along the banks of the river (e.g. pile driving, exploratory drilling, or levee drilling) shall occur at this time when most listed fish species are least likely to be impacted.

B. Conduct Worker's Awareness Training as described in MM B-1.

C. Prior to the commencement of and through the duration of in or near-water work, ensure that proper sediment controls and retention structures are effective and in place in order to validate that erosion, sediment, and turbidity controls and contingency measures are effective. This shall include implementation of the measures put forth in the Project's SWPPP or WPCP depending on the outcome of MM H-1.

D. Prior to the commencement of construction and through the duration of construction, prepare and implement a Spill Prevention Plan for potentially hazardous materials, as well as cleanup and reporting of spills. The Plan shall require the implementation of standard BMPs during construction to maintain water quality and control sedimentation such as:

   1. Store all equipment and materials at least 50 feet from the river unless the equipment is on established paved areas. If storage of equipment or materials within 50 feet of the river is necessary, a containment berm will be constructed around the equipment and materials. Staging and storing areas for equipment, materials, fuels, lubricants, and solvents will be located outside of the river channel and banks.

   2. Provide secondary containment for stationary equipment such as motors, pumps, generators, and compressors located within or adjacent to the Sacramento River. Any equipment (i.e., barge-mounted equipment) or vehicles driven or operated within or adjacent to the river will be checked and maintained daily to prevent leaks. Conduct maintenance and fueling in an area that meets the criteria outline in the Spill Prevention Plan.

   3. No fueling, cleaning or maintenance of vehicles or equipment, or placement of construction debris, spoils or trash should occur within 50 feet of the river unless it occurs in designated refueling/staging areas on existing paved surfaces with secondary containment in place. Refueling of barge-mounted equipment should occur at approved fuel locations. Contractor will inspect all equipment/vehicles for leaks prior to use and should inspected regularly during project inspection.

E. Report any incidence of take to the City of West Sacramento, USFWS and NMFS. If a listed species is observed injured or killed by project activities, contact the USFWS and NMFS within 48 hours.

F. Due to the presence of the CDFW-classified invasive New Zealand mud snail (*Potamopyrgu antipodarum*) within the Sacramento River and their potential to affect special status fish species, the following precautions shall be taken:

1. Train all project personnel in the identification, preventative measures, and physical and chemical cleaning methodologies for New Zealand mud snail prior to working on the project. Install CDFW informational posters at the project site and provide brochures and identification cards to all project personnel.

2. Establish a cleaning station on-site for the duration of the project that uses both physical and chemical cleaning methodologies and implement the preventative and treatment methodologies in accordance with CDFW. Inspect all waders, boots, gear, and other equipment for New Zealand mud snails after work in the Sacramento River. Designate a cleaning area for heavy equipment and vehicles, and clean all equipment before leaving the site in accordance with CDFW guidelines.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Sensitive habitats include those vegetation communities which are considered rare within the region, are considered sensitive by the State of California, and are listed as sensitive under local conservation plans. Sensitive habitats within the region are usually associated with rivers, low gradient streams, floodplains, and occasionally ponds and canals. The Project area contains two sensitive habitats: the riverbank riparian corridor and the Sacramento River.

Raley's Dock

The Raley's Dock Project site is located adjacent to a park and other urban land uses. The riparian corridor along the riverbank is highly disturbed and does not support sensitive habitat; however, there is potential for nesting habitat for protected birds and roosting habitat for special-status bat species. The Sacramento River does provide sensitive habitat for several special-status fish species listed in Table 7. The proposed replacement dock would float on the water and attach primarily to the existing piles. The only impacts to the Sacramento River would occur during construction-activities such as pile installation in the river, micropile installation on the levee, and other near-river construction work that could potentially affect water quality. Implementation of mitigation measure B-1 and B-2 would reduce any adverse effects to sensitive habitats to a less than significant level. Thus, a less than significant impact would occur. The Proposed Project would result in no additional restrictions to the potential movement within the water column. While some wildlife movement is expected, development of both Project sites would not adversely affect wildlife movement in the region.

Rice Mill Pier

The Rice Mill Pier Project site is located with a narrow riparian strand on the riverbank. Rehabilitation of the pier would be limited to the pier itself and a construction staging area located outside of the riparian habitat. The riparian strand could provide potential nesting habitat for protected bird species and roosting habitat for special-status bat species. Additionally, the Sacramento River does provide sensitive habitat for several special-status fish species listed in Table

7. As described in the Raley's Dock discussion above, implementation of mitigation measures B-1 and B-2 would reduce any adverse effects to sensitive habitats to a less than significant level. Thus, a less than significant impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Would the project 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?	☐	☒	☐	☐

Raley's Dock

The Proposed Project occurs within the Sacramento River. Work within the Sacramento River is regulated by Section 10 of the Rivers and Harbors Appropriation Act and/or the Clean Water Act. Section 10 "prohibits the unauthorized obstruction or alteration of any navigable water of the U.S" (USACE 2013). The Proposed Project would impact navigable Waters of the U.S. during construction activities. Potential impacts to the Sacramento River would be less than significant with the implementation of Mitigation Measure B-3, described below.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur with the implementation of Mitigation Measure B-3.

Sacramento River Avoidance and Minimization Measures

Mitigation Measure

B-3 (Raley's Dock and Rice Mill Pier)

A. The City or its designee shall prepare and submit a preconstruction notification (PCN) under Nationwide Permit 3 to the United States Army Corps of Engineers (USACE). The PCN shall include a delineation of waters according to the "ordinary high water mark" (OHWM) as defined by the USACE. Based on the design, the PCN shall include a detailed description of the potential impacts or fill that will be necessary to implement the project.

B. Upon authorization under the Nationwide Permit, the Proposed Project shall be implemented in accordance with the measures stipulated by the Nationwide Permit. These measures will likely include:

    1. Avoidance and minimization of sediment transport during vibratory pile driving activities

    2. Timing of pile driving activities

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project 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?	☐	☒	☐	☐

Raley's Dock

The Raley's Dock Project site is located within the Sacramento River and on the adjacent riverbank. The narrow riparian corridor along the riverbank supports minimal wildlife movement during daylight hours due to human presence. The River Walk Park and other urban land uses are directly adjacent to the riparian corridor, and these land uses do not provide suitable terrestrial habitat that would support wildlife movement. Several special-status fish species use the Sacramento River for migration and/or juvenile rearing life stages. There are several existing steel piles in the Sacramento River, and the additional piles needed for the gangway, floating docks, and debris deflector boom would be similar to the existing piles. The new piles, debris deflector boom, and floating docks would not block substantial portions of the river and would not result in restrictions to the potential movement of fish within the water column. As discussed in item a), there could be potential impacts to special-status fish species during short-term construction-related activities; however, impacts would be less than significant with the implementation of mitigation measures B-2 and B-3.

Rice Mill Pier

The Rice Mill Pier Project site is located within the Sacramento River and on the adjacent riverbank. The narrow riparian corridor along the riverbank supports minimal wildlife movement during daylight hours due to human presence. The River Walk Trail, graded undeveloped lots, and other urban land uses are directly adjacent to the riparian corridor, and these land uses do not provide suitable terrestrial habitat that would support wildlife movement. As described in the Raley's Dock discussion above, several special-status fish species use the Sacramento River for migration and/or juvenile rearing life stages. Rice Mill Pier is an existing structure and the piles and substructure within the water column would remain and there would be no additional piles or structures; therefore, the pier would not result in restrictions to the potential movement of fish within the water column. As discussed in item a), there could be potential impacts to special-status fish during short-term construction-related activities; however, impacts would be less than significant with the implementation of mitigation measure B-2 and B-3.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site consists of the Sacramento River and the adjacent riverbank with a narrow riparian corridor along the steep bank. The riparian corridor would not be affected by the proposed floating docks, gangway, and access ramp. No trees would be removed and the only

vegetation removal consists of the debris around the existing piles. The proposed replacement dock would not conflict with any local policies or ordinances protecting biological resources including the City of West Sacramento General Plan and the City of West Sacramento Tree Preservation Ordinance. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site consists of the Sacramento River and the adjacent riverbank with a narrow riparian corridor along the steep bank. The riparian corridor would not be impacted by the rehabilitated pier. As stated in Section 2.4 Project Characteristics, a Vegetation Management Plan is in the process of being implemented along the riverbank where the Rice Mill Pier Project site is located. This Plan includes removal of trees and existing vegetation around and under the pier. The Proposed Project would not conflict with any local policies or ordinances protecting biological resources including the City of West Sacramento General Plan and the City of West Sacramento Tree Preservation Ordinance. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Would the project 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 Yolo Natural Heritage Program (NHP) consists of the Yolo County Natural Community Conservation Plan (NCCP), the Habitat Conservation Plan (HCP) and the Local Conservation Strategy. The primary goals of the NHP is to obtain authorization for the incidental take of species under the Environmental Species Act (ESA) and NCCP Act for a variety of public and private activities that occur or are likely to occur within Yolo County. The City of West Sacramento is within Planning Unit 21 under the NHP. The NHP impact analysis assumes full build out of the entire planning area and covers implementation of the proposed City of West Sacramento 2014 General Plan Update (JPA 2013).

Raley's Dock

The Yolo NHP has not been officially adopted and put into effect. However, the Proposed Project is consistent with the City of West Sacramento's General Plan and would therefore be considered covered activities under the proposed NHP. The Proposed Project would not conflict with any applicable HCP or NCCP. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above.

4.5 Cultural Resources

4.5.1 Environmental Setting

Cultural Resources

A Cultural Resources Inventory Report was prepared by ECORP Consulting, Inc. (ECORP 2013b, Appendix B) for the Proposed Project to determine if cultural resources were present in or adjacent to the Project areas and assess the sensitivity of the Project areas for undiscovered or buried cultural resources. The cultural context of the Project areas including regional and local prehistory, ethnography, and regional and Project area histories can be found in the report in Appendix B.

The analysis of cultural resources was based on a records search, literature review, and a field survey. The records and literature search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University on December 12, 2013 for records in Yolo County, and at the North Central Information Center (NCIC) of the CHRIS at California State University-Sacramento on October 22, 2013 for records in Sacramento County. The literature search included the results of previous previously prepared records of sites within a 0.5-mile radius and surveys within a 0.25-mile radius of the Project area. The records search revealed more than 70 cultural resource studies had been conducted within a 0.25-mile radius, with eight previous cultural resource investigations containing a portion of the current Project area. The studies consist of both terrestrial and riverine (underwater) surveys.

A search of the Sacred Lands File by the NAHC revealed no Native American cultural resources in the Project area.

Though several resources are located nearby, no previously recorded cultural resources are located within the Project area.

<u>Raley's Dock</u>

The Raley's Dock Project site is approximately 0.75 mile north of the Rice Mill Pier Project site (Figure 2. *Project Location*). The Raley's Dock Project site is located within a landscaped park-like setting along the crest and slopes of the western levee on the Sacramento River; approximately 500 feet north of Tower Bridge and immediately adjacent to the Ziggurat building to the west and the CalSTRS building to the north. Access to Raley's Dock is provided by the River Walk Trail along the western bank of the Sacramento River. The land surrounding the Project area consists of several commercial buildings including the Ziggurat building and the CalSTRS headquarters.

A field survey was carried out on October 31, 2013. The entire Raley's Dock Project area was subject to an intensive pedestrian survey. No cultural resources were observed within the staging area, or near the areas of the pilings on land or in the water. The pilings and piers in the water were determined to not be old enough to be considered cultural resources. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

<u>Rice Mill Pier</u>

The Rice Mill Pier Project site is located along the crest and slopes of the western levee of the Sacramento River, approximately 400 feet north of Pioneer Bridge. Access to Rice Mill Pier is provided by Mill Street and Riverfront Street, and the River Walk Trail along the western bank of the

Sacramento River. The land surrounding the Rice Mill Pier Project site was historically used as an industrial area, but all surrounding buildings have been removed within the last ten years. The land surrounding the Rice Mill Pier now consists of newly paved roads and graded landscapes in preparation for future development.

A field survey was conducted on October 31, 2013. The Rice Mill Pier Project area was surveyed in three transects: above the levee, on the River's shore, and along the slope of the levee. The area on top of the levee consisted of a flat surface and partially built-up graded, graveled, and paved path. No cultural resources were observed within the staging area. The area along the shore contained a large amount of modern refuse from previous and currently residing transients. As a result of the survey, the Rice Mill Pier was identified and recorded as a historic-era resource (Field number RAL-001). No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

An addendum to the Cultural Resources Inventory Report was completed by ECORP Consulting, Inc. on January 29, 2014 (Appendix C). The addendum is an evaluation of the Rice Mill Pier for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). The addendum provides supplemental historical and regulatory context to the original Inventory Report (2013) to satisfy CEQA and NEPA requirements for the evaluation of the Rice Mill Pier.

Paleontological Resources

A paleontological assessment was prepared by ECORP Consulting, Inc. (ECORP 2013c, Appendix D) for the Proposed Project to determine if paleontological resources were present in or adjacent to the Project area and assess the sensitivity of the Project area for undiscovered paleontological resources. The University of California Museum of Paleontology (UCMP) database results, more details about the Project area's geology, and the probability of finding fossil specimens can be found in the assessment in Appendix D.

A paleontological database search of the paleontology locality and specimen collection records for the Project areas and surrounding areas (0.5 mile radius) was requested from the UCMP in November 2013. Additional information from a query of the UCMP online catalog records, a review of regional geologic maps from the California Geological Survey, and a review of existing literature on paleontological resources of Yolo County was used to provide information about paleontological resources.

Raley's Dock

The eastern portion of Yolo County, where the Proposed Project is located, is in the Great Valley province and is directly underlain by Quaternary deposits. The underlying geologic feature for the Project area is classified as levee and channel deposits (Qa). It is further described as alluvium, lake, playa, and terrace deposits (Q) that are unconsolidated and semi-consolidated. These deposits are mostly non-marine (ECORP 2013c, Appendix D). The Soil Resource Report for Yolo County, California indicates that the soil on-site is classified as Lang sandy loam. Lang sandy loam (La) is considered an alluvial fan with the parent material/restrictive layer over 80 inches (approximately 6.6 feet) below the surface and classified as mixed alluvium. This soil type is a mixture of sandy loam in the upper layer with sand and silt loam in the middle and lowest layers (ECORP 2013c, Appendix D).

The eastern portion of Yolo County, where the Proposed Project is located, is in the Great Valley province and is directly underlain by Quaternary deposits. The youngest of these deposits, such as the levee and channel deposits, which are exhibited within the Project area, are of Holocene age, are unlikely to contain paleontological resources, and have low potential for yielding significant fossils. Older Pleistocene deposits, including the Riverbank and Modesto Formations, are considered to have high potential for yielding significant fossils, but do not occur at the ground surface within the Project area.

A query of the UCMP online catalog records for Yolo County resulted in no fossil specimens catalogued in or around the Project area.

Rice Mill Pier

Please see Raley's Dock discussion above.

4.5.2 Regulatory Setting

Cultural Resources Obligations Under CEQA

CEQA (Title 14, CCR, Article 5, Section 15064.5) applies to cultural resources of the historic and prehistoric periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant impact on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Therefore, to meet the regulatory requirements of the Project, a cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within CEQA (Pub. Res. Code § 21000 et seq.). The purpose of the survey was to identify cultural resources that, after evaluation, may be considered significant and, therefore, deemed to be "Historical Resources," as defined by CEQA.

An Historical Resource, for the purpose of CEQA, is a cultural resource that 1) is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission; 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k); 3) has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or 4) is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)]. In making this determination, the CEQA lead agency usually applies the CRHR eligibility criteria.

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, cultural resources eligible for listing on the National Register of Historic Places (NRHP) (36 CFR 60.4) are considered "Historic Properties" under 36 CFR Part 800 and are automatically eligible for the CRHR. The eligibility criteria for the NRHP are closely aligned with those of the CRHR.

In addition, the eligible resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts to a Historical Resource are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].

In order to reduce or avoid significant impacts to historical resources under CEQA, mitigation measures may be developed. The Lead Agency is responsible for ensuring compliance with mitigation measures. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, Mitigation Monitoring or Reporting, "the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

4.5.3 Cultural Resources (V.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐

Raley's Dock

No cultural resources were identified in the Project area as a result of the records search and field survey. Please see the Rice Mill Pier discussion below regarding impacts from unanticipated discovery. A less than significant impact would occur with Mitigation Measure C-1.

Rice Mill Pier

The Proposed Project would repair and rehabilitate the Rice Mill Pier (RAL-001), which was evaluated using CRHR and NRHP eligibility criteria to determine whether it is a Historical Resource, as defined by CEQA [CCR Title 14, Section 15064.5(a)] and/or a Historic Property, for the purposes of Section 106 of the National Historic Preservation Act (NHPA). The evaluation of RAL-001 was carried out by a qualified architectural historian and was based on the results of focused archival research and evaluation resulting in a determination of eligibility by the CEQA lead agency (City of West Sacramento) with SHPO consultation under Public Resources Code Section 5024 and 5024.5.

The Rice Mill Pier (RAL-001) does not satisfy any of the significance criteria of the CRHR or NRHP and does not retain sufficient integrity of association, setting, or feeling. Therefore, site RAL-001 is recommended not eligible to the NRHP or the CRHR under any criteria, and is not considered a Historical Resource under CEQA or a Historic Property under the NHPA.

Because the City is leasing the land from the State Lands Commission, the pier represents a state-owned resource. Accordingly, the State Lands Commission will be required to consult with SHPO under Section 5024 of the State Resources Code on the results of the evaluation of the Rice Mill Pier. Consultation and concurrence from SHPO would be required prior to certification of this CEQA document.

Additional consultation with SHPO would be required, should a federal undertaking (permits) include the pier in its Area of Potential Effects under Section 106 of the NHPA.

There always remains a possibility that unrecorded cultural resources are present beneath the ground surface, and that such resources could be exposed during Project construction. CEQA requires the Lead Agency to address any unanticipated cultural resource discoveries during Project construction. Mitigation Measure C-1 would reduce potential adverse impacts to less than significant with mitigation incorporated.

Unanticipated Discovery

Mitigation Measure

C-1 (Raley's Dock and Rice Mill Pier)

A. If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 100-foot radius of the discovery and the City of West Sacramento must be contacted regarding the find. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. A Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, shall be required if the nature of the unanticipated discovery is prehistoric. A marine archaeologist shall be required if the location of the find is below the surface.

B. Work cannot continue within the no-work radius until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR.

C. If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and Project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.

D. In the event that evidence of human remains is discovered, construction activities within 100 feet of the discovery will be halted or diverted and the requirements of this mitigation measure will be implemented. In addition, the provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and AB 2641 will be implemented. When human remains are discovered, state law requires that the discovery be reported to the County Coroner (Section 7050.5 of the Health and Safety Code) and that reasonable protection measures be taken during construction to protect the discovery from disturbance (AB 2641). If the Coroner determines the remains are Native American, the Coroner notifies the Native American Heritage Commission which then designates a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the Public Resources Code). The designated MLD then has 48 hours from the time access to the property is granted, to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the

MLD, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).

E. In the event that fossils are encountered, a representative sample shall be collected and analyzed by a qualified professional paleontologist to a point of identification and curated at an established accredited museum repository with permanent retrievable paleontological storage. A technical report of findings shall be prepared with an appended itemized inventory of identified specimens and submitted with the recovered specimens to the curation facility.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Raley's Dock

According to the cultural resources inventory report (ECORP 2013b, Appendix B), no archaeological resources were found within the Project area during the records search and field survey. The absence of visible cultural resources within the Project Areas does not preclude the potential for buried or submerged resources, which may not be readily identifiable to contractors. Therefore, in addition to Mitigation Measure C-1, a contractor awareness training program would contribute to the measures to address unanticipated discoveries during construction. A less than significant impact to buried resources, if present, would occur with implementation of Mitigation Measures C-1 (see item a) discussion above) and C-2.

Rice Mill Pier

Please see Raley's Dock discussion above. A less than significant impact to buried resources, if present, would occur with implementation of Mitigation Measures C-1 (see item a) discussion above.) and C-2.

On-Site Awareness Training

Mitigation Measure

C-2 (Raley's Dock and Rice Mill Pier)

A contractor awareness training program will be developed by a Registered Professional Archaeologist with demonstrated experience in the Project Area. The training program will be composed of a set of flyers, posters, and forms that will provide the contractors with: (a) a clear awareness of the potential for subsurface cultural and paleontological resources; (b) a prescribed process to follow in case of an inadvertent discovery of subsurface or submerged archaeological materials; and, (c) prescribed measures to follow in order to protect any

unanticipated discovery of subsurface archaeological materials. The training materials will be approved by the Lead Agency before distribution. All contractor foremen and supervisors will be responsible for receiving the training from a Registered Professional Archaeologist, and proof of attendance at the training will be provided to the City in the form of attendance sheets. The foremen and supervisors will be responsible for disseminating the training to employees and subcontractors working on the project. A copy of the training materials must also be posted in a visible place in the job trailers throughout the duration of the project construction.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Raley's Dock

According to the paleontological assessment (ECORP 2013c, Appendix D), the Proposed Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Impacts to paleontological resources would be less than significant with the implementation of Mitigation Measures C-1 and C-2. See the discussion for items a) and b) above.

Rice Mill Pier

Please see the Raley's Dock discussion above.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Raley's Dock

According to the cultural resources inventory report (ECORP 2013b, Appendix C), a search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources within the Proposed Project area. While there is no reason to suspect the presence of human remains in the Project area, it is possible that currently unknown remains may occur. In the event that evidence of human remains is discovered the requirements of mitigation measures C-1 and C-2 would be implemented. The Proposed Project would have less than significant impacts with the incorporation of Mitigation Measures C-1 and C-2. See the discussion for items a) and b) discussion above.

Rice Mill Pier

Please see the Raley's Dock discussion above.

4.6 Geology and Soils

4.6.1 Environmental Setting

Geomorphic Setting

The Raley's Dock Project site and the Rice Mill Pier Project site are both located within the City of West Sacramento that lies within the Sacramento Valley. The Sacramento Valley region includes part of the Central Valley and is bordered by the Sierra Nevada on the east, the Cascade Range on the northeast, and the northern Coast Ranges on the west. It extends from Red Bluff, approximately 30 miles south of Redding, to the mouth of the Sacramento River at Suisun Bay, a distance of 240 miles by river (USGS 1961).

The Sacramento Valley is mostly comprised of sedimentary material brought in from the adjacent uplands by the Sacramento River and its tributaries. The Valley floor slopes southward from an altitude of nearly 300 feet at the north end to sea level at Suisun Bay.

Regional Seismicity and Fault Zones

The City of West Sacramento is located in the Central Valley geomorphic province in one of the least active seismic regions in California. No active or potentially active faults have been mapped within the City. The nearest active faults are the Calaveras (50 miles east), the Hayward (60 miles west), and the San Andreas (80 miles west). The City is not located within an Alquist-Priolo Earthquake Fault Zone (City of West Sacramento 2000). The closest Fault-Rupture Hazard Zone is associated with the Green Valley Fault located approximately 40 miles from the site, although the nearest active fault is the Dunnigan Hills fault located approximately 18 miles northwest of the Planning Area (DOC 1992; City of West Sacramento 2009c).

Due to the regional seismicity of the City West Sacramento, the Project areas are not anticipated to experience significant seismic activity; however, seismic activity in neighboring regions does suggest that the City of West Sacramento area could be affected by future activity in those regions (City of West Sacramento 2000).

Soils

There are seven soil series identified in the 1972 Soil Survey of Yolo County for City of West Sacramento (City of West Sacramento 2000). Most of these soils are loams. One soil type has been identified within the Project Area: Lang Sandy Loam (La). This soil is a somewhat poorly drained sandy loam derived from a mixed alluvium found along the toe and base slopes of alluvial fans (ECORP 2013b).

A preliminary subsurface material assessment was conducted by Taber Drilling. Based on boring encounters from locations near the Project area, it can be expected that the site is underlain by a sequence of sandy alluvium with varying quantities of gravel, silt and clay. In general the borings in the channel upstream of the site indicate that the channel is composed of loose to compact sand with varying quantities of gravel in the upper 15± feet. Below this upper layer the alluvium becomes denser increasing in consistency to dense to very dense by approximately 50± feet depth below

channel bottom. A boring made in the levee adjacent to the Raley's Dock Project site (approximately 600 feet upstream) indicates a similar profile of semi-compact sand near channel bottom elevation (estimated as -10 feet) to elevation 30 feet with dense sands and gravels to elevation -61 feet. It can be expected that the soil profiles at the Project sites would be similar to this generalized profile, but that variations in layer thickness and layers of silt and/or clay may be present (Taber Drilling 2014).

4.6.2 Geology and Soils (VI.) Environmental Checklist and Discussion

a) Would the project 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 Division of Mines and Geology Special Publication 42.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
	☐	☒	☐	☐
ii) Strong seismic ground shaking?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	☐	☒	☐	☐
iv) Landslides?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	☐	☐	☒	☐

Geology and Soils a) i and ii)

Raley's Dock

The Raley's Dock Project site consists of existing steel piles on the Sacramento River and the adjacent levee access. The Project site is not located in a Fault-Rupture Hazard Zone. As stated in Section 4.6.1 Environmental Setting, the closest Fault-Rupture Hazard Zone is associated with the Green Valley Fault located approximately 40 miles from the site, although the nearest active fault is the Dunnigan Hills fault located approximately 18 miles northwest of the Planning Area (DOC 1992; City of West Sacramento 2009c). The potential for primary surface ground rupture within the site is remote due to the absence of known active faults crossing the site. A less than significant impact

would occur with the implementation of Mitigation Measure G-1. Please note, the Exploration Barge Anchoring and Operating Procedures and the Water Pollution Control/ Spill Contingency Plan discussed below in Mitigation Measure G-1 are provided in Appendix E of this document.

Rice Mill Pier

The Rice Mill Pier Project site consists of an existing pier on the Sacramento River. The Project site is not located in a Fault-Rupture Hazard Zone. As stated in Section 4.6.1 Environmental Setting, the closest Fault-Rupture Hazard Zone is associated with the Green Valley Fault located approximately 40 miles from the site, although the nearest active fault is the Dunnigan Hills fault located approximately 18 miles northwest of the Planning Area (DOC 1992; City of West Sacramento 2009c). The potential for primary surface ground rupture within the site is remote due to the absence of known active faults crossing the site. A less than significant impact would occur.

Site Specific Geotechnical Design Recommendations

Mitigation Measure

G-1 (Raley's Dock)

A. Prior to the commencement of construction activities, a geotechnical investigation shall be conducted for the Proposed Project to obtain information on the physical properties of soil and rock around the Project site, including surface and subsurface exploration, and provide recommendations for site and structure design based on information obtained.

B. The subsurface investigation at the Project site shall consist of making a total of four logged and sampled borings to depths of 60 to 80 ±feet below the river bottom at the Raley's Dock Project location using a barge drill rig (over water). One logged and sampled boring will be located onshore near the proposed new walkway near the crown of the existing levee (50 to 80 ±foot depth). The subsurface investigation shall comply with all requirements of the Exploration Barge Anchoring and Operating Procedures and the Water Pollution Control/ Spill Contingency Plan.

    1. The borings shall be drilled using a CME-45 geotechnical exploration drill that operates with environmentally friendly "Clarity" (vegetable) hydraulic oil. Drilling from the floating drill platform shall be accomplished with a closed rotary system. Drill fluids shall be pumped through the steel drill casing only after it has been securely "set" into subsurface soils, to preventing leakage into open water

    2. At one of the over water borings a casing shall be set to allow for seismic (acoustic) testing of one of the existing piles to help determine the length of existing steel pipe piles.

    3. The sampled borings shall identify the soils typical of the site and obtain samples for laboratory testing. This data from the investigation shall be used to perform liquefaction analysis and provide an assessment of the existing piles and recommendations for new pile axial and lateral capacities to be used for final design of the Proposed Project.

    4. At completion of operations, the drill fluids (muddy water, soil cuttings and, perhaps, bentonite clay) remaining on the barge deck shall be pumped into 55-gallon drums, taken to shore, and disposed of at approved on-site disposal locations

C. The investigation findings and recommendations shall be summarized in a site-specific geotechnical engineering report. The site-specific geotechnical, soils, and foundation investigation report shall be prepared by a licensed geotechnical engineer experienced in construction methods on similar locations. The report shall provide site-specific construction methods and recommendations regarding piles and other foundation elements and seismic safety. Elements of the Proposed Project shall be designed and constructed in accordance with the recommendations of the geotechnical report and the current California Building Code.

D. The Project Engineer and Contractor shall comply with all recommendations in the geotechnical engineering report.

Geology and Soils a) iii)

Raley's Dock

Liquefaction is a phenomenon where water-saturated granular soil loses shear strength during strong ground shaking produced by earthquakes. The loss of soil strength occurs as a consequence of cyclic pore water pressure increases below the groundwater surface. Potential hazards due to liquefaction include loss of bearing strength beneath structures, possibly causing foundation failure and/or significant settlements and differential settlements.

The City of West Sacramento is theoretically subject to liquefaction due to earthquake caused shaking; however, this is relatively low and it is unlikely that significant liquefaction would occur. (West Sacramento 2000) As described above under items i and ii), implementation of Mitigation Measure G-1 would reduce impacts to a less than significant level.

Rice Mill Pier

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; and the existing piles would be reused. The proposed rehabilitation of the pier would not result in changes to the existing structure that could increase the potentially for liquefaction. Additionally, as described above, the potential for liquefaction to occur in the Project area is relatively low. Thus, a less than significant impact would occur.

Geology and Soils a) iv)

Raley's Dock

The Raley's Dock Project site consists of existing steel piles on the Sacramento River and the adjacent levee access. The USGS Landslide Hazards map was used to identify possible landslide problem areas. The Project site is listed as having low landslide susceptibility (Yolo County 2009). This impact is considered less than significant.

Rice Mill Pier

The Rice Mill Pier Project consists of an existing pier on the Sacramento River. The USGS Landslide Hazards map was used to identify possible landslide problem areas. The project site is listed as having low landslide susceptibility (Yolo County 2009). This impact is considered less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐

Raley's Dock

The Raley's Dock Project site consists of existing steel piles on the Sacramento River and the adjacent levee access. The Proposed Project would be replacing a previously existing dock, which would include installation of 18 new piles in the river and 34 micropiles into the levee. As stated in Section 4.9 Hydrology and Water Quality, all construction projects over 1 acre require a SWPPP to be prepared and implemented during construction. Construction activities less than 1 acre require a Water Pollution Control Program. The Proposed Project is located in a planning area where the major soil units found have an erosion hazard potential of none to slight (City of West Sacramento 2009c). During construction, Best Management Practices (BMPs) from the SWPPP or Water Pollution Control Program would be implemented, as described in Mitigation Measure H-1, to minimize potential erosion or siltation from the Project during and after construction. Soil erosion impacts would be reduced to a less than significant level.

Rice Mill Pier

The Rice Mill Pier Project site consists of an existing pier on the Sacramento River. The Proposed Project would rehabilitate the pier to make it open for public use. Please see the Raley's Dock discussion above. During construction Best Management Practices from the SWPPP or Water Pollution Control Program would be implemented, as described in Mitigation Measure H-1, to minimize potential erosion or siltation from the Project during and after construction. Soil erosion impacts would be reduced to a less than significant level.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐

Raley's Dock

The Raley's Dock Project site consists of the Sacramento River and the adjacent riverbank. One soil type was found at the project site: Lang Sandy Loam (La). This soil is somewhat poorly drained sandy loam with a low shrink swell potential derived from a mixed alluvium found along the toe and base slopes of alluvial fans (ECORP 2013b). The City is theoretically subject to liquefaction due to earthquake-caused shaking; however, the chance of this occurring is relatively low and it is unlikely that significant liquefaction would occur. As described above under items i and ii), implementation of Mitigation Measure G-1 would reduce impacts to a less than significant level.

Rice Mill Pier

Please see the discussion under item a) iii), a less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (2013), creating substantial risks to life or property?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site consists of the Sacramento River and the adjacent riverbank. One soil type was found at the project site: Lang Sandy Loam (La). This soil is somewhat poorly drained sandy loam with a low shrink swell potential; derived from a mixed alluvium found along the toe and base slopes of alluvial fans (ECORP 2013b). Expansive soils are not located on the site. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site consists of the Sacramento River and the adjacent riverbank. Please see the Raley's Dock discussion above. Expansive soils are not located on the site and no impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Would the project 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?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site consists of existing steel piles on the Sacramento River and the adjacent levee access. The Proposed Project would be replacing a previously existing dock and would not include septic tanks and alternative waste systems. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project consists of an existing pier on the Sacramento River. The Proposed Project would rehabilitate the pier to make it open for public use and would not include septic tanks and alternative waste systems. No impact would occur.

4.7 Greenhouse Gas Emissions

4.7.1 Environmental Setting

The main source of greenhouse gas (GHG) emissions associated with the Proposed Project would be combustion of fossil fuels during short-term construction activities. The generation of GHG emissions has the potential to affect climate on a global scale. Pursuant to AB 32, the California Air Resources Board (CARB) prepared and adopted the Climate Change Scoping Plan. The Climate Change Scoping Plan outlines the State's strategy to achieve the year 2020 GHG emissions limits specified in AB 32. The Climate Change Scoping Plan includes a comprehensive set of actions designed to reduce overall GHG emissions in California.

4.7.2 Greenhouse Gas Emissions (VII.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Raley's Dock

As previously stated in Section 4.7.1 Environmental Setting, the main source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during short-term construction activities. The construction phase of the Proposed Project would be temporary, but would result in GHG emissions from the use of heavy construction equipment and construction-related vehicle and barge trips.

Long-term operation and maintenance of the Proposed Project would not generate new vehicle trips, would not geographically re-distribute vehicle travel, and would not result in a change in stationary source emissions. Therefore, the Proposed Project would not result in a change in operational GHG emissions. Impacts would be less than significant.

Rice Mill Pier

Please see the Raley's Dock Discussion above. Impacts would be less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

As previously stated in the Environmental Setting, pursuant to AB 32, CARB prepared and adopted the Climate Change Scoping Plan. The Climate Change Scoping Plan outlines the State's strategy to achieve the year 2020 GHG emissions limits specified in AB 32. The Climate Change Scoping Plan includes a comprehensive set of actions designed to reduce overall GHG emissions in California. However, CARB has not yet determined the amount of GHG reductions it recommends from local

government operations. The Climate Change Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined.

The YSAQMD has several programs to reduce pollutants that contribute to global climate change and affect air quality in the SVAB. The programs include education and outreach, local, regional, and statewide incentive and compliance programs that assist in reducing emissions of GHG and air pollutants that affect the health of residents.

Raley's Dock

The Proposed Project would not conflict with AB 32, or other applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases because the total construction GHG emissions estimated for the Proposed Project would be below the YSAQMD significance thresholds. Furthermore, the Proposed Project would only generate construction-related emissions, which would be temporary. The Proposed Project would not have an effect on long-term operational emissions. No impacts from conflicts with applicable plans, policies, or regulations would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impacts from conflicts with applicable plans, policies, or regulations would occur.

4.8 Hazards and Hazardous Materials

4.8.1 Environmental Setting

Raley's Dock

The Raley's Dock Project site is located on the Sacramento River, about 500 feet north (upriver) of Tower Bridge. The Ziggurat building is located immediately adjacent to the Raley's Dock Project site on the west and the CalSTRS building is just north of the Ziggurat. The River Walk Trail runs along the top of the riverbank where the access ramp is located. The Project site is not located on any federal, state, or local hazardous environmental databases (DTSC 2013).

Rice Mill Pier

The Rice Mill Pier Project site is located on the Sacramento River, about 400 feet north (upriver) of the Pioneer Bridge. The Project site and surrounded area was historically used by the rice industry for storage and transport of rice. The Project site is surrounded by undeveloped land planned for urban mixed use development and the River Walk Trail runs along the top of the levee where the pier connects. The Project site is not located on any federal, state, or local hazardous environmental databases (DTSC 2013).

DTSC Hazardous Waste and Substances Sites

There are several sites located within the Project vicinity that are listed on the DTSC Hazardous Waste and Substances Site List. Table 8 below provides a list of DTSC Hazardous Waste and Substances Sites within the Project vicinity.

Table 8. DTSC Hazardous Waste and Substances Site List

Project Name	Project Type	Status	Location
Capitol Plating Corporation	State Response	Backlog	319 3rd Street West Sacramento, CA
Elkhorn Village Elementary School	School Investigation	No action required	750 Cummins Way West Sacramento, CA
Proposed K-8 Fundamental Academy	School Investigation	Inactive, needs investigation	NW Corner of Lighthouse and Fountain Drives West Sacramento, CA
Sacramento Stucco Co.	Voluntary Cleanup	Inactive, action required	860 Riske Lane West Sacramento, CA
Van Waters and Rogers, Inc.	Evaluation	Refer to RWQCB	850 South River Road West Sacramento, CA
Westco Technologies	Evaluation	Refer to RWQCB	801 South River Road West Sacramento, CA
Sacramento Engineering Depot-previous USACE property, storage area for military supplies	Military Evaluation	Inactive, needs evaluation	Near Riverfront Drive West Sacramento, CA

Source: California Department of Toxic Substances Control, Envirostor Hazardous Waste and Substances Site List (2013).

As stated in Section 4.9 Hydrology and Water Quality, all sections of the Sacramento River are listed on the 303(d) list for unknown toxicity while the section from Knights Landing to the Delta is also listed for mercury. Mercury is primarily a legacy of gold mining, while pesticides are primarily from agricultural return flows and urban use. Pesticide levels are expected to be on the decline as nonagricultural unrestricted use has been phased out by the EPA (City of West Sacramento 2013a).

Sensitive Receptors

There are no schools located within 0.25 mile of the Project area. However, there are five schools located within 1 mile of either of the Project sites: Elkhorn Village Elementary, Westmore Oaks Elementary, West Oaks North, West Sacramento Early College Charter School, and Yolo High School Continuation (City of West Sacramento 2009c).

According to the *Sacramento Airport Land Use Compatibility Plan*, the City is within the Airport Influence Area for the Sacramento International Airport (SACOG 2013). In addition, the City is within the flight path of Sacramento Executive Airport, Mather Airport, and McClellan Airport. Sacramento International Airport is approximately 9 miles northwest of the Project area, Sacramento Executive Airport is approximately 5 miles southeast of the Project area, Mather Airport is approximately 12 miles east of the Project area, and McClellan Airport is approximately 9 miles northeast of the Project Area. There are also frequent military plane flights over the area from the Travis Air Force Base located west of the Project area in Fairfield.

4.8.2 Hazards and Hazardous Materials (VIII.)Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐

Raley's Dock

Construction activities could result in accidental release of hazardous substances such as fuel, oil, or other materials from construction equipment. Accidental releases of these hazardous substances could contaminate soils and surface or groundwater quality, and could become a risk to worker safety. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. Construction activities and storage for construction materials would be limited to the Project site and the associated construction staging areas (see Figure 3. *Raley's Dock Project Location* and Figure 5. *Raley's Dock Site Plan*).

The transportation of hazardous materials would be minimal and proper precautions would be followed to prevent harmful release of these materials. As stated in Section 4.9 Hydrology and Water Quality, a SWPPP or WPCP would be prepared depending on the determination of Mitigation Measure H-1. In addition, the implementation of Mitigation Measure B-2 (see 4.4 Biological Resources) would require a Spill Prevention Plan for the Proposed Project, which would reduce impacts associated with accidental release of hazardous materials during transport or use to a less than significant level. Additionally, public use activities would include boaters docking to the new floating docks. The transport and use of hazardous materials such as fuel and oil by boat is regulated by California Boating Law under the DBAW (DBAW 2012). However, the new dock would not result in a change in boating activity on the river above the existing conditions or introduce risk of accidental release of hazardous substances discussed above. Thus, a less than significant impact would occur.

Rice Mill Pier

As described in the Raley's Dock Discussion above, construction activities could result in accidental release of hazardous substances such as fuel, oil, or other materials from construction equipment; however, the transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. In addition, all construction and storage of construction materials would be limited to the Project site and the associated construction staging areas (see Figure 4. *Rice Mill Pier Project Location*). The transportation of hazardous materials would be minimal and proper precautions would be followed to prevent harmful release of these materials. As stated in Section 4.9 Hydrology and Water Quality, a SWPPP or WPCP would be prepared depending on the determination of Mitigation Measure H-1. In addition, the implementation of Mitigation Measure B-2 (see 4.4 Biological Resources) would require a Spill Prevention Plan for the Proposed Project, which would reduce impacts associated with accidental release of hazardous materials during transport or use to a less than significant level. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐

Raley's Dock

As described in item a), hazardous materials such as diesel fuel would be used at the Raley's Dock Project site during construction; however, transport of these materials would be regulated and precautions taken to prevent release of any materials. Additionally, to prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area during construction, BMPs listed in the SWPPP or WPCP would be implemented by the contractor. Mitigation Measure B-2 also requires the preparation of a Spill Prevention Plan which outlines general practices to prevent spills of hazardous materials into navigable waters during construction. The release of any potentially hazardous materials would be prevented through implementation of BMPs and Mitigation Measure B-2. Thus, a less than significant impact would occur.

Rice Mill Pier

As described in item a), hazardous materials such as diesel fuel would be used at the Rice Mill Pier Project site; however, transport of these materials would be regulated and precautions taken to prevent release of any materials. Please see the Raley's Dock discussion above regarding implementation of BMPs and Mitigation Measure B-2 to prevent the release of any potentially hazardous materials. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

Raley's Dock

Construction of the Proposed Project would require the use of common hazardous materials such as diesel fuel and lubricants. These materials would be handled consistent with state and federal regulations. As described in Section 4.8.1 Environmental Setting, the nearest schools to either Project site are approximately 1 mile away. There are no schools within 0.25 mile of both Project sites. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project 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?	☐	☐	☐	☒

Raley's Dock

A list of hazardous materials sites within the Project area is provided in Section 4.8.1 Environmental Setting, Table 8. There are no hazardous materials sites located directly adjacent to either of the Project sites. The Raley's Dock Project site is not listed on any federal, state, or local hazardous materials sites list (DTSC 2013). No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. The Rice Mill Pier Project site is not listed on any federal, state, or local hazardous materials sites list (DTSC 2013). No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

Raley's Dock

As described in 4.8.1 Environmental Setting, the nearest airport to the Raley's Dock Project site is Sacramento Executive Airport located approximately 5 miles southeast. The Raley's Dock Project site is not within 2 miles of a public airport or public use airport. No impact would occur.

Rice Mill Pier

As described in 4.8.1 Environmental Setting, the nearest airport to the Raley's Dock Project site is Sacramento Executive Airport located approximately 5 miles southeast. The Rice Mill Pier Project site is not within 2 miles of a public airport or public use airport. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

Raley's Dock

As stated in item e) the closest airport to both Project sites is 5 miles away. There are no private airstrips within 2 miles of either Project site. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock Discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g)	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Raley's Dock

The Proposed Project involves rehabilitation of an existing facility and would not have a long-term impact on traffic conditions. Construction would not involve any lane or road closures and would only generate short-term construction related traffic. The Proposed Project would not impact any emergency routes or facilities, or conflict with any emergency response plans or emergency evacuation plans. A less than significant impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
h)	Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Raley's Dock

The Raley's Dock Project site is designated a moderate hazard fire threat zone by the California Department of Forestry and Fire Protection (CALFIRE) and the City. The fire threat is designated by fire frequency or the likelihood of burning and the potential fire behavior (City of West Sacramento 2009c). The Proposed Project involves the replacement of a floating dock on the Sacramento River and does not involve residences. The proposed structures would be located on the Sacramento River and would not store gasoline or other materials that could potentially start a fire. The fire risk associated with the Proposed Project would be minimal. A less than significant impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is designated a moderate hazard fire threat zone by CALFIRE and the City (City of West Sacramento 2009c). The proposed rehabilitated pier does not involve residences and would not store gasoline or other materials that could potentially start a fire. The fire risk associated with the Proposed Project would be minimal. A less than significant impact would occur.

4.9 Hydrology and Water Quality

4.9.1 Environmental Setting

Regional Hydrology

The Sacramento River has many contributing tributaries upstream from the Sacramento Valley and flows southwest into the Sacramento-San Joaquin Delta. The Sacramento River is the dominant source of fresh water and sediment to the Delta, accounting for approximately 80 percent of annual freshwater inflows (Anderson 1994). The Sacramento River drainage basin is upstream of the American River confluence, slightly upstream from the Project area, and encompasses approximately 23,500 square miles. The monthly minimum, average, and maximum mean daily flows on the Sacramento River near Verona (upstream of the American River) and at Freeport (downstream of the American River) are presented in Table 9. The Proposed Project is located downstream of the American River watershed; as such, the Sacramento River at Freeport gage more closely reflects the actual flow at the Project location.

Table 9. Monthly Streamflow Statistics for Sacramento River at Verona and Sacramento River at Freeport

	Sacramento River at Verona[1] Station 11425500			Sacramento River at Freeport[2] Station 11447650		
	Minimum	Average	Maximum	Minimum	Average	Maximum
January	4,730	10,540	24,920	4,490	12,280	28,690
February	5,990	13,330	43,300	6,380	15,550	48,820
March	6,590	22,050	64,470	7,210	25,700	74,510
April	8,560	29,520	72,110	8,980	34,300	87,110
May	7,590	33,330	70,030	8,000	39,180	81,370
June	6,730	31,470	71,340	6,570	37,040	78,290
July	6,190	24,540	65,970	5,960	29,260	77,650
August	5,120	19,940	51,600	6,410	24,450	69,820
September	4,860	14,800	45,560	6,870	18,540	55,690
October	4,850	12,570	24,550	6,350	15,770	31,000
November	5,390	12,670	21,400	7,060	14,940	25,180
December	6,300	13,050	22,110	6,840	14,970	25,320

Source: USGS 2011. Available: <http://waterdata.usgs.gov/nwis/sw>.

[1] Flow in cubic feet per second (cfs) from October 1, 1945 to September 30, 2012 (Water Years 1946 through 2012).

[2] Flow in cfs for Water Years 1949 through 2012 (available period of record).

Climate

West Sacramento has a mild, Mediterranean-type climate. Mean annual temperature is a relatively mild 62.2°F. Maximum average annual temperatures during the summer range from 87.1°F to 93.1°F. Temperatures sometimes exceed 100° F. Winter temperature maximums vary from 54.5°F to 60.6°F. Average low temperatures in the winter range from 40.2°F to 43.7° F. Temperatures in the winter only occasionally drop below freezing (SCS 1972).

Average annual precipitation is about 18 inches, with approximately 80 percent of the total rainfall occurring between November and March. Cloud-free skies generally prevail throughout the summer months, and in much of the spring and fall. Thunderstorms are relatively infrequent, although occasionally occur in the late summer and other times of the year when unstable air masses are situated over the region. The highest rainfall generally occurs in January, when the average is about 4.2 inches of precipitation. The driest month is July, during which rainfall is rare.

Groundwater

The Proposed Project would be located within the Yolo Sub-basin of the Sacramento Valley Groundwater Basin. Groundwater depths within the Yolo Sub-basin range between 20 and 420 feet, and total storage capacity is roughly estimated at 6.5 million acre-feet (maf).

Groundwater quality found within the Yolo Sub-basin is characterized as a sodium magnesium, calcium magnesium, or magnesium bicarbonate type. The groundwater quality is considered good for both agriculture and municipal uses despite its elevated hardness (DWR 2004). Total dissolved solids range from 107 parts per million (ppm) to 1,300 ppm and average 574 ppm based on Title 22 data obtained from public supply water samples (DWR 2004).

Water Quality

The water quality of the Sacramento River at the Project sites is generally good to excellent, with relatively cool water temperatures, low biological oxygen demand (BOD), medium to high dissolved oxygen, and low mineral and nutrient content. The Sacramento River receives agricultural drainage that fluctuates seasonally; contains elevated levels of pesticide, herbicide, and fertilizer residues; and contains increased levels of sediment. Trace metal and synthetic organic compounds, some of which are potentially toxic, are found in sediments and fish tissues throughout the main stem of the river. Sources of these pollutants include historical and current practices, such as abandoned mining sites and industrial and municipal point-source discharges; and various non-point-source discharges, such as urban run-off and agricultural drainage return flows (City of West Sacramento 2013a).

Section 303(d) of the CWA requires the identification of water bodies that do not meet, or are not expected to meet, water quality standards (i.e., impaired water bodies) (CEPA 2013e). All sections of the Sacramento River are listed on the 303(d) list for unknown toxicity while the section from Knights Landing to the Delta is also listed for mercury, pesticides, and other organics (CEPA 2013e). Mercury is primarily a legacy of gold mining while pesticides are primarily from agricultural return flows and urban use. Pesticide levels are expected to be on the decline as the nonagricultural unrestricted use has been phased out by the EPA (City of West Sacramento 2013a).

Flooding

The Proposed Project would be constructed within Zone AE, the 100-year flood zone, as mapped in the Federal Emergency Management Agency Flood Insurance Rate Maps for Community-Panel Numbers 0607280005B (FEMA 2013). The hydrologic information described below for the Project reach is derived and summarized from Northwest Hydraulic Consultants (NHC 2007a).

Daily stream flow has been recorded at the Sacramento River at Verona gage (gage 11425500) by the U.S. Geological Survey (USGS) since 1929. The gage is upstream of the Project reach, at approximately River Mile (RM) 78.6. The Sacramento River at Sacramento (I Street) gage (gage 11447500) was operated by USGS from 1948 to 1979; it is now operated by California Department of Water Resources (DWR). The gage is located about 1,000 feet upstream of the I Street Bridge

and about 0.5 mile downstream of the American River confluence at RM 59.5. The Freeport gage (gage 11447650) is downstream of the Project reach, at about RM 46. The *West Sacramento Levee System: Problem Identification and Alternatives Analysis*, (NHC 2007b) document provides a detailed analysis of daily, seasonal, and peak flows at the I Street and Freeport gages.

Simulated peak flows in the Sacramento and American Rivers were provided by MBK Engineers (MBK 2008a) based on the Comprehensive Study Sacramento River UNET model (USACE 2002a, 2002b). In Table 10, the 100-year peak flow is based on a 145,000 American River peak flow and upstream Sacramento River levees overtopping without failing; the 200-year peak is based on 160,000 cubic feet per second (cfs) American River peak flow and the same levees overtopping without failing.

Table 10. Peak Flows for the Sacramento River

	Peak Flow (cfs)	
Location	**100-year**[1]	**200-year**[2]
Sacramento River at Verona Gage	117,500	142,600
Sacramento River at I Street	135,600	143,300
Sacramento River at Freeport Gage	135,200	143,000
American River at H Street	145,000	160,000

Source: MBK Engineers' Sacramento River UNET hydraulic model June 2008 simulations documented in *Supplemental Report for the City of West Sacramento Levee Alternatives Hydraulic Analysis—Draft*, August 6, 2008.

[1] Assumes levees overtop without failing; existing conditions and operations.

[2] Assumes levees overtop without failing; urban levees have 3 feet of freeboard on 1/200 AEP water surface; non-urban levees satisfy SRFCP design freeboard requirements; Folsom Dam Joint Federal Project in place.

AEP = annual exceedance probabilities.

MBK Engineers (2007, 2008a, and 2008b) has developed water surface profiles for use in this analysis. Their reports describe and present the results of a hydraulic analysis that was made to determine 1/100 and 1/200 annual exceedance probabilities (AEP) (commonly referred to as 100-year and 200-year) water surface elevations for the Project reach. The MBK version of the Comprehensive Study Sacramento River UNET model adopted for the Natomas Levee Improvement Program was used for this analysis. This adopted version is capable of modeling anticipated levee breaks or of allowing levee overtopping without failures. UNET is a one-dimensional unsteady open-channel flow model with the ability to simulate exchange of flow over levees onto floodplains. The MBK UNET model results were a maximum composite of simulations made using hydrologic data for two storm-centering scenarios: Sacramento River at latitude of Sacramento and Feather River at Shanghai Bend.

The MBK UNET model indicates no levee overtopping will occur along the Sacramento River in the Project reach for the 100-year or the 200-year design flood flows. (Table 11.)

Table 11. Computed Maximum Water Surface Elevations for Sacramento River South Levee

Reach	Comp Study River Mile	Maximum Water Surface Elevation (feet NAVD 88) 1/100 AEP[1]	1/200 AEP[2]	Note
Sacramento River	63.44	35.47	36.57	West Sacramento city limit
Sacramento River	62	35.47	36.67	
Sacramento River	60.5	35.47	36.67	American River
Sacramento River	59.695	35.17	36.37	I Street Bridge
Sacramento River	58	34.67	36.37	
Sacramento River	56	33.57	34.77	
Sacramento River	54	32.57	33.77	
Sacramento River	51.75	31.47	32.67	West Sacramento city limit

Source: MBK Engineers' Sacramento River UNET hydraulic model simulations documented in *Supplemental Report for the City of West Sacramento Levee Alternatives Hydraulic Analysis—Draft,* December 4, 2008.

[1] Assumes levees overtop without failing; existing conditions and operations.

[2] Assumes levees overtop without failing; urban levees have 3 feet of freeboard on 1/200 AEP water surface; non-urban levees satisfy SRFCP design freeboard requirements; Folsom Dam Joint Federal Project in place. AEP = annual exceedance probabilities.

Regulatory Setting

In 1972, the CWA was amended to prohibit discharge of pollutants to Waters of the U.S. from any point source unless it is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, further amendments to the CWA added Section 402(p), established a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. On 16 November 1990, the EPA finalized regulations establishing stormwater permit requirements for specific industries.

These regulations provide that stormwater discharges to waters of the US from construction projects with 5 or more acres of soil disturbance are prohibited unless the discharge is in compliance with an NPDES Permit. Further regulations (titled the Phase II Rule) which became final on December 8, 1999 lowered the permitting threshold from 5 acres to 1 acre. While EPA regulations allow two permitting options for stormwater discharges (Individual Permits and General Permits), the California State Water Resources Control Board (SWRCB) has elected to adopt only one statewide General Permit that applies to the majority of stormwater discharges associated with construction activities. On August 19, 1999, the State Water Board reissued the General Construction Stormwater Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the State Water Board amended Order 99-08-DWQ to apply to sites as small as one acre (SWRCB 2010).

The latest General Construction Permit (Order No. 2009-0009-DWQ), with which the Proposed Project would comply, was adopted 2 September 2009. Order No. 2009-0009 DWQ created several new significant changes including, formal training requirements, online permitting/Stormwater Pollution Prevention Plan (SWPPP) documentation upload, minimum BMPs, Numeric Action Levels for pH and turbidity, as well as monitoring based on Project risk to sediment loss and threat to receiving waters (SWRCB 2010).

All construction projects over 1 acre requires a SWPPP to be prepared and implemented during construction. Construction activities less than 1 acre require a Water Pollution Control Program

(WPCP) (City of West Sacramento 2013a). Table 1 (2.8 Regulatory Requirements, Permits, and Approvals) summarizes the required hydrological approvals and regulatory permits needed for this Proposed Project.

The Proposed Project is under the jurisdiction of the Central Valley RWQCB (CEPA 2013d). Section 401 of the Clean Water Act (CWA) requires water quality certification from the State Water Resources Control Board (SWRCB) or from the RWQCB when the Proposed Project requires a CWA Section 404 permit from the USACE to discharge dredged or fill material into Waters of the U.S.

Site Hydrology and On-Site Drainage

The Proposed Project would be located on the west bank of the Sacramento River. The Raley's Dock Project site is about 500 feet north (upstream) of Tower Bridge (Figure 3. *Raley's Dock Project Location*). The Rice Mill Pier (existing) is about 400 feet north (upstream) of Pioneer Bridge (Figure 4. *Rice Mill Pier Project Location*). There are no nearby drainages, ditches, or other types of water features within the Project area except for the Sacramento River.

4.9.2 Hydrology and Water Quality (IX.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐

Raley's Dock

The Proposed Project consists of replacing a previously existing dock on the Sacramento River. In the short-term, pile installation and pile repair may disturb soils. Soil erosion and sedimentation impacts to the river could potentially occur during installation of piles for the ramp, gangway and dock. A SWPPP, WPCP, Spill Prevention, Control and Countermeasure Plan (SPCCP), and all permits (see Table 1 in 2.8 Regulatory Requirements, Permits, and Approvals), listing the BMPs, protective measures, conditions, and mitigation measures (mitigation measure B-2) would be used to prevent construction pollutants and products from violating any water quality standard or any waste discharge requirements.

These on-site BMPs would treat stormwater before it discharges into the Sacramento River. The City of West Sacramento is required to comply with the NPDES Municipal Separate Storm Sewer System permit issued by the RWQCB and the Construction General Permit. Compliance with these established programs and the required permits would ensure that the Proposed Project would not result in substantial discharges of typical stormwater pollutants; therefore, impacts would be less than significant with implementation of mitigation measures B-2 and H-1 and other permitting requirements.

Rice Mill Pier

The Proposed Project consists of rehabilitating the existing Rice Mill Pier on the Sacramento River. The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; and the existing piles would be reused. Due to the nature of construction activities associated with

the rehabilitation, substantial soil erosion and sedimentation would not be anticipated. As stated in the Raley's Dock discussion above, the City would implement a SWPPP or WPCP, SPCCP, and all permits (see Table 1 in 2.8 Regulatory Requirements, Permits, and Approvals), listing the BMPs, protective measures, conditions, and mitigation measures (mitigation measure B-2) to prevent construction pollutants and products from violating any water quality standard or any waste discharge requirements. Implementation of mitigation measures B-2 and H-1 would reduce impacts to a less than significant level.

Water Quality and Erosion Control

Mitigation Measure

H-1 (Raley's Dock and Rice Mill Pier)

Prior to starting construction, the Project engineer/contractor shall determine total acreage of ground to be disturbed by stockpiling, staging/lay-down area, access routes on unpaved surfaces, and the Project work area that results in soil disturbances. The contractor(s) shall comply with the BMPs in the 2012 Construction BMP Handbook/Portal by the California Stormwater Quality Association in the work area.

1. If the surface area to be disturbed is more than one acre, a Construction General Permit from the SWRCB will be required. This permit requires a SWPPP and Risk Assessment to be prepared by a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer, in accordance with the terms of the CWA permits, Biological Opinion, and all other permit requirements, listing the BMPs, protective measures, and conditions.

2. .If the total acreage is less than one acre a water pollution control program (WPCP) (erosion and sediment control plan) would be required to implement erosion control BMP's in accordance with the terms of the CWA permits, Biological Opinion, and all other permit requirements, listing the BMPs, protective measures, and conditions.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

Raley's Dock

The Proposed Project does not involve the withdrawal of groundwater and would not affect groundwater recharge because it would not increase impervious surfaces in the Project area. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐

Please see the response to item a) above. All construction Projects over 1 acre require a SWPPP to be prepared and implemented during construction. Construction activities impacting less than 1 acre require a WPCP. BMPs from the SWPPP or WPCP, and other required permits (Table 1 in 2.8 Regulatory Requirements, Permits, and Approvals) would be implemented to minimize potential erosion or siltation from the Proposed Project during and after construction.

Raley's Dock

The proposed replacement dock would not result in an increase in impervious surfaces on land that could cause erosion or siltation on or off-site. The access ramp and gangway at Raley's Dock would be similar to the previous structure that was elevated on piles.

The debris deflector boom proposed for installation at this Project site would be located at the surface of the water using floating pipe and would be supported by steel pipe piles 20 inches in diameter upstream of the dock. During high water flows when debris tends to be active there is potential for large quantities of woody debris to accumulate at the site between the dock and the shoreline. Accumulation of debris near the river bank could cause soil erosion and siltation by redirecting and accelerating flow around debris obstructions. The debris deflector boom would minimize the potential for large woody debris to enter behind the dock, which could create a hazardous condition, endangering public safety and potentially damaging the dock and gangway structure. If the debris deflector boom were not installed, woody debris would create hazardous conditions and the dock would have to be closed for debris removal.

The debris deflector boom would impede surface flow along its length and the piles would be located within the flow of the Sacramento River, however, the backwater effect, or rise in water surface elevation upstream, would be inconsequential, and it would not affect subsurface flow. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

Rice Mill Pier

The proposed rehabilitated pier would result in no increase in impervious surfaces on land that would cause erosion or siltation on or off-site since there are only minor repairs proposed to the Rice Mill Pier structure. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☒	☐	☐

Raley's Dock

Please see the response to item a) and item c) above. The replacement dock would be similar to the previously existing floating dock; the only addition is a 235-foot debris deflector boom located 60 feet upriver from the dock. As described in Section 2.4 Project Characteristics, a total of nine new piles would need to be installed for the gangway and floating dock. The debris deflector boom would require 12 new vertical piles in the river column and would add two 24-inch HDPE pipes stacked on top of each that would float at the water's surface. The replacement floating dock, debris deflector boom, and new pile installation would not result in substantial changes to the current drainage pattern of the Sacramento River and the surrounding area. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

Rice Mill Pier

Please see the Raley's Dock discussion above. The Proposed Project involves rehabilitation of the existing Rice Mill Pier. Rehabilitation of the pier would not result changes to the existing piles in the Sacramento River. A less than significant impact would occur with implementation of mitigation measure B-2 and H-1.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Would the project 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?	☐	☒	☐	☐

Raley's Dock

Please see the response to item a) and item c) above. No additional runoff would be generated by the Proposed Project. The Proposed Project would be located within the levee of the Sacramento River and would not impact any existing stormwater drainage system. The Proposed Project would not create or contribute additional runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or contribute substantial additional sources of polluted runoff. A SWPPP or a WPCP, that includes BMPs, would be implemented during construction to prevent pollutants used during construction from entering the river. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Would the project otherwise substantially degrade water quality?	☐	☒	☐	☐

Raley's Dock

Please see response to item a) above. Heavy equipment used for construction and repair of the Proposed Project could leak hazardous materials such as oils and fuels. Implementation of a SWPPP or WPCP, SPCCP, and all permit (Table 1 in 2.8 Regulatory Requirements, Permits, and Approvals) requirements, listing the BMPs, protective measures, conditions, and mitigation measures (mitigation measure B-2) would prevent construction pollutants and products from violating water quality standards. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur with implementation of mitigation measures B-2 and H-1.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
g)	Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

Raley's Dock

The Proposed Project does not include housing. The Project area would be within the 100-year flood zone, Zone AE. However, the debris deflector boom proposed as part of the replacement dock would minimize build-up of debris at the existing piles during flood events. No impact would occur.

Rice Mill Pier

Please see Raley's Dock discussion above. No major alterations are proposed for the Rice Mill Pier and there would be no change in flood conditions. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
h)	Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐

Raley's Dock

The Raley's Dock and debris deflector boom would be constructed within the 100-year flood zone, Zone AE. The debris deflector boom would minimize buildup of debris at the existing piles during flood events; however it would not impede or redirect flood flows. These structures also float with the level of the river water and would be built in conformance with the California Building Code, safety standards, permit requirements (Table 1 in Section 2.8 Regulatory Requirements, Permits, and Approvals), and would be designed to withstand storm event flows. A less than significant impact would occur.

Rice Mill Pier

The Rice Mill Pier exists in the 100-year flood zone, Zone AE. The pier would be repaired to conform with the California Building Code, safety standards, permit requirements (Table 1 in 2.8 Regulatory Requirements, Permits, and Approvals), and would be designed to withstand storm event flows. No impact would occur.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
i)	Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

Raley's Dock

The nearest dam upstream of the Project area is the Lake Natoma Dam, located approximately 17 miles to the east. The Proposed Project's surrounding area is currently used for recreation. The Proposed Project would not increase the risk of loss, injury, or death involving flooding as a result of levee or dam failure because the Raley's Dock is designed to float, and it would meet current building code, safety standards and be compliant with the California Building Code provisions for accessibility and the ADA. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. The Rice Mill Pier is level with the top of the levee and would not increase the risk of loss, injury, or death involving flooding as a result of levee or dam failure. No impact would occur.

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
j) Would the project be subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Raley's Dock

The Proposed Project is not located near an ocean; therefore, it would not be subject to a tsunami. The Proposed Project is not located near a mountainside or hillside; therefore, the Project area would not be subject to mudflows.

The Sacramento River is one of the bodies of water most susceptible to seiches in or near West Sacramento. According to the City's General Plan, "the danger of seiches during seismic events is limited to those periods when the Yolo and Sacramento Bypasses and Sacramento River are full during the flood season. Overtopping of levees during this period could cause a limited amount of flooding; however, the risk of this happening is greatly reduced by the very limited time when the Sacramento River and Yolo and Sacramento Bypasses are at these stages" (City of West Sacramento 2009c). A less than significant impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur.

4.10 Land Use and Planning

4.10.1 Environmental Setting

Raley's Dock

The Raley's Dock Project site is located in the City of West Sacramento in Yolo County, California. In 2011, the City applied to the State Lands Commission to obtain the lease for the dock after the Raley's Corporation terminated it. The City agreed to undertake removal of the dock and in 2012, the State Lands Commission issued a new lease to the City for the dock and gangways.

The Raley's Dock Project site is designated Recreation and Parks (RP) in the *City of West Sacramento General Plan* (City of West Sacramento 2009a). The Project site is zoned Recreation-Parks (RP) in the *City of West Sacramento Municipal Code, Title 17: Zoning* (City of West Sacramento 2009b; City of West Sacramento 2013b). The RP land use designation provides land for existing and major planned public parks (City of West Sacramento 2009c). The purpose of the RP zone is to preserve lands of natural beauty or lands containing natural or potential park and recreation features or park and recreation development, which protection for such uses is in the public interest (City of West Sacramento 2013b). The surrounding land use designations include RMU, Medium Density Residential (MR), High Density Residential (HR), and Community Commercial (CC) (City of West Sacramento 2009a).

Rice Mill Pier

The Rice Mill Pier Project site is located in the City of West Sacramento in Yolo County, California. The Friedman Family previously owned the pier; however, the 30 year lease expired in 2012. The

City applied to the State Lands Commission to obtain the lease for Rice Mill Pier. All aspects of the Proposed Project would occur within the area designated to be leased by the City under the lease issued by the State Lands Commission.

The Rice Mill Pier Project site is designated RMU in the *City of West Sacramento General Plan* (City of West Sacramento 2009a). The Project site is zoned Waterfront-Planned Development No. 41 (WF/PD 41) in the *City of West Sacramento Municipal Code, Title 17: Zoning* City of West Sacramento 2009b; City of West Sacramento 2013b). The RMU land use designation provides land for marinas, restaurants, retail uses, hotel and motel uses, mid-rise and high-rise offices, multifamily residential units oriented principally to the river, public and quasi-public uses, and similar and compatible uses (City of West Sacramento 2009c). The purpose of the WF/PD 41 zoning district is to allow for high-intensity mixed uses that capitalize on the City's river frontage (City of West Sacramento 2013b). The surrounding land use designations include RMU and General Commercial (GC) (City of West Sacramento 2009a).

4.10.2 Land Use and Planning (X.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project physically divide an established community?	☐	☐	☐	☒

Raley's Dock

The previous Raley's Dock consisted of a floating dock, gangway, and access ramp within the Sacramento River and adjacent riverbank. The new replacement dock would be similar to the previous dock, consisting of a floating dock, a gangway and an access ramp. The only new additions would be a 235 foot long debris deflector boom approximately 60 feet upriver from the floating dock within the river (see Figure 5. *Raley's Dock Site Plan*). The debris deflector boom is outside the current River Walk Dock Lease; however, communication with the State Lands Commission confirmed the City has control of the upland parcel which is sufficient secure control of the in-river section where the debris deflector boom would be located (Rivas, Personnel Communication 2013). The Project site is primarily located within the Sacramento River water column and below the levee top and would not physically divide an established community. No impact would occur.

Rice Mill Pier

Rice Mill Pier is an existing structure extending from the levee into the Sacramento River. The existing Pier consists of a 12-inch-thick, 18-foot-wide and 120-foot-long concrete deck elevated approximately 25 feet above the average river level at the waterside end of the pier. The rehabilitation of the pier would only include structural repairs to the existing pier substructure, abutment, and piles, and addition of a handrail, lighting, and benches around the pier. The City obtained a lease for Rice Mill pier and all aspects of the rehabilitation would occur within the boundary of the lease. The Project site is located on the riverbank and within the Sacramento River water column and is not located within an established community. No impact would occur.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Raley's Dock

As described in Section 4.10.1 Environmental Setting, the Raley's Dock Project site is designated RP and is zoned RP (City of West Sacramento 2009a; City of West Sacramento 2009b). The Proposed Project would involve replacing a previously existing private dock on the Sacramento River with a new dock open to the public. The replacement dock would be open to the public for access to the Sacramento River for viewing, fishing, boating tie-up, and possible river taxi access. All the proposed activities for the replacement dock would be consistent with RP land use designation and RP zone, as the activities promote recreational use of the area and the Sacramento River. Therefore, the proposed replacement dock would not conflict with any land use plan, policy or regulation. No impact would occur.

Rice Mill Pier

As described in 4.10.1 Environmental Setting, the Rice Mill Pier Project site is designated RMU and is zoned WF/PD 41 (City of West Sacramento 2009a and 2013). The Proposed Project would rehabilitate a previously privately owned pier to be accessible to the public. The rehabilitated Rice Mill Pier would be open to the public as an observational platform for views of the Sacramento River and wildlife. The RMU land use designation and WF/PD 41 zoning describe compatible land uses that provide increased public access to the riverfront in a variety of ways. Rice Mill Pier is also within the planning area for the West Sacramento Bridge District Specific Plan. Rice Mill Pier extends from the River Walk Trail, which is designated in the Triangle Specific Plan to provide public access to the riverfront. Rehabilitating the pier would be consistent with this objective as the pier would become accessible to the public and provide viewing access to the Sacramento River. The Proposed Project is consistent with the City's General Plan and the Bridge District Specific Plan. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Raley's Dock

See 4.4 Biological Resources (IV.) Environmental Checklist and Discussion item f) impact discussion. The Proposed Project would not conflict with any applicable HCP or NCCP. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

4.11 Mineral Resources

4.11.1 Environmental Setting

The Proposed Project is located in the City of West Sacramento, Yolo County, California. Most of the City is classified as MRZ-1 by the California Division of Mines and Geology, which means that no significant mineral deposits are present. No portion of the City of West Sacramento Planning area is designated as having significant mineral deposits (MRZ-2). A small portion of City along the Sacramento River is designated as MRZ-3, which means that aggregate deposits of undetermined significance occur there. Under SMARA, state policies pertaining to the maintenance of access to regionally significant mineral deposits do not apply for lands classified MRZ-1 or MRZ-3 (City of West Sacramento 2009c).

4.11.2 Mineral Resources (XI.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project 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?	☐	☐	☐	☒

Rice Mill Pier

The Raley's Dock Project site consists of the Sacramento River and the adjacent riverbank. The California Division of Mines and Geology has not identified any significant mineral resources within West Sacramento (City of West Sacramento 2009c). No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site consists of the Sacramento River and the adjacent riverbank. The California Division of Mines and Geology has not identified any significant mineral resources within West Sacramento (City of West Sacramento 2009c). No impact would occur.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project 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?	☐	☐	☐	☒

Rice Mill Pier

The Raley's Dock Project site consists of the Sacramento River and the adjacent riverbank. The project area is not located within a locally-important mineral resource recovery site (City of West Sacramento 2009c). No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site consists of the Sacramento River and the adjacent riverbank. The project area is not located within a locally-important mineral resource recovery site (City of West Sacramento 2009c). No impact would occur.

4.12 Noise

4.12.1 Environmental Setting

Noise Background

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dBA. The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment (j.c. brennan 2013).

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise (j.c. brennan 2013).

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Table 12 lists several examples of maximum noise levels associated with common noise sources.

Table 12. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: j.c. brennan 2013

Effects of Noise on People

The effects of noise on people can be placed in three categories:

1. Subjective effects of annoyance, nuisance, and dissatisfaction,
2. Interference with activities such as speech, sleep, and learning, and
3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise—including stationary mobile sources such as idling vehicles—attenuate (lessen) at a rate of approximately 6 dBA per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate (j.c. brennan 2013).

Regulatory Framework

City of West Sacramento General Plan Policy Document Health and Safety Element

The City of West Sacramento General Plan Policy Document Health and Safety Element establishes a goal "to protect city residents from the harmful effects of excessive noise" (City of West Sacramento 2004). In order to obtain this goal, the General Plan has outlined several policies to set acceptable limits regarding land use and new development as it relates to noise exposure. The General Plan policies apply the noise standards outlined in Table 13 and Table 14 below. In general, a land use or new development is deemed acceptable if the noise level does not exceed the noise level standards identified in Table 13 or 14. If a land use or new development is likely to produce noise levels exceeding the standards, noise sources shall be mitigated so as not to exceed the noise level standards.

Table 13. Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Noise Sources

Land Use	Noise Level Descriptor	Exterior Noise Level Daytime (7 a.m to 10 p.m.)	Exterior Noise Levels Nighttime (10 p.m. to 7 a.m.)	Interior Noise Levels Daytime (10 p.m. to 7 a.m.)	Interior Noise Levels Nighttime (10 p.m. to 7 a.m.)
Residential	Hourly $L_{eq,}$ dBA	50	45	45	35
	Maximum Level dBA	70	65	–	–
Transient lodging	Hourly Leq, dBA	–	–	45	35
Hospital, nursing homes	Hourly Leq, dBA	–	–	45	35
Theaters, auditoriums, music halls	Hourly Leq, dBA	–	–	35	35
Churches, meeting halls	Hourly Leq, dBA	–	–	40	40
Office buildings	Hourly Leq, dBA	–	–	45	45
Schools, libraries, museums	Hourly Leq, dBA	–	–	45	45

Notes:
Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). New public play areas such as parks and neighborhood tot-lots are not subject to the performance standards in this table.
Leq: equivalent sound level
Source: City of West Sacramento 2009c

Table 14. Maximum Allowable Noise Exposure Transportation Noise Sources

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces L_{dn}/CNEL, dB	Interior Spaces Leg, dB[2]
Residential	60[3]	45	_
Transient Lodging	60[3]	45	_
Hospital, nursing homes	60[3]	45	_
Theaters, auditoriums, music halls	_	_	35
Churches, meeting halls	60[3]	_	40
Office buildings	_	_	45
Schools, libraries, museums	_	_	45
Playgrounds, neighborhood parks	70	_	_

Notes: For the purposes of the noise element, "transportation noise sources" are defined as traffic on public roadways, railroad line operations and aircraft in flight. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, loading docks, construction equipment, etc.

1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. As determined for a typical worst-case hour during period of use.
3. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed, provided that practical exterior noise level reduction measures have been implemented and that interior noise levels are in compliance with this table. An exterior noise level of 70 dB Ldn/CNEL shall be allowed in the Triangle Specific Plan area and the Washington Specific Plan area.

Source: City of West Sacramento 2009c

City of West Sacramento Municipal Code

Noise standards for various uses within the city are outlined in the City of West Sacramento Municipal Code. The City distinguishes between non-transportation-related noise sources and transportation-related noise sources (Table 13 and Table 14). There is no specified exemption in the West Sacramento Municipal Code for temporary daytime construction activities (USACE and WSAFCA 2013). Therefore, the daytime and nighttime limits specified in Table 13 and 14 are considered to apply to all construction activities generated by the Proposed Project. In addition, the Municipal Code establishes 70 dB Ldn/CNEL as the accepted exterior noise level within the Bridge District Specific Plan area and the Washington Specific Plan area (City of West Sacramento 2013b).

City of Sacramento General Plan Environmental Constraints Element – Goals and Policies

Goal EC 3.1 Noise Reduction. Minimize noise impacts on human activity to ensure the health and safety of the community.

- **Policy EC3.1.1 Exterior Noise standards.** The City of shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table 15, to the extent feasible.
- **Policy EC 3.1.2 Exterior Incremental Noise Standards.** The City shall require noise mitigation for all development that increases existing noise levels by more than the allowable increment shown in Table 16, to the extent feasible.
- **Policy EC 3.1.3 Interior Noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45

dBA L_{dn} for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA L_{eq} (peak hour) for office buildings and similar uses.

Table 15 Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	Highest Level of Noise Exposure That is Regarded as "Normally Acceptable" (L_{dn}[b] or CNEL[c])
Residential - Low Density Single Family, Duplex, Mobile Homes	60 dBA[d,e]
Residential-Mutli-family	65 dBA
Urban Residential infill[f] and Mixed Use Projects [g]	70 dBA
Transient Lodging – Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, neighborhood parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

Notes:
a. As defined in the Guidelines, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."
b. Ldn or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.
c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.
d. dBA or A-weighted decibel scale is a measurement of noise levels.
e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.
f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).
g. All mixed-use projects located anywhere in the City of Sacramento.
Source: (City of Sacramento 2009)

Table 16 Exterior Incremental Noise Impact Standard for Noise-Sensitive Uses (dBA)

Residences and buildings where people normally sleep[a]		Institutional land uses with primarily daytime and evening uses[b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Notes:
a. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
b. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.
Source: (City of Sacramento 2009)

Raley's Dock

The existing noise environment in the vicinity of the Project site can be described as a park setting with relatively low ambient noise levels. The primary noise source in the vicinity of the Project area is vehicle traffic on roadways including the Tower Bridge located approximately 500 feet south, I-5 located approximately 1,100 feet east, the I Street Bridge located approximately 1,000 feet north, and 3rd Street located approximately 750 feet west (Google 2013). Other transportation-related noise sources in the vicinity of the Project site include boat vessels traveling along the Sacramento River, trains (railroad tracks located approximately 1,500 feet north), and air traffic (jet fly-over or helicopter). Non-transportation-related noise in the vicinity of the Project site include transient hikers along the River Walk Trail, occupants of the Ziggurat building, the CalSTRS building, and Old Sacramento located approximately 300 feet east across the River.

Existing Noise Environment

Rice Mill Pier

The existing noise environment in the vicinity of the Project site can be described as mostly vacant with low to moderate ambient noise levels. The project is located within the Bridge District Specific Plan Area. Extensive infrastructure has been constructed within the District and some residential development has been initiated to the west and northwest of the pier. The primary noise source in the vicinity of the Project area is vehicle traffic on roadways including the I-80/US 50 Bridge approximately 400 feet south and I-5 located approximately 1,600 feet east (Google 2013). Other transportation-related-noise sources in the area include boat vessels traveling along the Sacramento River, trains (railroad tracks located approximately 700 feet east), and air traffic (jet fly-over or helicopter). Non-transportation-related noise in the vicinity of the Project site includes transient hikers along the River Walk Trail and light industrial uses to the southwest and west.

Sensitive Receptors

Some land uses are considered more sensitive to intrusive noise than others due to the amount of noise exposure and the types of activities typically involved at the receptor location. Noise exposure at these sensitive receptors is predicated on the magnitude and frequency of said noise event, exposure duration, and exterior-to-interior sound attenuation. Residences, schools, hotels, libraries, religious institutions, hospitals, and nursing homes, and parks are generally more sensitive to noise than commercial and industrial land uses.

Raley's Dock

Sensitive receptors located within the vicinity of the Project site include the Ziggurat building located immediately adjacent to the Project site on the west and the CalSTRS building just north of the Ziggurat building. The Delta King Restaurant and Hotel is located approximately 250 feet east of the Project site.

Rice Mill Pier

The landward side of the Project site consists of the paved River Walk Trail and previously graded undeveloped lots. The undeveloped lots are characterized by barren land with some weedy grasses and herbs scattered throughout the landscape. There are no sensitive receptors within the vicinity of the Project site.

4.12.2 Noise (XII.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐

Raley's Dock

Noise generated by the construction of the Proposed Project would be temporary and no permanent noise sources would be created. Construction noise would differ among various stages of construction and is dependent upon the specific activities and equipment used. As previously mentioned in Section 2.5 Construction, the majority of construction is expected to occur from the waterside on a barge and on small work boats anchored in the Sacramento River. During construction, noise from construction activities would add to the noise environment in the immediate Project vicinity. It is anticipated that the most significant amount of construction-related noise would be generated during the installation of the 18 new piles in the river and 34 new micropiles on the levee (see Section 2.4 Project Characteristics). The new piles would be installed by a barge-mounted crane with an attached vibratory hammer. Vibratory hammers use oscillatory hammers that vibrate the pile, causing the sediment surrounding the pile to liquefy and allowing pile penetration. The vibratory hammer produces sound energy that is spread out over time and is generally 10 to 20 dB lower than impact pile driving. Vibratory installation would take approximately 3 to 5 minutes per pile to reach the required pile tip elevation. The time intervals between driving of each pile would vary; however, a minimum of several minutes would be required for positioning and set up. Micropiles would be installed into the levee using a truck or track-mounted rotary drill rig. Activities involved in construction would generate maximum noise levels, as indicated in Table 17, ranging from 79 to 95 dBA at a distance of 50 feet. Construction activities would be temporary in nature (approximately four months) and are anticipated to occur during normal daytime working hours.

Table 17. Construction Equipment Noise

Type of Equipment	Comparable Equipment From FHWA 2006	Maximum Level (L_{max}), dBA at 50 feet
Contractor work trucks	Truck	88
Small skiffs	Small boat, single outboard	81[1]
Barges	Boat with exhaust above water	90[1]
Vibratory hammer (mounted on crane)	Vibratory pile driver	95[2]
Truck crane	Crane mobile	83
Electrical generator	Generator	81
Drilling equipment	Auger drill rig	84[2]
Truck or track-mounted rotary drill rig	Drill rig truck	79
Concrete mixer trucks	Concrete mixer truck	85
Tractor	Tractor	84[2]
Various power hand tools[3]	-	-

Source: All data is from FHWA unless otherwise noted (FHWA 2006)
[1]Data from Personal Watercraft Industry Association 2007. (PWIA 2007)
[2]L_{max} @ 50 feet (dBA, slow) (Samples Averaged)
[3]Considered negligible compared to other equipment

As previously described in Section 4.12.1 Environmental Setting, sensitive receptors in proximity to the Project site include the Ziggurat office building located immediately adjacent to the Project site on the west, the CalSTRS office building just north of the Ziggurat, and the Delta King hotel located across the river. Sound intensity diminishes with distance as sound waves are scattered and absorbed by the surrounding environment. For most noise sources, a doubling of the distance results in a 6 dBA fall in level (j.c. Brennan 2013). According to the City of West Sacramento's General Plan policies noise standards outlined in Table 14, office buildings have a maximum allowable noise exposure generated by transportation-related noise of 45 Leq, dB for interior spaces. There is no applicable noise standard for office buildings related to outdoor activity areas; however, the Ziggurat office building is located within the Washington Specific Plan area and the City of West Sacramento Municipal Code establishes 70 dB Ldn/CNEL as the accepted exterior noise level within Washington Specific Plan area (City of West Sacramento 2013b).The vibratory hammer is expected to be the loudest equipment noise with a maximum level of 95 dBA at a distance of 50 feet. Noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance.

The Ziggurat building is the closest sensitive receptor to the Project site, located approximately 200 feet west. Estimated sound levels at a distance of 200 feet would be approximately 83 dBA (Georgia State University 2013). The first floor of the Ziggurat building is not occupied by office workspaces. In addition, intervening terrain and vegetation including the levee and numerous trees along the River Walk Trail would act as a noise barrier and would reduce overall construction noise at the Ziggurat building. Construction activities would be anticipated to be limited to day time hours between 7:00 a.m. and 6:00 p.m. It should be noted that the 45 Leg, dB interior noise level standard for office buildings applies to transportation-related noise which is a long-term noise source. Increased noise levels associated with Project construction activities would be short-term and not expected to exceed the 45 Leq, dB interior noise level standard. As mentioned above, the City of West Sacramento Municipal Code establishes 70 dB Ldn/CNEL as the accepted exterior noise level within the Bridge District Specific Plan area and Washington Specific Plan area (City of West Sacramento 2013b), and the Ziggurat building is located with the Washington Specific Plan area. Increased noise levels associated with Project construction activities would be short-term; however, construction noise, including noise associated with the use of vibratory hammers, would exceed the exterior noise level of 70 Ldn/CNEL at the Ziggurat building.

The Delta King Hotel is located approximately 250 feet east of the Project site in Old Sacramento. Old Sacramento is located with the City of Sacramento's jurisdiction. The exterior noise standards outlined in Table 15 indicate that the highest level of noise exposure that is regarded as "normally acceptable" for transient lodging is 65 dBA (L_{dn}/CNEL). As shown in Table 16, the allowable noise increment for transient lodging with an existing L_{dn} of 65 dBA is 1dBA. The vibratory hammer is expected to generate the loudest equipment noise, with a maximum level of 95 dBA at a distance of 50 feet. Noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. Estimated sound levels at a distance of 250 feet would be approximately 81 dBA (Georgia State University 2013). Sound levels generated by the vibratory pile driving are expected to exceed the maximum allowable noise exposure of 66 dBA (with the addition of an allowable noise increment of 1dBA) for the City of Sacramento's exterior noise standards at the Delta King Hotel (City of Sacramento 2009).

As mentioned above, the vibratory pile driving would result in the loudest noise levels during construction; however construction-related vibratory pile driving would be short-term in nature. It is anticipated that all pile-driving activities in the river could be completed within five days and drilling on the levee could be completed within two to four days. A vibratory hammer may be used to advance the steel pipe casing if difficult conditions on the levee occur. The vibratory pile driving would result in exceedance of the 70 Ldn/CNEL, dB outdoor activity noise level standard for the City

of West Sacramento (Ziggurat building) and the City of Sacramento's 65 dBA "normally acceptable" exterior noise exposure standard for transient lodging (Delta King Hotel). To reduce potentially adverse noise and vibratory impacts associated with the use of vibratory hammers and other construction noise to a less than significant level, mitigation measures N-1 and N-2, described below, shall be implemented.

Rice Mill Pier

As described in Section 2.5 Construction, the majority of the construction work and construction staging areas for the Rice Mill Pier rehabilitation would occur from the landside, along the levee. Access from the river may be required for repair and strengthening work on the pier substructure; however, installation of new piles and other foundation elements in the Sacramento River is not anticipated. Construction equipment and vehicles that would be required include:

- Contractor work trucks
- Electrical generator
- Concrete mixer trucks
- Scaffolding
- Man lifts
- Various power and hand tools

As stated above in Section 4.12.1 Environmental Setting, there are no sensitive receptors in the immediate vicinity of the Project area. The Project site is located adjacent the Bridge District Specific Plan area. Development associated with the Bridge District has been initiated to the west and northwest of the pier within the area between Riverfront Street, 5th Street, Mill Street, and Bridge Street. The closest residential development named "The Rivermark" is approximately 850 feet northwest of the pier. The Rivermark is currently under construction and is planned for 70 units of affordable family housing (Bridge Housing 2013). Construction activities would be conducted during daylight hours between 7:00 a.m. to 6:00 p.m. and the Proposed Project would comply with all applicable noise standards as outlined in Table 13 and Table 14. As described above, the City of West Sacramento Municipal Code establishes 70 dB Ldn/CNEL as the accepted exterior noise level within the Bridge District Specific Plan area. Construction activities associated with the pier would be short-term and are not anticipated to exceed the accepted exterior noise level of 70 dB Ldn/CNEL. A less than significant impact would occur.

Vibratory Control and Monitoring Plan

Mitigation Measure

N-1 (Raley's Dock)

A. Prior to the commencement of construction activities using vibratory hammers, the Contractor shall employ the services of a Vibration Control Consultant for use in monitoring pile installation and all other construction activities involving vibrations.

   1. The Vibration Control Consultant shall perform a pre-construction survey. The pre-construction survey shall determine the condition of any property or structure, and to document any pre-existing defects, cracks, or irregularities. A post-construction survey shall be performed upon completion of all operations involving vibrations, at the same

locations as the pre-construction surveys. The Consultant shall re-examine the condition of structures, and document all defects, cracks or irregularities noted in the pre-construction survey. Additionally, any defects, cracks or irregularities not noted in the pre- construction survey shall be documented.

B. Prior to construction, the Contractor shall arrange a vibration control meeting with the City of West Sacramento and Vibration Control Consultant to discuss construction procedures for the Project.

C. The Contractor shall prepare a detailed description of the means, methods, equipment and materials used, and methods for controlling vibration. The Contractor shall submit the Vibration Control and Monitoring Plan to the City of West Sacramento for approval.

Sensitive Receptors

Mitigation Measure

N-2 (Raley's Dock)

Where feasible, the City will implement noise-reducing construction practices such that noise that occurs during construction hours does not exceed 50 dBA-Leq at the Ziggurat building and the Delta King Hotel located in the project area. Measures that can be used to reduce construction noise include but are not limited to:

1. locating equipment as far a practical from noise-sensitive uses;
2. requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation;
3. prohibiting gasoline or diesel engines from having unmuffled exhaust;
4. when practicable, using noise-reducing enclosures around stationary noise-generating equipment; and
5. when practicable, constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) or material stock piles to block sound transmission.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐

Raley's Dock

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. In general, the probability of causing architectural damage from

continuous vibration from construction is very low. However, if vibration sources involve pavement breaking or pile driving 25 feet or less from residences, buildings, or unreinforced structures; or if these activities would occur within 100 feet of a historical building, buildings in poor condition, or buildings previously damaged by earthquakes, damage could occur (Caltrans 2002). Major construction within 200 feet and pile driving within 600 feet may also be potentially disruptive to vibration-sensitive operations, which include aerospace and electronic laboratories, close tolerance manufacturing, calibration of sensitive instruments, radio and television stations, and similar land uses (Caltrans 2002). None of these uses occur within 600 feet of the Proposed Project, and no impact would occur.

The construction of the Proposed Project would result in the introduction of temporary groundborne vibrations during the installation of a total of 18 steel pipe piles and 34 steel pipe micropiles (see Section 2.4 Project Characteristics for further detail). According to the Federal Transit Administration (FTA), drilled piles or the use of vibratory pile driver, such as a vibratory hammer, are quieter alternatives to the impact pile driver method (FTA 2006). As stated previously in item a), installation of the 18 piles in the river would require a vibratory hammer and the 34 micropiles would require a drill rig truck. The closest sensitive receptors to the Project site is the Ziggurat building located 200 feet west and the Delta King Hotel located 250 feet east. Because these buildings are located more than 25 feet from potential vibratory pile driving and drill locations and are in good condition, damage from vibration is not likely and a less than significant impact would occur.

Construction activities for the Proposed Project are expected to be short-term and intermittent in nature and no permanent noise sources would be created. Temporary noise generated during construction would diminish over time and end at the completion of construction activities. The Proposed Project would comply with the City of West Sacramento's and the City of Sacramento's applicable noise standards to ensure that sensitive receptors would not be exposed to excessive groundborne vibration or groundborne noise levels. As stated previously, it is anticipated that all pile-driving activities in the river can be completed within a five day period and drilling on the levee can be completed within two to four days. As previously described in item a), a vibratory hammer may be used to advance the steel pipe casing if difficult conditions on the levee occur. To reduce potentially adverse noise and vibratory impacts associated with the use of vibratory hammers to a less than significant level, Mitigation Measure N-1 shall be implemented.

Rice Mill Pier

As previously stated in item a), there are no sensitive receptors in the immediate vicinity of the Project area. There are no activities associated with the rehabilitation of the pier that would result in excessive groundborne vibration. The Proposed Project would comply with the City of West Sacramento's applicable noise standards to ensure that sensitive receptors would not be exposed to excessive groundborne vibration or groundborne noise levels. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

Raley's Dock

Due to the temporary nature of construction, no permanent increases in ambient noise levels in the Project vicinity are expected. As described in Section 2.7 Operations and Maintenance, anticipated activities and uses of the Raley's Dock would include access to the Sacramento River for viewing and fishing, boating tie-up, and river taxi access. Routine maintenance would be required for Raley's Dock. The maintenance would mainly consist of cleaning the dock and pier deck surfaces. Additionally, annual removal of floating debris at the site would be required. Operational noise impacts from the Proposed Project would be negligible in comparison to sound levels already occurring within the Project vicinity and, therefore, no impact would occur.

Rice Mill Pier

Due to the temporary nature of construction, no permanent increases in ambient noise levels in the Project vicinity are expected. As described in Section 2.7 Operations and Maintenance, The Rice Mill Pier would be used as an observation platform for views of the Sacramento River and associated wildlife. Routine maintenance would be required for Rice Mill Pier. The maintenance would mainly consist of cleaning the dock and pier deck surfaces. Additionally, annual removal of floating debris at the site would be required. Operational noise impacts from the Proposed Project would be negligible in comparison to sound levels already occurring within the Project vicinity and, therefore, no impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

Raley's Dock

Temporary or periodic increases in ambient noise levels would occur during construction of the Proposed Project. Ambient noise levels would vary throughout construction depending upon the specific activities. As previously described in Section 2.1 Project Background, the Raley's Dock facility was previously used for the boarding area for the Elizabeth Louise, a steam-powered paddlewheel, and for the River Otter Taxi service. All uses of the dock were discontinued approximately five years ago. The Proposed Project would return the Raley's Dock to active use and would provide public docking. The Proposed Project is not anticipated to increase boat activity on the Sacramento River.

Although the vibratory pile driving would result in exceedance of the City of West Sacramento's 70 L_{dn}/CNEL, dB outdoor activity noise level standard for the Washington Specific Plan area (Ziggurat building) and the City of Sacramento's 65 dBA "normally acceptable" exterior noise exposure standard for transient lodging (Delta King Hotel), noise impacts associated with installation of the steel piles in the river would be limited to a five day period and installation of micropiles on the levee would be limited to a two to four day period. As described above in item a), construction-related noise could exceed the City of Sacramento standard for exterior noise levels at the Delta King. Mitigation Measure N-1 and N-2 would reduce this impact to a less than significant level.

Rice Mill Pier

See discussion above. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

Raley's Dock

As stated in 4.8 Hazards and Hazardous Materials item f), the Project site is not located in an airport land use plan within 2 miles of an airport. The Proposed Project would not expose people residing or working in the Project area to excessive noise levels. No impact would occur.

Rice Mill Pier

See discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

Raley's Dock

As stated in 4.8 Hazards and Hazardous Materials item e), the nearest airport to the Project site is Sacramento Executive Airport located approximately 5 miles southeast. The Project site is not within 2 miles of a public airport or public use airport. No impact would occur.

Rice Mill Pier

See discussion above. No impact would occur.

4.13 Population and Housing

4.13.1 Environmental Setting

Raley's Dock and Rice Mill Pier are both located within the City of West Sacramento in Yolo County. California. According to the Department of Finance City/County Population Estimates for January 1, 2013, the total population of Yolo County is 205,999 and the total population of the City of West Sacramento is 50,460 (Department of Finance 2013). The City of West Sacramento was Yolo County's fourth incorporated city in 1987, and the population has been growing rapidly every year (City of West Sacramento 2010).

4.13.2 Population and Housing (XIII.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project 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)?	☐	☐	☐	☒

Raley's Dock

The proposed replacement dock would not directly or indirectly induce substantial population growth in the area. The proposed replacement dock does not involve residential or business development or the extension of roads or other infrastructure. The Proposed Project would turn a previously private dock into a new recreational facility that provides public access to the Sacramento River for current residents of the City. No impact would occur.

Rice Mill Pier

The proposed rehabilitated pier would not directly or indirectly induce substantial population growth in the area. The proposed rehabilitated pier does not involve residential or business development or the extension of roads or other infrastructure. The Proposed Project would turn a previously private pier into a new recreational facility that provides public access to views of the Sacramento River for current residents of the City. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Raley's Dock

The City obtained the River Walk Dock lease from the State Lands Commission in January of 2012. As stated in Section 4.10 Land Use and Planning item a), the debris boom is located outside of the lease; however, the City controls the upland parcel which is sufficient to control the in river section where the debris boom is located. The Project site occurs within the Sacramento River water column and on the adjacent bank and no housing is present within the location. Therefore, no housing would be displaced and no replacement housing is required. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is located within the boundaries already designated for the existing pier. The City obtained the lease for the pier in 2012 from the State Lands Commission, and all aspects of the Proposed Project would occur within the boundaries outlined by the lease. The Project site occurs within the Sacramento River water column and on the adjacent bank and no housing is present at the location and no housing would be displaced. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Raley's Dock

As described in item b) the Raley's Dock Project site is located within the within the Sacramento River water column and the adjacent riverbank. The Project site was previously occupied by the privately owned Raley's Dock and is designated as RP by the General Plan. The Proposed Project would not displace substantial numbers of people. No impact would occur.

Rice Mill Pier

As described in item b), the Rice Mill Pier Project site is located within the boundaries of the City's lease. The existing Rice Mill Pier is currently located within the Project site and the site is designated as RMU by the General Plan. The Proposed Project would not displace substantial numbers of people. No impact would occur.

4.14 Public Services

4.14.1 Environmental Setting

Police Services

The City of West Sacramento Police Department provides police protection services within the City limits, serving approximately 50,460 people and 23.3 square miles. The police department operates out of one station and staffs 71 officers, 38 civilian employees, and eight volunteer officers. The average response time goal is five minutes or less for Priority 1 calls. Both of the Project sites are located within the Beat 2 service area, which has at least two officers in the area at all times (City of West Sacramento 2009c).

Fire Services

The City of West Sacramento Fire Department provides fire service to the City. The fire department consists of five fire stations throughout the City. The stations operate 24 hours a day, 7 days a week, with combined staffing of 65 uniform employees, and 19 personnel on shift per day. The average response time goal for the City is five minutes or less, and as of 2007, the average response time was 4.20 minutes. Fire Station 44 serves the Raley's Dock Project site and Fire Station 41 serves the Rice Mill Pier Project site. The fire department has automatic aid agreements with several Yolo County Fire Departments and the City of Sacramento Fire Department (City of West Sacramento 2009c).

Schools

The Washington Unified School District (WUSD) provides educational services to all residents within the City limits. The WUSD has 12 schools, consisting of eight elementary schools, one middle school, one high school, one continuation high school, and one preschool. There are five schools located

within a mile of either of the Project sites: Elkhorn Village Elementary, Westmore Oaks Elementary, West Oaks North, West Sacramento Early College Charter School, and Yolo High School Continuation (City of West Sacramento 2009c).

Parks

The City of West Sacramento operates approximately 144 acres of developed parkland consisting of 33 parks, plazas, and playfields. There are several parks planned for the City in order to meet the park dedication standard of 5 acres of parks per 1,000 residents set by the General Plan. Six parks are located within proximity to both Project sites: the River Walk Park (directly adjacent to the Raley's Dock site), Broderick Boat Ramp, Elkhorn Plaza, Circle Park, Ironworks Park, and Rotary Centennial Minipark (City of West Sacramento 2009c).

Other Public Facilities

There are several other public facilities located within 1 mile of either of the Project sites. The Arthur F. Turner Branch Library, the Los Rios Community College District – Sacramento City College: West Sacramento Center, and the West Sacramento Community Center are located less than 1 mile from the Raley's Dock Project site and Rice Mill Pier Project site. Two health care facilities, Communicare Clinic and Molina Healthcare, Inc. Medical Center, are located approximately 1 mile from the Raley's Dock Project site (City of West Sacramento 2009c).

4.14.2 Public Services (XIV.) Environmental Checklist and Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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? • Police Protection? • Schools? • Parks? • Other Public Facilities?	☐	☐	☒	☐

Raley's Dock

The Proposed Project would introduce new public facilities to the Project area that would require fire and police protection. The proposed replacement dock would replace an existing facility and would be considered a small recreational facility which would not substantially increase the need for police and fire protection in the area. As described in Section 4.13 Population and Housing, the Proposed Project would not substantially induce population growth in the area; therefore, there would be no increased demand on schools or other public facilities. The Proposed Project would add new recreational facilities to the area, which would result in a beneficial impact to park demand by

assisting the City in meeting their parks standard. Therefore, a less than significant impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. The proposed rehabilitated Rice Mill Pier is an existing facility and would be considered a small recreational facility which would not substantially increase the need for police and fire protection in the area. A less than significant impact would occur.

4.15 Recreation

4.15.1 Environmental Setting

As described in Section 2.2 Project Purpose/Need, the purpose of the Proposed Project is to provide riverfront access to the public at strategic locations for a variety of recreational uses. The Proposed Project is located at two sites on the Sacramento River. The Sacramento River and riverbanks provide recreation activities such as boating, fishing, bicycling, walking, picnicking, and wildlife viewing for the City's residents and visitors. As described in Section 4.14.1 Environmental Setting, Public Services, the City operates approximately 144 acres of developed parkland consisting of 33 parks, plazas, and playfields, and there are several parks planned for the City in order to meet the park dedication standard of 5 acres of parks per 1,000 residents set by the General Plan. There are several parks located within close proximity to both Project sites. These include the River Walk Park (directly adjacent to both Project sites), Broderick Boat Ramp, Elkhorn Plaza, Circle Park, Ironworks Park, and Rotary Centennial Minipark (City of West Sacramento 2009c). Additionally, Folsom Lake and Lake Berryessa provide regional recreation for the City (City of West Sacramento 2003).

The previously existing Raley's Dock and the existing Rice Mill Pier were both privately owned river access points. The Proposed Project would convert both private river access points into public recreation facilities that satisfy the California Building Code provisions for accessibility and the ADA requirements. The replacement Raley's Dock would provide access to the Sacramento River for viewing, fishing, boating tie-up, and river taxi access. The rehabilitated Rice Mill Pier would provide an observation platform for views of the Sacramento River and associated wildlife and the Sacramento skyline.

4.15.2 Recreation (XV.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

Raley's Dock

The Proposed Project would create additional recreational facilities for the City of West Sacramento. The *City of West Sacramento Parks Master Plan* describes how "opportunities to enjoy the river are hampered by the lack of developed public access" (City of West Sacramento 2003). The Proposed Project would be a direct response to this issue, as the proposed replacement dock would provide a new public river access point for the City. Additionally, the Parks Master Plan indicated the need for recreational facilities to be compliant with the California State Building Code provisions for

accessibility and the ADA. The building code requires conformance with the ADA for all public buildings, parks, and outdoor places (City of West Sacramento 2003). As described in Section 2.4 Project Characteristics, the Proposed Project would meet the California Building Code provisions for accessibility and the ADA requirements at both facilities.

Overall, the Proposed Project would help the City satisfy its need for public access points to the Sacramento River and contribute to obtaining the City's goal of 5 acres of parks per 1,000 residents. The Proposed Project would not increase the use of existing parks, but rather provide additional recreational facilities for the City. No impact would occur.

Rice Mill Pier.

Please see the Raley's Dock discussion above. The proposed rehabilitated pier would provide a new public river access point and be compliant with the California State Building Code provisions for accessibility and the ADA as well. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☒	☐	☐

Raley's Dock

The proposed replacement Raley's Dock would serve as a recreational facility to the residents of the City. As described throughout this Initial Study, there are short-term, construction-related impacts associated with the Proposed Project. However, all impacts would be reduced to a less than significant level. Therefore, the Proposed Project would not involve construction of a recreational facility that would result in an adverse physical effect on the environment with the implementation of mitigation measure B-1, B-2, B-3, C-1, C-2, G-1, H-1, N-1 and N-2. Thus, a less than significant impact would occur.

Rice Mill Pier

The rehabilitated Rice Mill Pier would serve as a recreational facility to the residents of the City. As described throughout this Initial Study, there are short-term, construction-related impacts associated with the Proposed Project. However, all impacts would be reduced to a less than significant level with mitigation incorporated. Therefore, the Proposed Project would not involve construction of a recreational facility that would result in an adverse physical effect on the environment with the implementation of mitigation measure B-1, B-2, B-3, C-1, C-2, and H-1. Thus, a less than significant impact would occur.

4.16 Transportation/Traffic

4.16.1 Environmental Setting

Raley's Dock

The Raley's Dock Project site is located on the Sacramento River, about 500 feet north (upriver) of the Tower Bridge. The Raley's Dock Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Tower Bridge on the south, downtown Sacramento on the east, and I Street Bridge on the north. There is no direct street access to the Project site; however, the River Walk Trail provides access to the access ramp and gangways that lead to the dock. The nearest road is 3rd Street located directly west of the Ziggurat building. Highway access to the Project site is provided by I-5 approximately 0.3 mile east in the City of Sacramento and by I-80/US 50 approximately 1 mile northwest in the City of West Sacramento.

Rice Mill Pier

The Rice Mill Pier Project site is located on the Sacramento River, about 400 feet north (upriver) of the Pioneer Bridge. The Project site is on the west bank of the Sacramento River and is bound by the City of West Sacramento on the west, Pioneer Bridge on the south, downtown Sacramento on the east, and Tower Bridge on the north. Access to Project site is provided by Mill Street and Riverfront Street. Highway access to the Project site is provided by I-5 approximately 1.25 miles northeast in the City of Sacramento and by I-80/US 50 approximately 0.5 mile southwest in the City of West Sacramento.

City of West Sacramento General Plan Transportation and Circulation Element, Roadway Classifications

The City of West Sacramento General Plan Transportation and Circulation Element roadway classifications are organized and described in terms of hierarchy of roadways according to their functional classifications. The City has five roadway classifications: local, collector, minor arterial, major arterial, and freeways/expressways. Local roadways are intended to serve adjacent properties only, carry very little through traffic, and generally carry very low traffic volumes. Collector roadways are intended to "collect" traffic from local roads and carry it to roadways higher in the street classification hierarchy. They serve adjacent properties and generally carry light to moderate traffic volumes. Minor arterial roadways are fed by local service and collector roads, provide intra-city circulation and connection to regional roadways, and often carry heavy traffic volumes. Major arterial roadways are fed by local, collector, and minor arterial roadways, provide for major cross-town and regional travel, and carry larger volumes of traffic. They are divided roadways of four to six lanes and with a large median area which is used for auxiliary lane purposes at intersections. Freeways and expressways are intended to serve both intra-city and inter-city travel. They provide no service to adjacent properties, but rather are fed traffic from collector or arterial roadways through the use of access ramps and, therefore, do not have at-grade inspections (City of West Sacramento 2009c).

The nearest road to the Raley's Dock Project site is 3rd Street, which is classified as a collector road. The nearest roads to the Rice Mill Pier Project site are Mill Street and Riverfront Street, which are both classified as collector roads as well (City of West Sacramento 2009c).

Levels of Service

The level of service (LOS) of a roadway describes the operating conditions experience by motorists. LOS is a quantitative measure of the effect of speed and travel, traffic interruptions, freedom to maneuver, driving comfort and convenience. Roadways LOS ranges from "A" as the best to "F" as the worst (City of West Sacramento 2009c). The *City of West Sacramento General Plan Policy Document* states "the City shall endeavor to maintain a level of service "C" on all streets within the City, except at intersections an on roadway segments within one-quarter mile of a freeway interchange or bridge crossing of the Deep Water Ship Canal, barge canal, or Sacramento River, where a level of service "D" shall be deemed acceptable" (City of West Sacramento 2004). As of 2009, the City had 20 roadways at LOS "A," 2 roadways at LOS "B," 5 roadways at LOS "C," 4 roadways at LOS "D," and 3 roadways at LOS "E" (City of West Sacramento 2009c). LOS has not been determined for 3rd Street, Mill Street, or Riverfront Street.

4.16.2 Transportation/Traffic (XVI.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐

Raley's Dock

Raley's Dock replacement would generate short-term construction-related vehicle trips. As described in Section 2.5 Construction, the majority of construction would occur from the waterside on a barge or small work boats. The floating docks and other construction equipment and materials would be loaded into the river at Broderick Boat Ramp approximately 0.5 mile upriver from the Raley's Dock Project site. Access to Broderick Boat Ramp is provided by Levee Road and 4th Street. The landside construction activities would include construction of the access ramp and gangway. A construction staging area occurs on the levee (see Figure 3. *Raley's Dock Project Location*) and access to the staging area would be provided by E Street, directly north of the CalSTRS building. During construction, approximately two truck trips would be required per day for 70 days for a total of 140 construction-related vehicle trips. Maintenance of the dock would generate a small number of long-term vehicle trips per year for removal of debris and other dock maintenance; however, the Project site is within an urban area and the number of trips generated would not be substantial in comparison to the daily traffic load of the area. The new dock would not result in any changes to the transportation system or impede any transportation improvements or control measures. There would be small temporary increase in traffic as a result of construction-related activities; however, the increase would not conflict with the transportation and circulation elements of the City of West Sacramento General Plan. A less than significant impact would occur.

Rice Mill Pier

Rice Mill Pier rehabilitation would generate short-term construction-related vehicle trips. Construction would occur mostly from the landward side of the pier, with only a minor amount of construction related to repairs occurring from the waterside on work boats. A construction staging area occurs adjacent to the pier structure on the levee (see Figure 4. *Rice Mill Pier Project Location*) and access to the staging area is provided by Mill Street and Riverfront Street. During construction, approximately two truck trips would be required per day for 85 days for a total of 170 construction-related vehicle trips. Maintenance of the pier would generate a small number of long-term vehicle trips per year; however, the increase would not be substantial compared to the existing traffic conditions of the surrounding urban area. Rehabilitating the pier would not result in any changes to the transportation system or impede any transportation improvements or control measures. There would be a small temporary increase in traffic as a result of construction-related activities; however, the increase would not conflict with the transportation and circulation elements of the City of West Sacramento General Plan. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

Raley's Dock

The Proposed Project would create a temporary traffic impact from construction related activities. This impact would be minor and would end upon completion of the construction activities. The Proposed Project would not permanently increase traffic in the area; therefore, it would not affect LOS standards or travel demand measures for designated roads or highways in the Project area. A less than significant impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

Raley's Dock

As described in 4.8.1 Hazards and Hazardous Materials, there are several airports within the Project vicinity. The Sacramento International Airport is approximately 9 miles northwest of the Project area, Sacramento Executive Airport is approximately 5 miles southeast of the Project area, Mather

Airport is approximately 12 miles east of the Project area, and McClellan Airport is approximately 9 miles northeast of the Project Area. The Project area is not located within an airport land use compatibility zone nor is it within 2 miles of a public or private use airport. As stated above in item a), the Proposed Project would generate short-term construction-related vehicle trips and a low level of long-term maintenance-related vehicle trips. There would be no changes to air traffic patterns as a result of the Proposed Project. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

Raley's Dock

The Proposed Project does not involve construction of roadway infrastructure or incompatible uses that could increase potential roadway hazards. The Project sites are located on the Sacramento River and the Proposed Project involves infrastructure within the river water column. The Sacramento River is a navigable river that flows in a southward direction, and the width of the river varies depending on water elevation. Navigation on the river is limited to recreational watercraft due to the river's size and fluctuating water levels, which prevent the accommodation of large commercial vessels (USACE and WSAFCA 2013). All aspects of the Proposed Project would comply with the California Department of Boating and Waterways guidelines and standards. The Proposed Project would not increase transportation hazards on roadways or on the Sacramento River. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Would the project result in inadequate emergency access?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site is located within the Sacramento River and the adjacent riverbank. All construction related vehicles and equipment would be located within the staging areas on the levee (see Figure 3. *Raley's Dock Project Location*). The Proposed Project would not prohibit or alter any emergency access routes. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is located within the Sacramento River and the adjacent riverbank. All construction related vehicles and equipment would be located within the staging areas on the levee (see Figure 4. *Rice Mill Pier Project Location*). The Proposed Project would not prohibit or alter any emergency access routes. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Raley's Dock

The Raley's Dock Project site is located adjacent to the River Walk Trail which serves as a pedestrian and bicycle trail open to the public. Construction activities could require temporary closure or detours on sections of the River Walk Trail. Any closure or detours along the trail would be short-term and temporary and there would be no impacts to the River Walk Trail after construction is complete. Therefore, the Proposed Project would not conflict with the *2013 West Sacramento Bicycle, Pedestrian, and Trails Master Plan* or the Transportation and Circulation Element of the City's General Plan. No impact would occur.

Rice Mill Pier

The Rice Mill Pier Project site is also located adjacent to the River Walk Trail. Please see the Raley's Dock discussion above. No impact would occur.

4.17 Utilities and Service Systems

4.17.1 Environmental Setting

Water Service

The City currently uses water diverted from the Sacramento River for its water supply. The Bryte Bend Water Treatment Plant (WTP) is located upstream from the Project sites and has been recently expanded. It processes the water supply for the City and its current capacity of 58 million gallons per day in 2004 (City of West Sacramento 2011).

Wastewater

Wastewater from the City is diverted to the Sacramento Regional Wastewater Treatment Plant (SRWTP) via the Lower Northwest Interceptor. The SRWTP is run by the Sacramento Regional County Sanitation District (SRCSD) and is located south of the Project area in Elk Grove (SRCSD 2008).

Solid Waste

Solid waste collection for the City is provided by a private hauler, Waste Management, Inc. The majority of the solid waste collected is disposed of at Yolo County Landfill (City of West Sacramento 2009c). It has a total capacity of 28 million cubic yards (18 million tons), and the California Integrated Waste Management Board deemed it capable of staying open until 2045 (City of West Sacramento 2010). Industrial, construction, and demolition waste collection are part of a non-exclusive arrangement, which requires haulers to obtain a non-exclusive franchise permit from the City. Solid waste from non-exclusive franchise haulers is disposed of at any of the following disposal sites: Hay Road Landfill, Potrero Hills Landfill, L and D Landfill Co., Forward, Inc. Landfill, Kiefer Landfill, and Vasco Road Sanitary Landfill. The remaining capacities of these landfills range from 38 to 96 percent (City of West Sacramento 2009c).

4.17.2 Utilities and Service Systems (XVII.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

Raley's Dock

The Proposed Project would not produce wastewater and would not require wastewater treatment. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

Raley's Dock

As stated in item a), the Proposed Project would not produce wastewater and would not require wastewater treatment. Therefore, the Proposed Project would not require the construction or expansion of new wastewater treatment facilities. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Raley's Dock

Raley's Dock replacement would consist of replacing a previously existing Raley's Dock with a new floating dock of similar size. The majority of the construction would occur from the waterside on a barge and small work boats anchored into the Sacramento River. The construction of the access ramp and landings would occur on the levee. Short-term construction on the levee would potentially increase stormwater; however, the time period would be short and impacts minimal. As stated in Section 4.9 Hydrology and Water Quality, a SWPPP or WPCP listing BMPs would be prepared for the Proposed Project, which would reduce stormwater runoff during construction. Once the replacement dock is constructed, operations and maintenance would not produce additional stormwater in the area. Any stormwater produced during construction would be temporary and controlled with the implementation of BMPs during construction. Because the increase in stormwater would be temporary, new stormwater drainage facilities would not be required. A less than significant impact would occur.

Rice Mill Pier

Rice Mill Pier rehabilitation would consist of rehabilitating the existing pier. The majority of the construction would occur on the levee, and access from the river may be required for repair and strengthening work on the pier substructure. Short-term construction on the level would potentially increase stormwater. Once the pier is rehabilitated, operations and maintenance would not produce additional stormwater in the area. Any stormwater produced during construction would be temporary and controlled with the implementation of BMPs during construction. Because the increase in stormwater would be temporary, new stormwater drainage facilities would not be required. A less than significant impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

Raley's Dock

The Proposed Project would not require water service. The proposed replacement Raley's Dock would not be connected to water lines and would not use water for operations and maintenance. Any water needed for construction would be trucked to the Project sites from an outside source and would be temporary. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. The proposed rehabilitated pier would also not be connect to water lines and would not use water for operations and maintenance. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Would the project result in a determination by the wastewater treatment provider, which 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?	☐	☐	☐	☒

Raley's Dock

As stated in item a), the Proposed Project would not produce wastewater and would not require wastewater treatment service. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

Raley's Dock

The Proposed Project would produce solid waste during construction. The Project area is served primarily by the Yolo County Central Landfill. As described in Section 4.17.1 Environmental Setting, the Yolo County Central Landfill is expected to have permitted capacity until 2045. Additionally, there are several landfills in the surrounding area that can accept construction and demolition waste depending on the hauler contracted. These landfills include Hay Road Landfill, Potrero Hills Landfill, L and D Landfill Co., Forward, Inc. Landfill, Kiefer Landfill, and Vasco Road Sanitary Landfill. These landfills have remaining permitted capacities ranging from 38 to 96 percent (City of West Sacramento 2009c). Construction waste generated by the Proposed Project would be minimal and there are landfills with sufficient permitted capacity to accommodate the construction waste. A less than significant impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g)	Would the project comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Raley's Dock

The Proposed Project would comply with all federal, state, and local statues and regulations related to solid waste. No impact would occur.

Rice Mill Pier

Please see the Raley's Dock discussion above. No impact would occur.

4.18 Mandatory Findings of Significance

4.18.1 Mandatory Findings of Significance (XVIII.) Environmental Checklist and Discussion

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

With mitigation measures described in this Initial Study, the Proposed Project would not have a significant impact on fish and wildlife species or their habitat or eliminate important examples of major periods of California history or prehistory.

A formal Biological Assessment (BA) is being prepared to address ESA issues associated with potential impacts to federally-listed fish species and Critical Habitat, and shall be submitted as part of the permitting process. The BA shall be the primary support document for ESA consultation. Once issued, the Proposed Project shall comply with all conditions of the Biological Opinion from the USFWS and NMFS. Additional mitigation measures discussed under Section 4.4 Biological Resources shall be implemented to reduce any other impacts to a less than significant level.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	☐	☒	☐	☐

A search of the CEQAnet Database, the City of West Sacramento website, and the City of Sacramento was completed, and a City of West Sacramento Senior Planner was contacted to compile a list of current and proposed projects that are located in the vicinity of the Project area within the City of West Sacramento and City of Sacramento (CEQAnet Database 2013; City of West Sacramento 2013; Tilley, Personal Communication 2013). Additionally, the Southport Sacramento River Early Implementation Plan Draft EIS/EIR was used to compile the list (USACE and WSFCA 2013). Current and proposed projects are summarized in Table 16 below.

Table 18. Current and Proposed Projects in the Project Area

Project Name	Type of Project	Project Size	Location
Southport Sacramento River Early Implementation Plan	Flood Risk Reduction	5.6 miles	City of West Sacramento, Yolo County California Located south of the Barge Canal along the Sacramento River South Levee
Sacramento River Viaduct Pin and Hanger Assembly Replacement	Bridge repair	N/A	Sacramento River Viaduct, Yolo County California.
Pioneer Bluff Bridge	Bridge Construction	615 feet long and 80 foot wide	City of West Sacramento, Yolo County, California Located at South River Road and the Barge Canal
South River Pump Station Flood Protection Project	Ring Levee Construction	5,000 Feet	South of the City of West Sacramento, Yolo County Located at the South River Pump Station
West Sacramento Levee Improvement Plan	Levee Improvement	50+ miles	Yolo County and Solano County surrounding the City of West Sacramento
Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project	Habitat Restoration	N/A	Cities of Davis, Rio Vista and West Sacramento, Yolo, Solano and Sutter Counties, California Located along Yolo Bypass and the Sacramento River
Sacramento Riverfront Master Plan Improvement (River Walk)	Park Construction	N/A	City of West Sacramento, Yolo County Located from The Rivers development on the north of Stone Locks to the Port of Sacramento
Barge Canal Redevelopment	Redevelopment	N/A	City of West Sacramento, Yolo County Located at the Barge Canal
Sacramento River Bank Protection Project	Levee Improvement	N/A	Sacramento County Located along the Sacramento River

Project Name	Type of Project	Project Size	Location
The West Sacramento Project	Levee Improvement	Approximately 5.5 miles	Yolo County Located along the right bank of the Sacramento River
Bridge District Water Storage Facility and Park	Park and Utilities	N/A	City of West Sacramento, Yolo County Located within the Bridge District
Central Valley Flood Protection Plan of 2012	Comprehensive system-wide plan for flood protection	N/A	Sacramento River and San Joaquin River Watershed
Sacramento River Flood Control Agency Levee Integrity Program	Levee Improvement	N/A	Sacramento County Located within the Natomas River Basin Levee System
West Sacramento Project	Plan for improvement flood-risk management	N/A	City of West Sacramento, Yolo County Located on the right bank of the Sacramento River
West Sacramento General Reevaluation	Assess levee integrity	City-wide	City of West Sacramento, Yolo County
American River Watershed (Common Features) General Reevaluation	Assess levee integrity	City-wide	City of Sacramento, Sacramento County Located on the left bank of the Sacramento River
Sacramento Urban Levee Program	Levee evaluation	City-wide	City of Sacramento, Sacramento County Located along the Sacramento River
Natomas Levee Improvements Program	Levee Improvement	N/A	Sacramento County Natomas River Basin
Southport Framework Plan	Specific Plan	7,180 acres	City of West Sacramento, Yolo County
Washington Specific Plan	Specific Plan	200 acres	City of West Sacramento, Yolo County Located in the northeast area of the City
Bridge District Specific Plan	Specific Plan	188 acres	City of West Sacramento, Yolo County Located in the central area of the City along the Sacramento River
Yolo Natural Heritage Program Habitat Conservation Plan	Habitat Conservation Plan	653,629 acres	Yolo County
CALFED Ecosystem Restoration Program	Ecosystem Restoration	N/A	Sacramento, San Joaquin, Delta and Eastside Tributary Regions
Long-Term Central Valley Project Biological Opinions	Biological Opinions	N/A	Central Valley Projects

As described in the impact analysis of this Initial Study, potentially significant impacts to biological resources, cultural resources, geology and soils, hydrology and water quality, and noise have been identified and mitigation measures have been proposed to offset any project specific contribution to cumulative impacts. The Proposed Project consists of replacing a previously existing dock and rehabilitating an existing pier on the Sacramento River waterfront.

Raley's Dock

The proposed replacement dock would replace the previously existing Raley's Dock that was removed in January of 2012. The proposed replacement dock would be located in the same place as the previous dock and would extend from the River Walk Park. The majority of impacts associated with the proposed replacement dock would be considered less than significant due to the size of the dock and the short duration of construction activities. Impacts discussed above that would be

potentially significant are specific to the Project site and would be reduced to a less than significant level with implementation of mitigation measures. Current and proposed projects in the Project area (described in Table 16) would also implement mitigation as necessary to reduce any temporary construction-related impacts to a less than significant level. Specifically, projects occurring adjacent to the Project area on the Sacramento River would implement mitigation measures necessary to reduce impacts to the river and special-status species. Because there are existing facilities on the Sacramento River, the replacement dock would not generate an increase in boating traffic on the river. Additionally, the replacement dock is replacing a previously existing facility and would not generate an increase in existing use of the area and therefore, would not result in growth inducing cumulative effects. Thus, the Proposed Project would not contribute to long-term cumulative effects.

Rice Mill Pier

Rice Mill Pier is an existing structure on the Sacramento River. The pier would be rehabilitated to extend from the River Walk Trail and be accessible to the public and user of the trail. The majority of impacts associated with the proposed rehabilitation would be less than significant due to the size of the pier and the short duration of construction activities. Impacts discussed above that would be potentially significant would be reduced to a less than significant level with implementation of mitigation measures. Current and proposed projects in the Project area (described in Table 15) would also implement mitigation as necessary to reduce any temporary construction-related impacts to a less than significant level. Rice Mill Pier is an existing facility and the proposed rehabilitation would not generate growth induce cumulative effects. Thus, the Proposed Project would not contribute to long-term cumulative effects.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Direct and indirect impacts to human beings would be reduced to a less than significant level with the implementation of the mitigation measures proposed throughout this Initial Study.

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APPENDIX A

Biological Resources Assessment

Biological Resources Assessment

Raley's Dock Replacement and Rice Mill Pier Rehabilitation

City of West Sacramento, California

Prepared For:

City of West Sacramento

December 20, 2013

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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1.0 INTRODUCTION

At the request of the City of West Sacramento, ECORP Consulting, Inc. (ECORP) has conducted a biological resource assessment for the proposed Raley's Dock Replacement and Rice Mill Pier Rehabilitation project (Project) site located in the City of West Sacramento, Yolo County, California. The purpose of the assessment was to collect information on the biological resources present within the site, and to determine any potential biological constraints to site construction.

1.1 Project Location

The Proposed Project would consist of the replacement of Raley's Dock and rehabilitation of the Rice Mill Pier, both located in the City of West Sacramento on the Sacramento River (Figure 1. *Project Vicinity*). The Raley's Dock site is approximately 0.75 mile north (upriver) from the Rice Mill Pier site (Figure 2. *Project Location*).

Raley's Dock is located on the Sacramento River, about 500 feet north (upriver) of the State Route (SR) 275 Tower Bridge (Tower Bridge). Raley's Dock is on the westward bank of the Sacramento River and is bound by the City of West Sacramento on the east, Tower Bridge on the south, downtown Sacramento on the west, and I Street Bridge on the north.

The Rice Mill Pier is located on the Sacramento River, about 400 feet north (upriver) of the Interstate 80/US 50 Capitol Expressway Bridge (I-80/US 50 Bridge). The Pier is on the westward bank of the Sacramento River and is bound by the City of West Sacramento on the east, I-80/US 50 Bridge on the south, downtown Sacramento on the west, and Tower Bridge on the north. Access to Rice Mill Pier is provided by Mill Street.

1.2 Project Description

1.2.1 Raley's Dock Replacement

The City of West Sacramento intends to build a replacement dock with a facility that is open to the public, meets current building and safety standards, and is accessible and compliant with the requirements of the ADA. The Sacramento River is approximately 500 feet wide at the proposed dock location. The proposed dock would be 432 feet long overall, with a 25-foot-wide, 60-foot-long berthing dock on the downstream end and an 8-foot-wide, 372-foot-long upriver section (Figure 5. Raley's Dock Site Plan). The new floating docks would support dead loads consisting of utilities, access gangways and landing platforms, and live (transient) loads. Vessels would be able to temporarily moor to the floating docks, and all float modules would be held in position by guide piles. The new dock would provide a new recreational boating facility with docking available for small boats, water taxis and other vessels, and the dock would meet current building code and safety standards as well as be ADA-compliant.

- The City of West Sacramento intends to implement the following facility improvements:
- Replace floating docks using durable, low maintenance and stable concrete floating units.
- Provide lighting and cleats on replacement docks to improve public access and safety, and to enhance aesthetics.
- Implement use of upstream debris deflector boom to protect docks from logs and other floating debris in the river.

- Reuse existing steel guide piles where possible to secure new replacement floating docks. Where reuse of existing docks is not possible due to damage, misalignment, or non-compliant with dock improvements, the existing piles will be removed and new steel pipe piles installed.
- Provide accessible gangway with adjustability for use at varying river water levels.
- Provide ADA-compliant access ramp and landing from top of levee to gangway entrance. The ramps would not exceed 1:12 slope and a 2.5 foot maximum rise in 30 feet.
- Where possible, use prefabricated elements for project construction such as the floating docks, gangways and access ramp to reduce construction impacts at the site.
- Utilize concrete floating docks with flotation units polyethylene-encased with foam in place of timber to provide longer service life with reduced maintenance requirements and costs.
- Removal of existing debris around the guide piles.

1.2.1.1 Replacement Floating Dock

The replacement of the floating dock would consist of concrete construction with sealed floatation units. The dock would be approximately 432 feet long. The downriver section (berthing dock) would be 25 feet wide and 60 feet long and the upriver section would be 8 feet wide and 372 feet long. There would be 12-inch mooring cleats mounted along the dock edge and pedestal lights along the dock.

There are a total of 24 existing steel pipe guide piles within the water column, these piles include: 12, 30-inch diameter piles, 10, 18-inch diameter piles, and 2, 16-inch diameter piles. The pile tip elevation is currently unknown; however, it will be confirmed by a geotechnical investigation. It is assumed to be elevation -20 to -30 feet (National Geodetic Vertical Datum (NGVD) 29). The new floating dock would require 1 existing 18-inch diameter pile along the longer upriver section to be removed and a replacement 18-inch diameter pile would be installed in the same location. The new pile would be installed using vibratory driving. The berthing dock and upriver floating dock would attach to the piles with pile collars.

1.2.1.2 Debris Deflector Boom

A 235 foot long debris deflector boom would be located approximately 60 feet from the upstream end of the floating dock and would extend at a 45 degree angle from the end of the dock towards the shore. An additional 12 steel pipe piles 20-inches in diameter would be placed in the river to secure the debris deflector boom into place. The piles would be installed using vibratory driving. The debris deflector boom would consist of two 24-inch diameter high density polyethylene (HDPE) pipes stacked on top of each other and connected perpendicular to the steel pipe piles. The upper pipe would be foam filled for floatation while the bottom pipe would be open and act as ballast. The pipes would be separated into 6, 40-foot sections, with each section connecting to 2 steel pipe piles. The boom would be designed to be free floating at all times. The purpose of the debris deflector boom is to divert debris traveling down the river from getting trapped between the floating dock and the shore. This would prevent the need for costly debris removal and protect the dock from excess debris floating downstream during storms.

1.2.1.3 Gangway

The gangway would consist of an upper gangway section and a lower gangway section; each would be 5 foot wide and approximately 80 feet long. The gangways would connect at a pivot point with a transition

plate. The gangway sections would be aluminum construction with a slip resistant surface and have ADA-compliant handrails. There would be floatation boxes and cable pulleys attached to gangway ends to make the gangway adjustable for varying river water levels. Eight, 18-inch existing piles would be removed and would be replaced with 5 new 18-inch diameter piles. New piles would be installed using vibratory driving and would be placed where the gangway attaches to the access ramp and at the gangway pivot point.

1.2.1.4 Access Ramp on Levee

The access ramp on the levee would have a concrete deck. The access ramp would extend from the existing Raley's Landing portal and would be adjacent to the existing concrete walk that connects to River Walk Trail. It would be elevated on posts above the ordinary high water mark (OHWM) within the flood channel. The posts would be supported by cast-in-drilled-hole (CIDH) steel pipe piles drilled into the levee slope. The piles used to support the access ramp would consist of small (8-inch and 12-inch) diameter steel pipes (micropiles). Approximately 32, 8-inch and 2, 12-inch micropiles would be installed into the levee using a truck or track-mounted rotary drill rig. The access ramp would not exceed a slope of 1:12 and it would have ADA and code-compliant handrails. The landing would have a lockable security gate located at the gangway entrance.

1.2.2 Rice Mill Pier

Rice Mill Pier consists of an elevated concrete deck about 12 inches thick, 18 feet wide, and 120 feet long. The pier deck elevation is approximately level with the top of the levee and during typical summer flows is about 25 feet above the river level at the waterside end of the pier (Figure 6. *Rice Mill Pier Site Plan*). The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

The City of West Sacramento intends to rehabilitate the existing Rice Mill Pier for public access use along the Sacramento River. The Proposed Project would include implementation of repairs and strengthening to the pier along with structural and mechanical options for full compliance with the accessibility requirements of the ADA.

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; however, the existing piles would be reused where possible to avoid pile driving. Fiberglass or steel pile jackets may be used to restore or increase the structural capacity of the existing piles. Strengthening of the piles may be needed, depending on the results of the seismic evaluation. The Proposed Project would also repair the existing concrete pier abutment. The abutment walls will be repaired or replaced as required. All existing openings into the abutment will be sealed, at least to the extent that access by the public or

pests is precluded. A protective rail or fencing system and lighting along the pier perimeter would be provided.

The City of West Sacramento is in the process of implementing a Vegetation Management Plan along the riverbank between Tower Bridge and the I-80/US 50 Bridge, where the Rice Mill Pier is located. The Vegetation Management Plan includes removal and trimming of trees, specifically removal of non-native species and trees in poor condition. The majority of the existing vegetation under the pier and existing trees immediately adjacent to the pier would be removed as part of the Vegetation Management Plan (Kirtley, Personnel Communication 2013). Any existing debris left against the pier substructure would be removed during the rehabilitation process.

1.3 Construction

1.3.1 Raley's Dock Replacement

It is expected that a majority of the construction for the Raley's Dock replacement would occur from the waterside on a barge and on small work boats anchored in the Sacramento River. The new floating docks would be loaded into the river at the Broderick Boat Ramp located approximately 0.5 mile upstream form the project site and towed to the Project site using a boat or barge. Construction of the access ramp and landings would occur from the landside on the levee.

New Pile Installation (In River)

The new piles to be installed would be transported to the Project site via the river on a barge, and the barge would be positioned where the piles are to be installed. A barge-mounted crane with an attached vibratory hammer would lift the pile into vertical position in the water (Photo 10). The pile would then be lowered into position inside the template (if used) and set in place at the river mud line. During vibratory pile driving, the pile would be stabilized by the template (if used) while the vibratory driver would install the pile to the required tip elevation. Vibratory installation would take approximately 3 to 5 minutes per pile to reach the required pile tip elevation. The time intervals between driving of each pile would vary; however, a minimum of several minutes would be required for positioning and set up. It is anticipated that all pile driving activities in the river can be completed in two days.

New Pile Installation (On Levee)

The expected subsurface conditions at the levee would allow the use of rotary drilling to install the steel pipes. The required embedment depth in the levee is expected to be approximately 20 feet. The drilling equipment and methods would be suitable for drilling through the conditions to be encountered, without causing damage to any overlying or adjacent known structures or services. If difficult subsurface conditions occur, a vibratory hammer may be used to advance the steel pipe casing into the levee. If vibratory hammers are used to advance the pile casings, a vibration monitoring plan would be provided by the contractor for approval.

1.3.2 Rice Mill Pier Replacement

The majority of the construction work and construction staging areas for the Rice Mill Pier rehabilitation would occur from the landside, along the levee. Access from the river may be required for repair and strengthening work on the pier substructure; however, installation of new piles and other foundation elements in the Sacramento River is not anticipated.

1.4 Biological Setting

The City of West Sacramento is located in western Yolo County, California. The City is largely reclaimed land located on the natural floodplain of the Sacramento River (West Sacramento 2000). The climate is Mediterranean with summer high temperatures reaching above 100 degrees Fahrenheit (F) and winter low temperature of below freezing; annual precipitation is 18.10 inches, with most occurring between December and March (West Sacramento 2000). The local topography is relatively flat. The Project site is situated on the western bank and in the water column of the Sacramento River at an elevation of approximately 19 feet above mean sea level. The sites are comprised of urban/developed, ruderal non-native grassland and remnant Valley/foothill riparian woodland communities.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.1.1 Section 7

Section 7 of the FESA mandates that all federal agencies consult with the United States Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If direct and/or indirect effects will occur to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with the USFWS or NMFS. If adverse effects are likely, the applicant must conduct a biological assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat in order to establish and justify an "effect determination". The federal agency reviews the BA; and, if it concludes that the project may adversely affect a listed species or its habitat, it prepares a Biological Opinion (BO). The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

2.1.1.2 Critical Habitat and Essential Habitat

Critical habitat is defined in Section 3 of the FESA as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the FESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Cover or shelter;
- Sites for breeding, reproduction, or rearing (or development) of offspring; and
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

Excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species but were excluded from the critical habitat designation. The USFWS has stated that any action within the excluded essential habitat that triggers a federal nexus will be required to undergo the Section 7(a)(1) process, and the species covered under the specific critical habitat designation would be afforded protection under Section 7(a)(2) of the FESA.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Department of Fish and Game (CDFG) Code.

2.1.3 Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the U.S. Army Corps of Engineers

(USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.1.4 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements (WDR) for these activities.

2.2 State or Local Regulations

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA

and/or FESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

2.2.4 California Streambed Alteration Notification/Agreement

Section 1602 of the Fish and Game Code requires that a Streambed Alteration Application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

2.2.5 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.6 City of West Sacramento General Plan

The following are goals and policies of the City of West Sacramento General Plan Policy Document (West Sacramento 2008) pertaining to biological resources that are relevant to the Project.

> *GOAL C* – To protect sensitive native vegetation and wildlife communities and habitat in West Sacramento.
>
> *Policy 1.* The city shall encourage and support development projects and programs that enhance appreciation and awareness of the natural environment.
>
> *Policy 2.* The City shall support state and federal policies for preservation and enhancement of riparian and wetland habitats by incorporating, as deemed appropriate, the findings and recommendations of the Sacramento Greenway Plan, California Department of Fish and Game and the U.S. Fish and Wildlife Service into site-specific development proposals.
>
> *Policy 3.* The City shall require site-specific surveys to identify significant wildlife habitat and vegetation resources for development projects located in or near riparian or wetland areas.
>
> *Policy 4.* The City shall support mitigation measure which provide for no net loss of riparian or wetland habitat acreage and value by regulating development in and near these habitats and promoting projects that avoid sensitive areas. Where habitat loss is unavoidable, the City shall seek replacement on at least a 1:1 basis. Replacement entails creating habitat that is similar in extent and ecological value to that displaced by the project. The replacement habitat should consist of locally occurring, native species and shall be located as close as possible to the project site or be part of a larger replacement habitat project.
>
> *Policy 5.* To minimize disturbance to wildlife, the City Shall require the provision and maintenance of an adequate setback between significant wetland habitat and adjacent development. The buffer shall be landscaped with native or compatible introduced ornamental vegetation an may be used for passive recreation purposes.
>
> *Policy 9.* The City shall seek to preserve populations of rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects.

Policy 10. The City shall not approve projects that would cause unmitigatible impacts on rare, threatened, or endangered wildlife or plant species.

Policy 11. The City shall implement measures to ensure that development in the city does not adversely affect fishery resources in the Sacramento River, Deep Water Channel, and Lake Washington.

Policy 12. Public access and recreation facilities shall not eliminate or degrade riparian habitat values. Trails, picnic areas, and other developments shall be sited to minimize impacts on sensitive wildlife habitat or riparian vegetation.

Policy 13. The City shall promote the use of native plants, especially Valley oaks, for landscaping roadsides, parks, and private properties. In particular native plants should be used along the Sacramento River and in areas adjacent to riparian and wetland habitats.

2.2.7 City of West Sacramento, Municipal Code, Title 8 (Health and Safety), Ch. 8-24 – Tree Preservation

In order to promote the public health, safety and general welfare of the City, the City has enacted regulations governing the removal and preservation of certain trees on private and public property within the City in addition to the planning and maintenance of street trees within new and already established developments.

It is unlawful to perform any of the following acts with respect to a landmark (as designated by the City Council) or heritage tree (living tree with a trunk circumference of 75 inches or more or a native oak with a trunk circumference of 50 inches or more) within the city limits without a tree permit issued by the tree administrator.

- Move, remove, cut down, poison, set fire to or permit fire to burn in proximity to or perform or fail to perform any act which results in the unnatural death or destruction of a landmark or heritage tree;
- Perform any activity that will interfere with or retard the natural growth of any landmark or heritage tree;
- Perform any work or permit any work to be performed within the drip line area of a landmark or heritage tree which would endanger the tree;
- Trim or prune any branch of a landmark or heritage tree which is five inches in diameter or greater. (Ord. 04-01 § 3 (part))

During construction activity on any property upon which a landmark, heritage or street tree is located, it is unlawful for any person to perform any of the following acts without a tree permit issue by the tree administrator, which permit shall not be denied if the activities are deemed necessary for the project and proper care is taken to protect any landmark, heritage or street tree:

1. Change the appropriate amount of irrigation or drainage water provided to any landmark, heritage, or street tree;
2. Trench, grade, pave or otherwise damage or disturb any exposed roots within one foot outside the drip line area of any landmark, heritage, or street tree;

3. Park or operate any motor vehicle within one foot outside the drip line area of any landmark, heritage or street tree;
4. Place or store any equipment or construction materials within one foot outside the dripline area of any landmark, heritage, or street tree;
5. Place, apply or attach any signs, ropes, cables or any other items to any landmark, heritage or street tree;
6. Cut or trim any branch of any landmark, heritage or street tree that is five inches in diameter or greater;
7. Place or allow to flow any oil, fuel, concrete mix or other deleterious substance into or over within one foot outside the drip area of any landmark, heritage or street tree. (Ord. 04-01 § 3 [part])

3.0 METHODS

ECORP biologist Keith Kwan conducted the site assessment on September 17, 2013. Prior to conducting the field portion of the assessment, the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2013a) and California Native Plant Society Electronic Inventory (CNPS 2013) were queried to determine the special-status species that had been documented in the topographic quadrangle that encompasses the site. Additional data regarding the potential occurrence of special-status species were gathered from various online websites and databases such as Calflora. Soil types were determined using the United States Department of Agriculture National Resource Conservation Service Web Soil Survey (NRCS 2013).

The Project site was systematically surveyed on foot to ensure total site coverage. Special attention was given to identifying those portions of the site with the potential to support special-status species and sensitive habitat. Biological resource information that was collected included:

- Potential Waters of the U.S.;
- Plant and animal species directly observed;
- Characterization of habitats present on-site;
- Animal signs (e.g., scat, tracks);
- Active bird nests;
- Burrows and any other special habitat features; and
- Representative site photographs.

3.1 Special-Status Species

Using information from the CNDDB, the literature review, and observations in the field, a list of special-status plant and animal species that have the potential to occur on the site was generated (Table 1). Each of these species was assessed for their potential to occur on-site based on the following criteria guidelines:

Present: Species was observed on-site during a site visit or focused survey.

High: Habitat (including soils and elevational requirements) for the species occurs on-site and a known occurrence occurs within 5 miles of the site.

Moderate: Habitat (including soils and elevational requirements) for the species occurs on-site and a known occurrence occurs within the database search, but not within 5 miles of the site; or a known occurrence occurs within 5 miles of the site and marginal or limited amounts of habitat occurs on-site.

Low: Limited habitat (including soils and elevational requirements) for the species occurs on-site and a known occurrence occurs within the database search, but not within 5 miles of the site.

Absent: No suitable habitat (including soils and elevational requirements) occurs on-site, the site is located outside the species known geographical range, or the species was determined to be absent during focused surveys.

4.0 RESULTS

Representative site photos are shown in Attachment A.

4.1 Site Characteristics and Land Use

The **Raley's Dock Replacement** location is currently comprised of existing steel piles within the Sacramento River water column. The bank at this location is relatively steep and somewhat eroded, with little to no herbaceous vegetation and several large Fremont's cottonwood (*Populus fremontii*) trees rooted into the bank.

The landward side of this location is the developed park-like setting of the River Walk Promenade with manicured lawns, landscaping, and paved walking trails. Further inland are two office buildings (The Ziggurat and California State Teachers' Retirement System), and the E Street Plaza.

The **Rice Mill Pier Rehabilitation** location is currently comprised of the existing pier, which is in disrepair. The pier surface is approximately 25 feet above the water level that is supported by concrete piles into the river bed and bank. The bank at this location is relatively steep with a narrow strip of riparian trees and herbaceous weeds.

The landward side of this location is comprised of the River Walk Trail (paved pedestrian), previously graded lots, curb/gutter, and streets (e.g. Riverfront Street) for development. However, none of the lots immediately adjacent to this location have been developed. The undeveloped areas are comprised of weedy grasses and herbs.

4.2 Plant Communities

The vegetation communities found within the proposed project areas are remnant Great Valley cottonwood riparian forest, ruderal grassland, and urban. The riparian corridor is narrow and trees are rooted at water's edge or into the steep bank.

The riparian forest is dominated by Fremont cottonwood (*Populus fremontii*), with scattered black willow (*Salix gooddingii*), box elder (*Acer negundo*), black locust (*Robinia pseudoacacia*), and tree-of-heaven (*Ailanthus altissima*). The understory vegetation is made up of invasive ruderal grassland species including yellow star-thistle (*Centaurea solstitialis*), ripgut brome (*Bromus diandrus*), wild oats (*Avena fatua*), and Bermuda grass (*Cynodon dactylon*). The understory vegetation is patchy with areas of bare ground from trampling or erosion on steep banks. Further inland, the vegetation at the Rice Mill location

is made up of ruderal grassland/paved walking trail within undeveloped lots, and the Raley's Dock location has a manicured lawn/paved walking trails.

4.3 Wildlife

These locations support minimal wildlife movement, as there is minimal vegetative cover, presence of pedestrians, and absence of adjacent high quality wildlife habitat. They probably support nocturnal urban wildlife, such as feral cats (*Felis silvestris*), striped skunks (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), rats (*Rattus* spp.). The trees within the riparian corridor support nesting habitat for birds such as American crow (*Corvus brachyrhynchos*), western scrub-jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*). According to the CNDDB, the state-threatened Swainson's hawk (*Buteo swainsoni*) has been documented to nest in close proximity to the Project locations (CDFW 2013a).

4.4 Soils

There is one soil type on-site, (La) Lang sandy loam (U.S. Department of Agriculture, Natural Resources Conservation Service 2013) (Figure 5. *Natural Resources Conservation Service Soil Types*).

4.5 Potential Waters of the U.S.

The 19-foot elevation has been delineated as the ordinary high water mark within this reach of the Sacramento River (personal communication, Mike Finan, U.S. Army Corps of Engineers). There are no wetlands within the two Project locations (Figure 6. *Raley's Dock Ordinary High Water Mark*, Figure 7. *Rice Mill Pier Ordinary High Water Mark*).

4.6 Special-Status Plants

Special-status plants and animals analyzed for this report are included in Table 1. No special-status plants were observed during the field surveys, and there is no suitable habitat on-site for special-status plants. The sites are relatively disturbed and the herbaceous plants found in these areas are largely non-native weedy species. There are no wetland plant communities due to the steep bank, fluctuating water levels, and erosion. There are no previously documented occurrences of special-status plants within the two project locations, but there have been previously documented to occur within 5 miles of the proposed project site according to the CNDDB (CDFW 2013a) (Figure 8. *CNDDB Occurrences of Special-Status Species*). These are: Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Sanford's arrowhead (*Sagittaria sanfordii*), and Suisun marsh aster (*Symphyotrichum lentum*). Due to the lack of suitable habitat, these species are not expected to occur onsite.

Table 1. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential To Occur On-Site
Plants							
Ferris' milk-vetch	*Astragalus tener var. ferrisiae*	-		1B	vernally mesic meadows and seeps and subalkaline flats in valley and foothill grassland (7' - 246')	April-May	Absent
Alkali milk-vetch	*Astragalus tener var. tener*	-	-	1B	alkaline playas and vernal pools, and alkaline adobe clay soils in valley and foothill grassland (3' - 197')	March-June	Absent
Heartscale	*Atriplex cordulata*	-	-	1B	saline or alkaline soils in chenopod scrub, meadows and seeps, and sandy valley and foothill grassland (0' - 1,837')	April-October	Absent
Brittlescale	*Atriplex depressa*	-	-	1B	alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools (3' - 1,050')	April-October	Absent
San Joaquin spearscale	*Atriplex joaquiniana*	-	-	1B	alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland (3' - 2,740')	April-October	Absent
Bristly sedge	*Carex comosa*	-	-	2B	coastal prairie, marshes and swamps along lake margins, and valley and foothill grassland (0' - 2,051')	May-September	Absent
Palmate-bracted bird's-beak	*Chloropyron palmatum*	FE	CE	1B	alkaline chenopod scrub and valley and foothill grassland (16' - 509')	May-October	Absent
Peruvian dodder	*Cuscuta obtusiflora var. glandulosa*	-	-	2B	marshes and swamps (freshwater) (49'-919')	July-October	Absent
Dwarf downingia	*Downingia pusilla*	-	-	2B	vernal pools and mesic areas in valley and foothill grassland (3' - 1,460')	March-May	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential To Occur On-Site
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	-	CE	1B	clay soils in vernal pools and in marshes and swamps on lake margins (33' - 7,792')	April-August	Absent
Woolly rose-mallow	*Hibiscus lasiocarpos var. occidentalis*	-	-	1B	freshwater marshes and swamps (0' - 394')	June-September	Absent
Northern California black walnut	*Juglans hindsii*	-	-	1B	riparian forest and riparian woodland (0' - 1,444')	April-May	Absent
Legenere	*Legenere limosa*	-	-	1B	vernal pools (3' - 2,887')	April-June	Absent
Heckard's pepper-grass	*Lepidium latipes var. heckardii*	-	-	1B	alkaline flats in valley and foothill grassland (7' - 656')	March-May	Absent
Mason's lilaeopsis	*Lilaeopsis masonii*	-	CR	1B	brackish or freshwater marshes and swamps and riparian scrub (0' - 33')	April-November	Absent
Baker's navarretia	*Navarretia leucocephala ssp. bakeri*	-	-	1B	mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools (16' - 5,709')	April-July	Absent
Colusa grass	*Neostapfia colusana*	FT	CE	1B	large vernal pools in adobe soils (16' - 656')	May-August	Absent
Bearded popcorn-flower	*Plagiobothrys hystriculus*	-	-	1B	vernal pools, valley/foothill grassland (0-899')	April-May	Absent
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	1B	assorted shallow freshwater marshes and swamps (0' - 2,133')	May-October	Absent
Suisun Marsh aster	*Symphyotrichum lentum*	-	-	1B	brackish or freshwater marshes and swamps (0' - 10')	May-November	Absent
Saline clover	*Trifolium hydrophilum*	-	-	1B	marshes and swamps, vernal pools, and alkaline, mesic areas in valley and foothill grassland (0' - 984')	April-June	Absent
Solano grass	*Tuctoria mucronata*	FE	CE	1B	mesic areas in valley and foothill grassland, and vernal pools (13' - 30')	April-August	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential To Occur On-Site
Invertebrates							
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	-	-	vernal pools/wetlands	November-April	Absent
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	-	-	vernal pools/wetlands	November-April	Absent
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	-	-	vernal pools/wetlands	November-April	Absent
California linderiella	*Linderiella occidentalis*	-	-	CNDDB	vernal pools/wetlands	November-April	Absent
California freshwater shrimp	*Syncaris pacifica*	FE	CE	-	low gradient streams with riparian cover, shallow pools, undercut banks	any season	Absent
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT, FPD	-	-	elderberry shrubs	any season	Absent
Delta green ground beetle	*Elaphrus viridis*	FT	-	-	vernal pool edges	February - May	Absent
Sacramento Valley tiger beetle	*Cicindela hirticollis abrupta*	-	-		sand bars, open soil along rivers	any season	Absent
Fish							
Green sturgeon	*Acipenser medirostris*	FT	-	CSC	undammed rivers, streams, creeks		High
Chinook salmon (Central Valley spring-run ESU)	*Oncorhynchus tshawytscha*	FT	CT	-	undammed rivers, streams, creeks		High
Chinook salmon (Central Valley fall/late fall-run ESU)	*Oncorhynchus tshawytscha*	-	-	NMFS, CSC	undammed rivers, streams, creeks		High
Chinook salmon (Sacramento River winter-run ESU)	*Oncorhynchus tshawytscha*	FE	CE	-	undammed rivers, streams, creeks		High
Steelhead (CA Central Valley ESU)	*Oncorhynchus mykiss*	FT	-	-	undammed rivers, streams, creeks		High
Delta smelt	*Hypomesus transpacificus*	FT	CE	-	Sac-San Joaquin delta		High
Longfin smelt	*Spirinchus thaleichthys*	-	CE	-	Sac-San Joaquin delta up to Cache Slough		Absent
Sacramento splittail	*Pogonichthys macrolepidotus*	-	-	CSC	backwater sloughs		Moderate
Sacramento perch	*Archoplites interruptus*	-	-	CSC	ponds and backwaters		Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential To Occur On-Site
Amphibians							
California tiger salamander (Central California DPS)	*Ambystoma californiense*	FT	CT	CSC	vernal pools, wetlands, adjacent grassland/oak woodland with underground refuge	March-May	Absent
California red-legged frog	*Rana draytonii*	FT	-	CSC	lowlands or foothills stream/creeks with dense shrubby or emergent riparian vegetation	May 1-November 1	Absent
Reptiles							
Northwestern pond turtle	*Actinemys marmorata marmorata*	-	-	CSC	ponds, streams, detention basins, and irrigation ditches.	April-October	Low
Giant garter snake	*Thamnophis gigas*	FT	CT	-	freshwater ditches, sloughs, and marshes in the Central Valley	April-October	Absent
Birds							
Great blue heron (rookery)	*Ardea herodias*	-	-	CNDDB	rookery sites (marsh, riparian)	February-July	Low
Great egret (rookery)	*Ardea alba*	-	-	CNDDB	rookery sites (marsh, riparian)	March-July	Low
White-tailed kite (nesting)	*Elanus leucurus*	-	-	CFP	woodland, grassland	March-June	High
Cooper's hawk (nesting)	*Accipiter cooperii*	-	-	CNDDB	woodland	April-July	High
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	BCC	grassland, riparian	March-August	High
California clapper rail	*Rallus longirostris obsoletus*	FE	CE	CFP	marsh	January-April	Absent
Western snowy plover	*Charadrius alexandrinus nivosus*	FT	-	BCC, CSC	open sand/gravel areas	March-September	Absent
California least tern (nesting colony)	*Sternula antillarum browni*	FE	CE	CFP	sandy, gravelly estuaries	April-August	Absent
Western Yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC	CE	BCC	riparian	June 15-Aug 15	Absent
Burrowing owl (burrow sites)	*Athene cunicularia*	-	-	BCC, CSC	grassland	March-August	Absent
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE	CE	BCC	riparian	April 1-July 31	Absent
Yellow-billed magpie (nesting)	*Pica nuttallii*			BCC	urban, woodland		Moderate
Purple martin (nesting)	*Progne subis*	-	-	CSC	riparian, highway/urban (Sacramento)	April-August	Absent
Bank swallow (nesting)	*Riparia riparia*	-	CT	-	stream banks	May-July	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential To Occur On-Site
Song sparrow "Modesto"	*Melospiza melodia*	-	-	BCC, CSC	marsh, scrub	April-June	Absent
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	-	-	BCC, CSC	marsh, grassland	April-June	Absent
Mammals							
Yuma myotis	*Myotis yumanensis*	-	-	CNDDB	Riparian woodland, caves, mines, buildings, bridges, rock crevices, trees	April-September	Low
Hoary bat	*Lasiurus cinerus*	-	-	CNDDB	dense foliage of medium to large trees	April-September	Moderate
Western red bat	*Lasiurus blossevillii*	-	-	CNDDB	riparian woodlands, orchards	April-September	Low
Townsend's big-eared bat	*Corynorhinus townsendii townsendii*	-	-	CSC	caves, mines, buildings, rock crevices, trees	April-September	Low
Riparian brush rabbit	*Sylvilagus bachmani riparius*	FE	CE	-	Riparian woodland	any season	Absent
Salt-marsh harvest mouse	*Reithrodontomys raviventris*	FE	CE	CFP	saline emergent marsh	any season	Absent
San Joaquin kit fox	*Vulpes macrotis mutica*	FE	CT	-	grasslands, sagebrush scrub	April 15-July 15, September 1-December 1	Absent

Status Codes:

FE - Federal ESA listed, Endangered.
FT - Federal ESA listed, Threatened.
FPE - Formally Proposed for federal ESA listing as Endangered.
FPT - Formally Proposed for federal ESA listing as Threatened.
FPD - Listed under Federal ESA, but formally proposed for delisting.
Fd - Formally Delisted (delisted species are monitored for 5 years).
FC - Candidate for federal ESA listing as Threatened or Endangered.
NMFS - NOAA/NMFS species of concern
BCC - U. S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2002).
CE - California ESA or Native Plant Protection Act listed, Endangered.
CT - California ESA or Native Plant Protection Act listed, Threatened.
CR - California ESA or Native Plant Protection Act listed, Rare.
CC - Candidate for California ESA listing as Endangered or Threatened.
CFP - Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
CSC - California Department of Fish and Game Species of Special Concern (CDFG, updated August 2004).
1A - California Rare Plant Rank/Presumed extinct.
1B - California Rare Plant Rank/Rare or Endangered in California and elsewhere.
2 - California Rare Plant Rank/Rare or Endangered in California, more common elsewhere.
3 - California Rare Plant Rank/Plants About Which More Information is Needed - A Review List.
4 - California Rare Plant Rank/Plants of Limited Distribution - A Watch List.
CNDDB - Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

4.7 Special-Status Wildlife

No special-status animals were observed during the field survey. A number of special-status animals have been documented within 5 miles of the Project site (Figure 4) (CDFW 2013a). These are: California linderiella (*Linderiella occidentalis*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Sacramento Valley tiger beetle (*Cicendela hirticollis abrupta*), Sacramento River winter-run ESU and Central Valley spring-run ESU Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento splittail (*Pgonichthys macrolepidotus*), Sacramento perch (*Archoplites interruptus*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), purple martin (*Progne subis*), "Modesto" song sparrow (*Melospiza melodia*), tricolored blackbird (*Agelaius tricolor*), and hoary bat (*Lasiurus cinereus*). The Project site lies within the upstream limits of Delta smelt Critical Habitat; the legal Delta terminates at the I Street Bridge.

Based on the habitats and vegetation communities present within the two Project locations a list of potentially occurring wildlife species was developed (Table 1). These include green sturgeon (*Acipenser medirostris*), Chinook salmon (Central Valley spring-run, Central Valley fall-run, and Sacramento River winter-run ESUs), steelhead (*Oncorhynchus mykiss*, California Central Valley ESU), Delta smelt (*Hypomesus transpacificus*), Sacramento splittail, northwestern pond turtle (*Actinemys marmorata marmorata*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), white-tailed kite, Cooper's hawk, Swainson's hawk, yellow-billed magpie (*Pica nuttallii*), Yuma myotis (*Myotis yumanensis*), hoary bat, western red bat (*Lasiurus blossevillii*), and Townsends big-eared bat (*Corynorhinus townsendii townsendii*).

The special-status fish that are known from this area use the Sacramento River for migration and/or juvenile rearing life stages. The northwestern pond turtle may rarely be found in and in the vicinity of the project site. However, there is no suitable basking or oviposition (nesting) habitat within the project. The large trees represent potential nesting habitat for special-status birds. There are no heron or egret rookeries within or adjacent to the site; future colonial water bird nesting at this location is unlikely. In addition to the nesting birds, the trees may provide roosting habitat for the special-status bats.

4.8 Wildlife Movement/Corridors

The proposed Project is located on the banks of the Sacramento River. There is a narrow riparian corridor on the river bank but minimal tree and shrub cover at the top of the bank. The Rice Mill location is made up of an existing pier with remnant riparian woodland and ruderal grassland vegetation and a paved walking path. The Raley's Dock river bank is a narrow riparian corridor with little vegetation at the top of bank due to trampling. These locations support minimal wildlife movement during daylight hours as pedestrians are present. They probably support nocturnal urban wildlife use from feral cats (*Felis silvestris*), striped skunks (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), rats (*Rattus* spp.). Further, there is no adjacent terrestrial habitat that would concentrate wildlife to this area. The dock replacement and pier rehabilitation will result in no additional restrictions to the potential movement within the water column. While some wildlife movement is expected, development of the Project site should not adversely affect wildlife movement in the region.

5.0 RECOMMENDATIONS

5.1 Waters of the U.S.

Work within the Sacramento River is regulated under the Rivers and Harbors Appropriations Act (Section 10) and/or the Clean Water Act (Section 404). To minimize impacts to the Sacramento River, the following avoidance and minimization measures shall be implemented:

- Prepare and submit a preconstruction notification (PCN) under Nationwide Permit 3 to the USACE, including a delineation of waters according to the "ordinary high water mark". Based on the design, the PCN shall include a detailed description of the potential impacts or fill that will be necessary to implement the project. Upon authorization under the NWP, the project shall be implemented in accordance with the measures stipulated by the NWP. These measures will likely include:

  — Avoidance and minimization of sediment transport during pile driving activities; and

  — Timing of pile driving activities.

5.2 Special-Status Fish Species

To prevent take of any special-status fish species protected under the FESA, the Applicant will consult with the USFWS and NMFS pursuant to Section 7 of the FESA. A formal Biological Assessment (BA) is being prepared to address any potential adverse effects to federally listed species arising from implementation of the proposed project. This document also addresses any effects on Critical Habitat and shall be submitted as part of the permitting process. The BA shall be the primary support document for FESA consultation and once issued, the Proposed Project shall comply with all conditions of the Biological Opinion from the USFWS and NMFS.

Pursuant to Section 7 compliance, mitigation measures to minimize the incidental take of the threatened Southern Distinct Population Segment (DPS) of the North American green sturgeon, Delta smelt, Central Valley steelhead, Central Valley spring-run Chinook salmon, winter-run Chinook salmon and Critical Habitat for these species shall include the following measures:

- **Restrict in-water and near-water work to avoid vulnerable life stages**. To restrict in-water and near-water work to avoid vulnerable life stages, all construction work occurring within or along the banks of the river (e.g., pile driving, exploratory drilling, or levee drilling) will occur at a time when most listed fish species are least likely to be adversely affected (August 1 to October 31).
- **Conduct Worker Environment Awareness Training**. The Applicant will conduct training prior to construction and include training materials and a briefing covering all sensitive species and habitats to further educate construction personnel regarding potential adverse effects to special-status fish species. These training materials and briefings would include an outline of the laws and regulations that protect fish species and the consequences of non-compliance with those laws and regulations. A contact person shall be provided in the event that these may be adversely affected by the proposed project.
- **Implement erosion, sediment, turbidity, and hazardous materials controls measures**. To implement and validate that erosion, sediment, and turbidity controls and contingency measures are effective, the Applicant shall ensure that proper sediment controls and retention structures are effective and in place prior to commencement of and through the duration of in or near-water work.

This will include implementation of the measures put forth in the Project's SWPPP (as described in Section 4.9, Hydrology) and may include, but are not limited to, the proposed mitigation requirements of the project's National Pollutant Discharge Elimination System (NPDES) Permit, and the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction Activity, and the Sacramento County Department of Public Works and Flood Control water quality requirements. Among these mitigation requirements, the Applicant will submit site-specific Best Management Practices (BMPs) designed to control runoff. Implementation of water quality BMPs would minimize impacts to aquatic habitats in the Action Area that may be affected by water quality degradation as a result of construction and other related activities.

The Applicant shall prepare and implement a Spill Prevention Plan for potentially hazardous materials, as well as cleanup and reporting of spills. The Plan shall require the implementation of standard BMPs during construction to maintain water quality and control sedimentation such as:

- Store all equipment and materials at least 50 feet from the river unless the equipment is on established paved areas. If storage of equipment or materials within 50 feet of the river is necessary, a containment berm will be constructed around the equipment and materials. Staging and storing areas for equipment, materials, fuels, lubricants, and solvents will be located outside of the river channel and banks.
- Provide secondary containment for stationary equipment such as motors, pumps, generators, and compressors located within or adjacent to the Sacramento River. Any equipment (i.e., barge-mounted equipment) or vehicles driven or operated within or adjacent to the river will be checked and maintained daily to prevent leaks. Conduct maintenance and fueling in an area that meets the criteria outline in the Spill Prevention Plan.
- No fueling, cleaning or maintenance of vehicles or equipment, or placement of construction debris, spoils or trash should occur within 50 feet of the river unless it occurs in designated refueling/staging areas on existing paved surfaces with secondary containment in place. Refueling of barge-mounted equipment should occur at approved fuel locations. Contractor will inspect all equipment/vehicles for leaks prior to use and should inspected regularly during project inspection.

- **Implement New Zealand mud snail (*Potamopyrgus antipodarum*) control measures -** Due to the presence of the CDFW-classified invasive New Zealand mud snail within the Sacramento River, and their potential to affect special-status fish species, the following precautions will be taken:
  - Train all project personnel in the identification, preventative measures, and physical and chemical cleaning methodologies for New Zealand mud snail prior to working on the project. Install CDFW informational posters at the project site and provide brochures and identification cards to all project personnel.
  - Establish a cleaning station on-site for the duration of the project that uses both physical and chemical cleaning methodologies and implement the preventative and treatment methodologies in accordance with CDFW. Inspect all waders, boots, gear, and other equipment for New Zealand mud snails after work in the Sacramento River. Designate a cleaning area for heavy equipment and vehicles, and clean all equipment before leaving the site in accordance with CDFW guidelines.
- **Report any incidence of take to USFWS and NMFS** - If a listed species is observed injured or killed by project activities, the Applicant shall contact the USFWS and NMFS within 48 hours.

As discussed earlier, Sacramento splittail is a non-listed, but sensitive species that may also occur in the river. Since measures for federally listed species will reduce any potential adverse effects to splittail, this species is not expected to be impacted by the project.

5.3 Nesting Birds

The Project supports potential nesting habitat for several special-status birds, including great blue heron, great egret, white-tailed kite, Cooper's hawk, Swainson's hawk, yellow-billed magpie, or other protected raptor nests. If present, the Project could result in harassment to nesting individuals and may temporarily disrupt foraging activities.

To minimize potential impacts to nesting raptors and colonial water birds, the following avoidance and minimization measures shall be implemented:

- The removal or trimming of trees within the project footprint should be conducted during the non-breeding season (i.e., between September 1 and February 1) to avoid impacts to nesting raptors and colonial water birds. If tree removal during the non-breeding season is infeasible, trimming or delimbing of suitable trees to discourage nesting should be conducted during the non-breeding season.
- If project construction begins during the breeding season (i.e., between February 1 and August 31), preconstruction surveys should be conducted, within the project footprint and a 300-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities.
- If active nests (i.e., nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the project footprint, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance, and the type/duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with CDFW or USFWS based on the type of work activity to be performed and the sensitivity of the species/individual(s) to disturbance. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the CDFW or USFWS should be contacted for further guidance.

To minimize potential impacts to other nesting special-status birds (e.g. yellow-billed magpie and other MBTA birds), the following avoidance and minimization measures should be implemented:

- Vegetation removal or tree removal/trimming within the project footprint should be conducted during the non-breeding season (i.e., between September 1 and February 1) to avoid impacts to nesting birds. If tree removal during the non-breeding season is infeasible, vegetation removal, trimming, or delimbing of suitable trees to discourage nesting should be conducted during the non-breeding season.
- If project construction begins during the breeding season (i.e., between February 1 and August 31), preconstruction surveys should be conducted, within the project footprint and a 50-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities.

If active nests (i.e., nests in the egg laying, incubating, nestling, or fledgling stages) are found within 50 feet of the Project footprint, non-disturbance buffers should be established at a distance sufficient to

minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with CDFW or USFWS based on the type of work activity to be performed and the sensitivity of the species/individual(s) to disturbance. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the CDFW or USFWS should be contacted for further guidance.

5.4 Special-Status Bats

The site supports potentially suitable habitat for several special-status bats, including Yuma myotis, hoary bat, Western red bat, and Townsend's big-eared bat.

- Conduct a pre-construction clearance survey within 14 days of the start of project construction. If roosting bats are found, consult with CDFW to implement appropriate measures (e.g., monitoring, roost exclusion).

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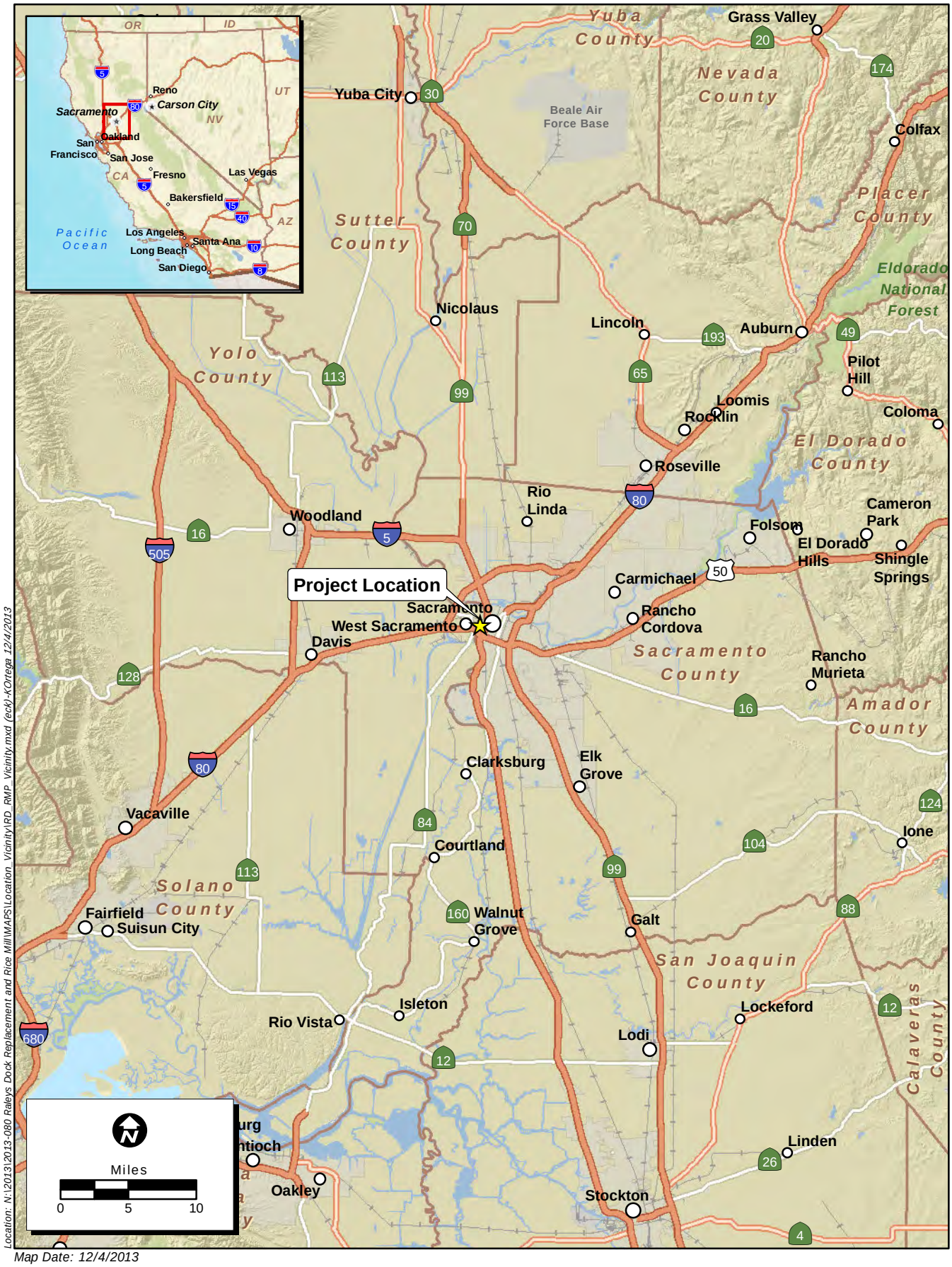

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Map Date: 12/4/2013

Service Layer Credits: Sources: USGS, ESRI, TANA, AND

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Figure 1. Project Vicinity

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Aerial_Map\SiteAerial_v3.mxd (ECK)-kOrtega 12/11/2013

Map Date: 12/11/2013
Photo Source: NAIP 2012

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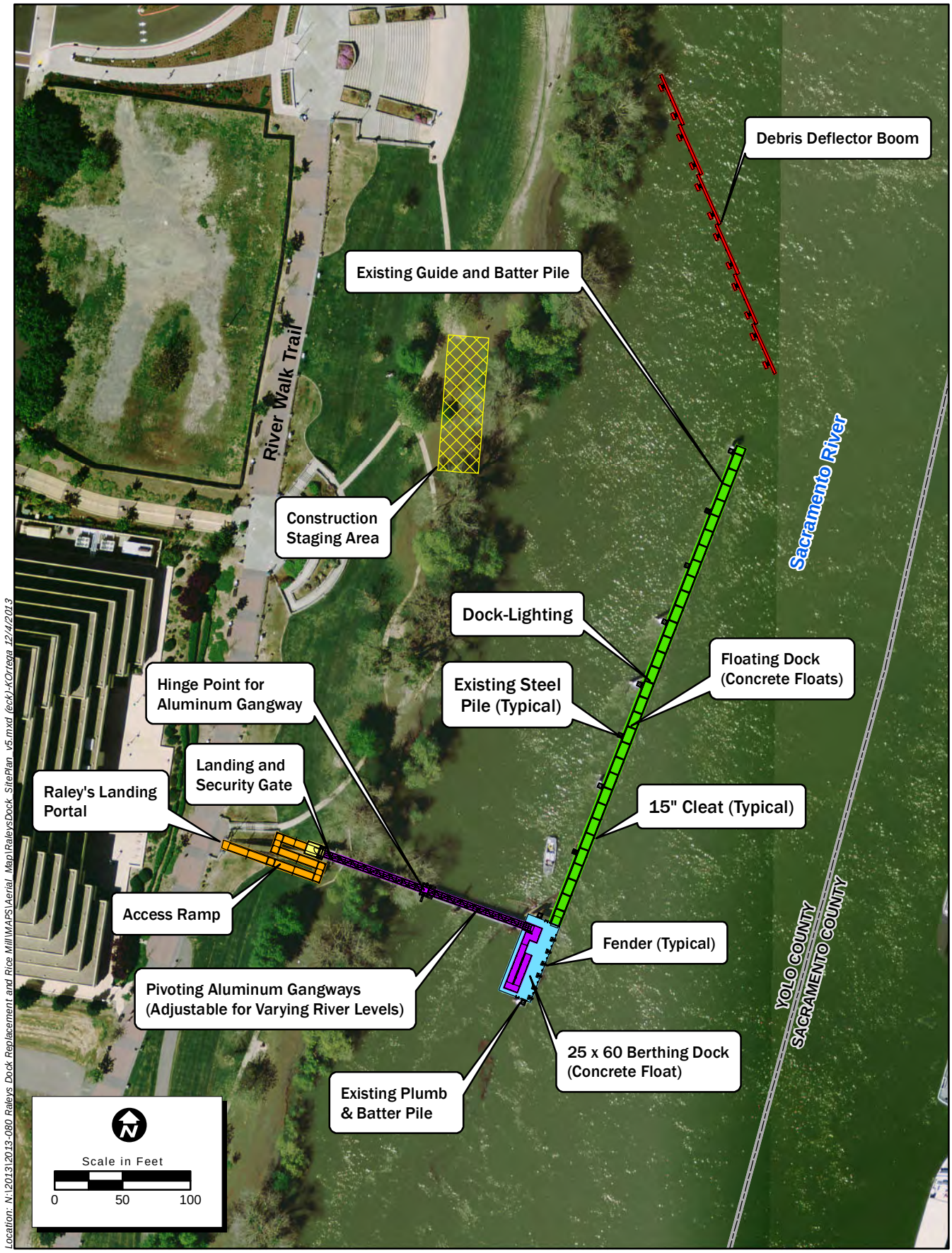
Figure 2. Project Location

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation



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Map Date: 12/4/2013
Photo Source: USGS 2011
Base Data: Site plan provided by HGR

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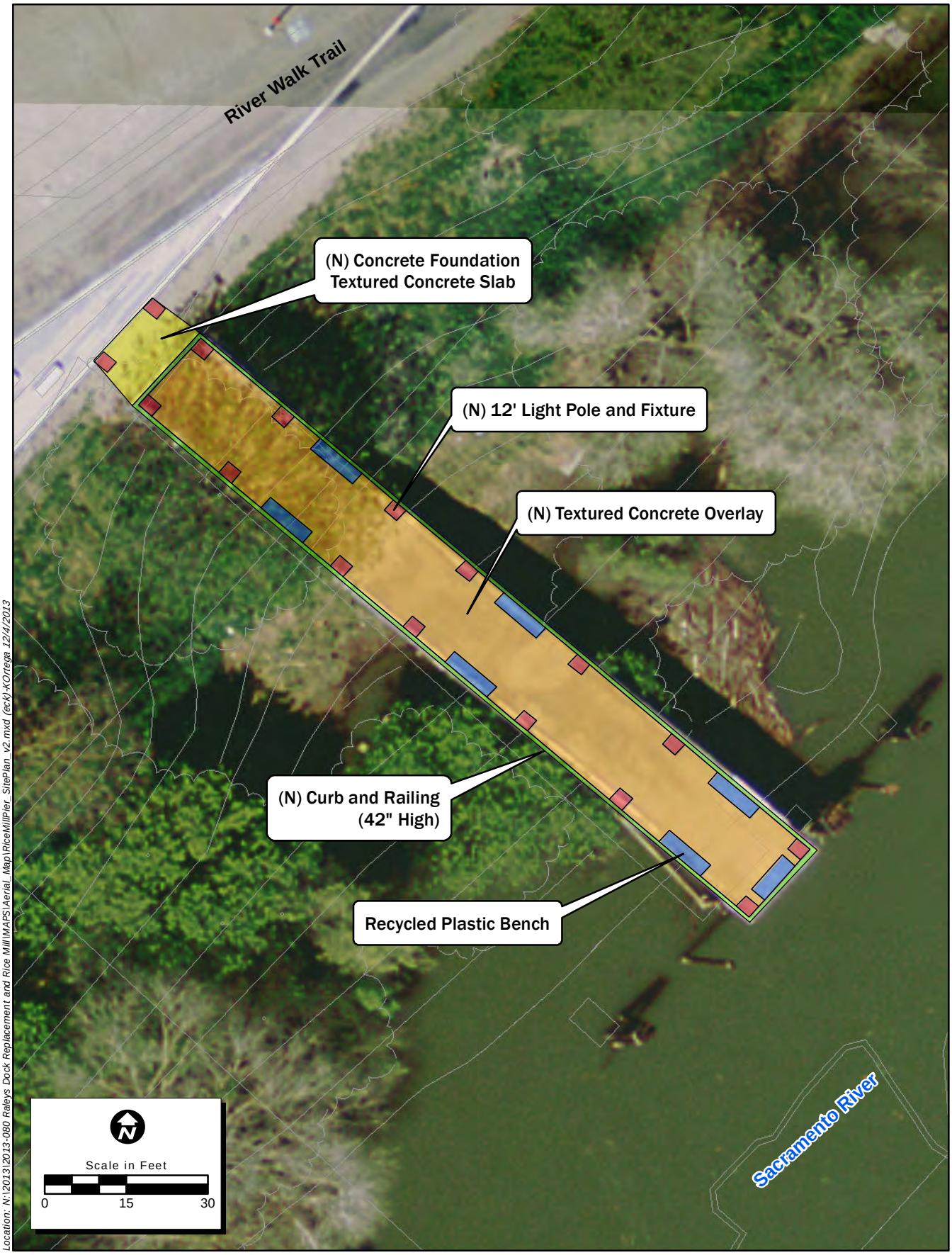
Figure 3. Raley's Dock Site Plan

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation



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Map Date: 12/4/2013
Photo Source: USGS 2011
Base Data: Site plan provided by HGR

ECORP Consulting, Inc.
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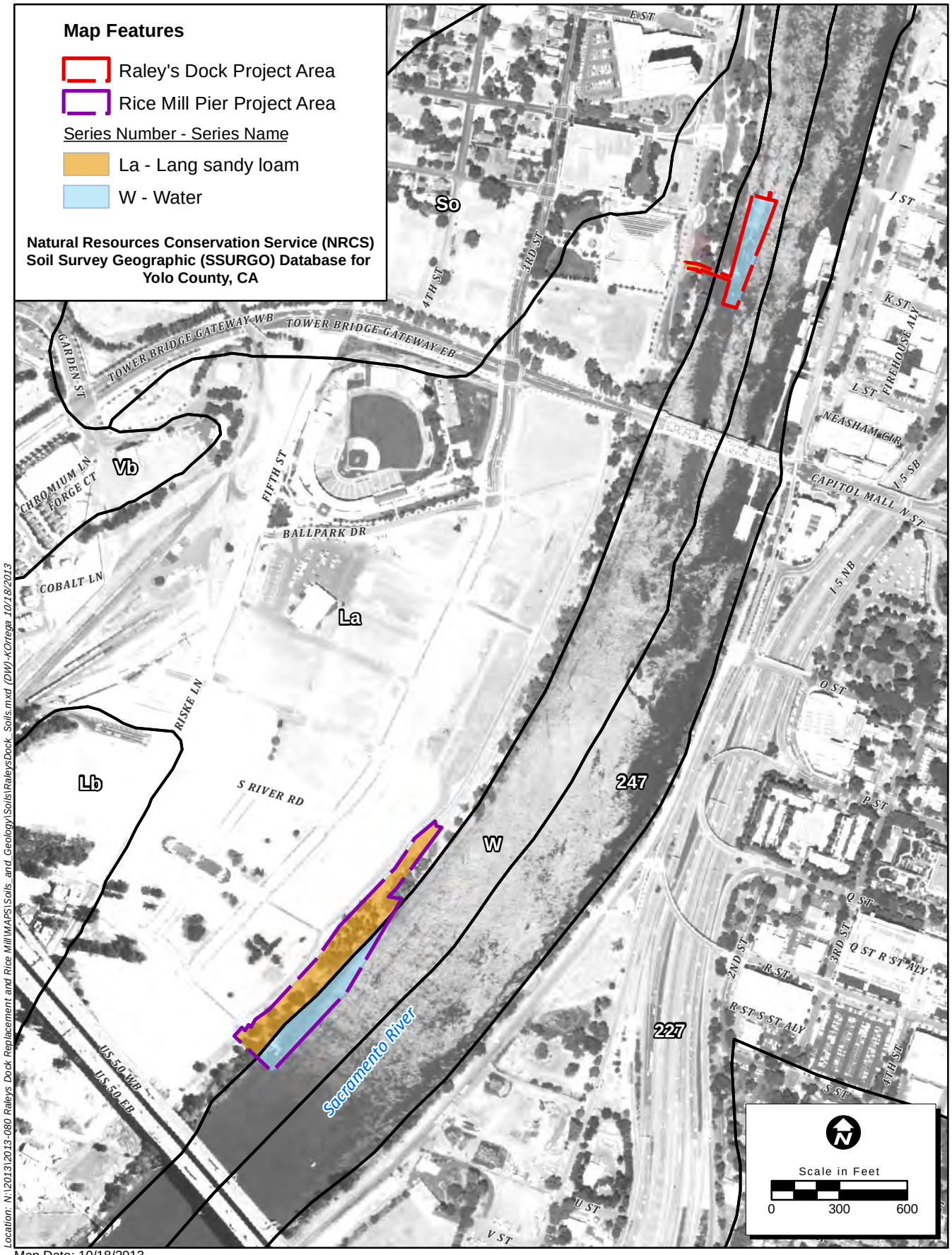
Figure 4. Rice Mill Pier Site Plan

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation



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Map Date: 10/18/2013
Photo Source: NAIP (2012)

Figure 5. Natural Resources Conservation Service Soil Types

ECORP Consulting, Inc.
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2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitaion

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Map Features

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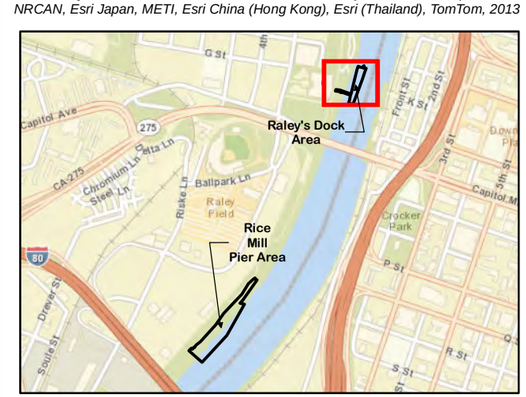
- Raley's Dock Project Components
- Raley's Dock Staging Area
- 19ft Topo Line (NAVD 88)
- Waterline at Time of Survey

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



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2013-080 Raleys Dock Replacement and Rice Mill

Scale in Feet
0 60

Photo Source: USGS 2011
Project andTopo Data: GHD

Map Date: 10/18/2013

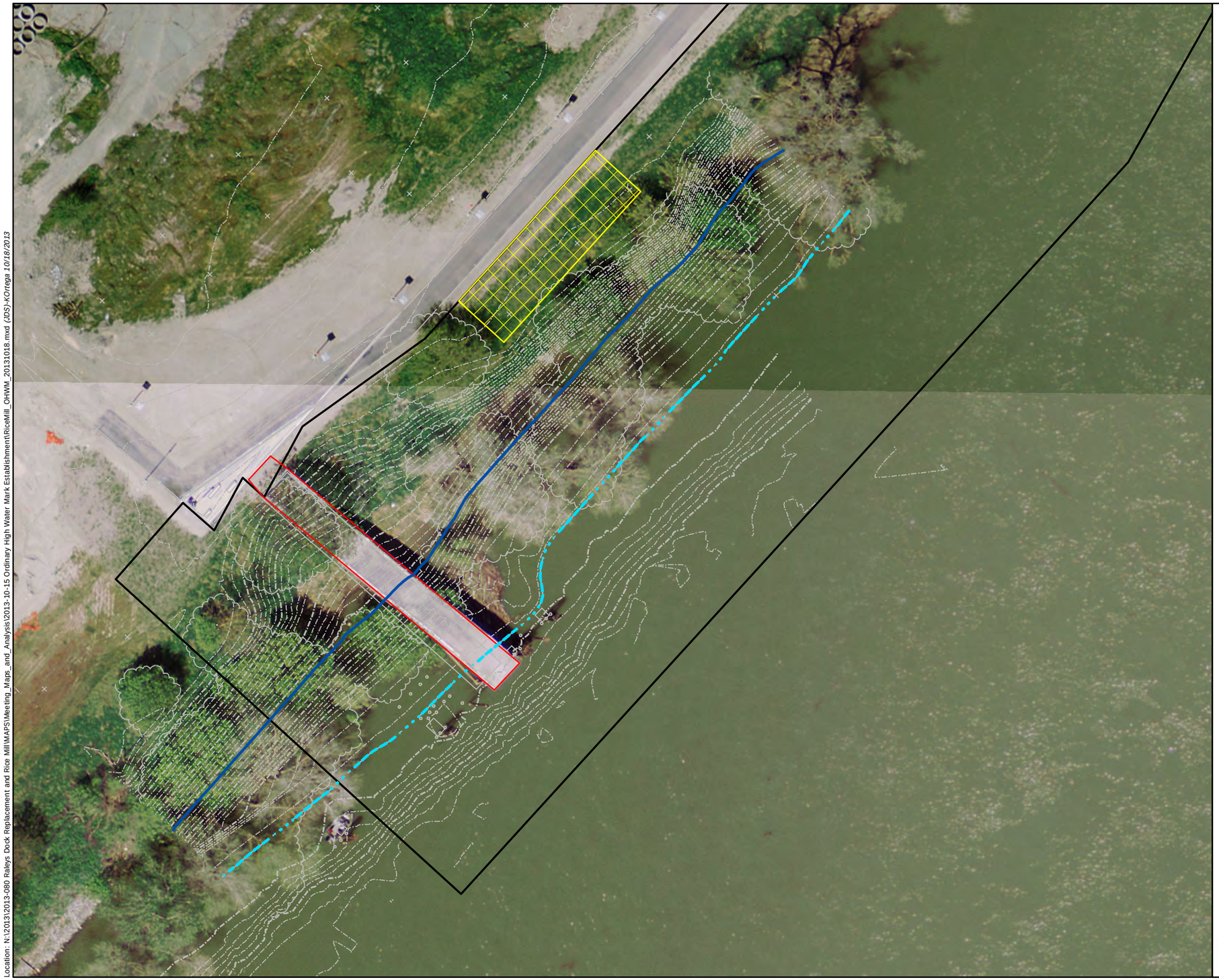
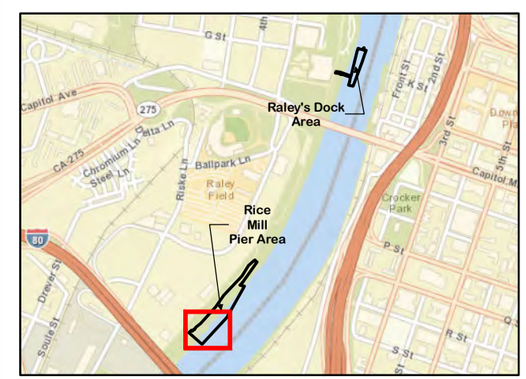


Figure 7. Rice Mill Ordinary High Watermark

Map Features

- Rice Mill Pier Project Area
- Rice Mill Pier Project Components
- Rice Mill Staging Area
- 19ft Topo Line (NAVD 88)
- Waterline at Time of Survey

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



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2013-080 Raleys Dock Replacement and Rice Mill

Scale in Feet
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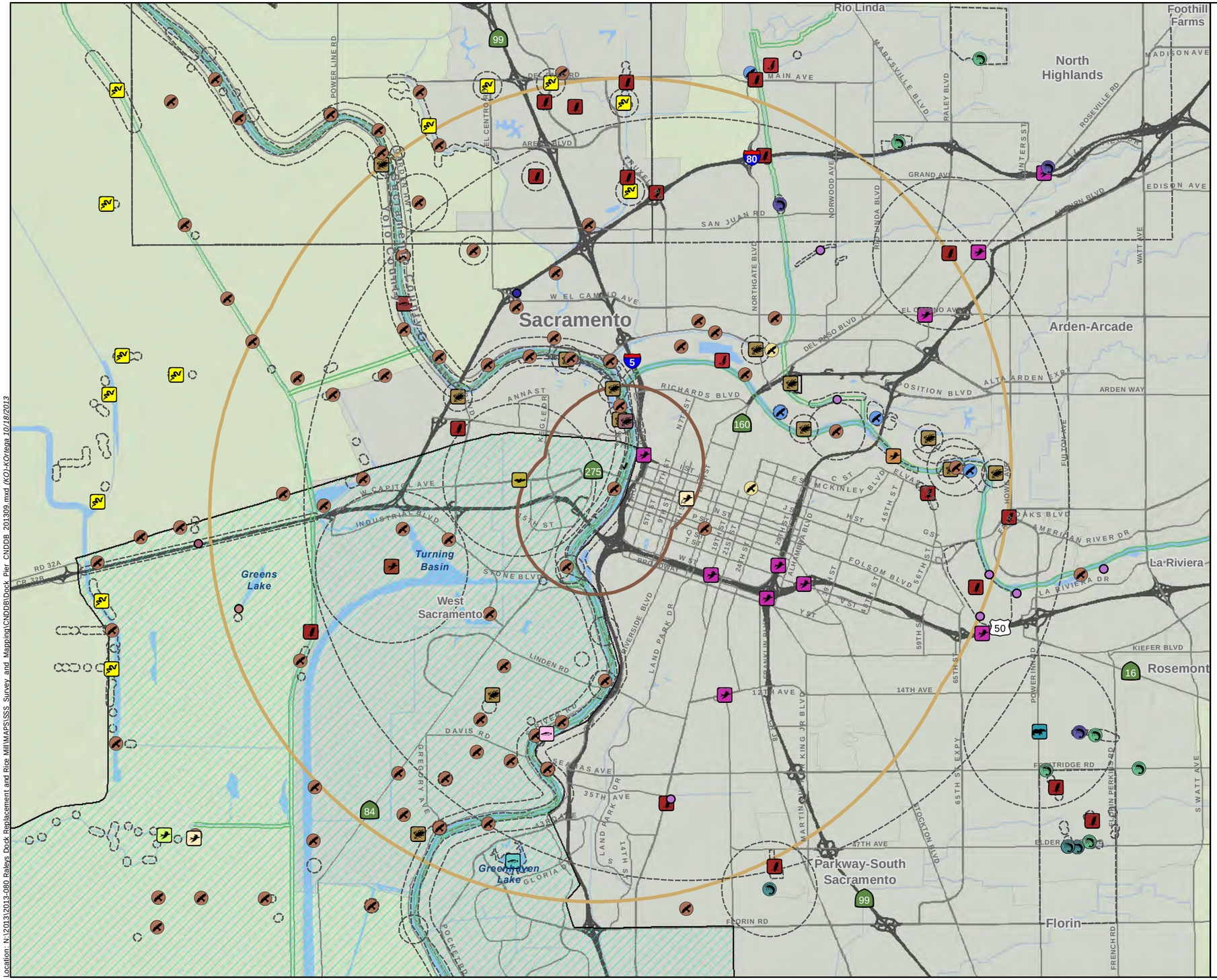
Photo Source: USGS 2011
Project andTopo Data: GHD

Map Date: 10/18/2013

Figure 8.
CNDDB Occurrences of Special-Status Species



Distance From Project
- 1 mile
- 5 miles

Boundaries
- Project Boundary [1]
- CNDDB Polygon Extent [2]

CNDDB Occurrences [2]

Plants
- Woolly Rose-mallow
- Ferris' Milk-vetch
- Sanford's Arrowhead
- Suisun Marsh Aster

Invertebrates
- Vernal Pool Fairy Shrimp
- California Linderiella
- Vernal Pool Tadpole Shrimp
- Sacramento Valley Tiger Beetle
- Valley Elderberry Longhorn Beetle

Fish
- Sacramento Splittail
- Longfin Smelt
- Sacramento Perch

Amphibians/Reptiles
- Giant Garter Snake

Birds
- Great Blue Heron
- Cooper's Hawk
- Swainson's Hawk
- White-tailed Kite
- Burrowing Owl
- Least Bell's Vireo
- Purple Martin
- Song Sparrow (Modesto Population)
- Bank Swallow
- Tricolored Blackbird

Mammals
- Hoary Bat
- American Badger

Critical Habitat
- Chinook salmon
- Steelhead
- Delta smelt
- Valley elderberry longhorn beetle

This map may include multiple species' occurrences at each location, some of which may not be visible on this graphic. The CNDDB occurrences shown may not reflect the actual location of the occurrence.

1.Project Boundary: GHD Inc.
2. CDFW California Natural Diversity Database (CNDDB), September 2013 (GIS Shapefile)
3. Insert Critical Habitat Source (if any)</CLR>
CNDDB Occurrences Located on USGS 7.5' Quadrangles: Taylor Monument, Rio Linda, Sacramento West & Sacramento East

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Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\SSS Survey and Mapping\CNDDB\Dock Pier CNDDB 201309.mxd (KO)-KOrtega 10/18/2013

2013-080 Raley's Dock Replacement and Rice Mill

Feet
0 6,000 12,000

Map Date: 10/18/2013

ATTACHMENT A

Representative Site Photos

Rice Mill Pier, 17 September 2013

Rice Mill Pier, 17 September 2013

Raley's Dock, 17 September 2013

Raley's Dock, 17 September 2013

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Representative Site Photos

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

APPENDIX B

Cultural Resources Assessment

DRAFT

Cultural Resources Inventory Report
Raley's Dock Replacement & Rice Mill Pier Rehabilitation Project
Yolo County, California

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December 2013

ECORP Consulting, Inc.
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MANAGEMENT SUMMARY

In 2013, the City of West Sacramento retained ECORP Consulting, Inc. to conduct a cultural resources inventory for the proposed Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project, which involves the replacement of the Raley's Dock and rehabilitation of the Rice Mill Pier, both located in the City of West Sacramento on the Sacramento River. The Raley's Dock is approximately 0.75 mile north from the Rice Mill Pier, both on the Yolo County side of the Sacramento River.

The cultural resources inventory included a records search, historical research and literature review, and field survey for the two locations that comprise the Project Area: Raley's Dock and Rice Mill Pier. The records search results indicated that more than 70 previous cultural resources studies have been conducted within 0.25 mile of the Project Area. As a result of several of those studies, 48 sites have previously been recorded within the record search radius and 12 are within visual proximity of the Project Area. No sites have been previously recorded within the Project Area.

As a result of the field survey, one previously unrecorded cultural resource was recorded inside the Project Area: RAL-001 (the historic-era Rice Mill Pier). This resource must be evaluated for eligibility. Recommendations for the management of unanticipated discoveries are also provided in this report.

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Raley's Dock and Rice Mill Pier

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1.0 INTRODUCTION

In October 2013, ECORP was retained by the City of West Sacramento (City) to conduct a cultural resources inventory of two separate parcels of land surrounding the Raley's Dock and the Rice Mill Pier, located on the Yolo County side of the Sacramento River in the City of West Sacramento, California. The Project involves the replacement of Raley's Dock and the rehabilitation of Rice Mill Pier. An Initial Study is being prepared in accordance with the California Environmental Quality Act (CEQA) to identify and assess the anticipated environmental impacts of the proposed Project. The City is the Lead Agency for this Initial Study. A cultural resources inventory of the property was required to identify potentially eligible cultural resources (archaeological sites and historic buildings, structures, and objects) that could be affected by the Project.

1.1 Project Location

The Project Area defined by the City is composed of two parcels of land along the banks and within the Sacramento River. The Raley's Dock parcel is approximately 0.75 mile north of the Rice Mill Pier parcel (Figure 1). The Raley's Dock parcel is located on the Sacramento River with an additional staging area on the western bank of the river, approximately 500 feet north of State Route (SR) 275 Tower Bridge and immediately adjacent to the Ziggurat building to the west and the California State Teacher's Retirement System (CalSTRS) building to the north. Access to Raley's Dock is provided by the River Walk Trail along the western bank of the Sacramento River.

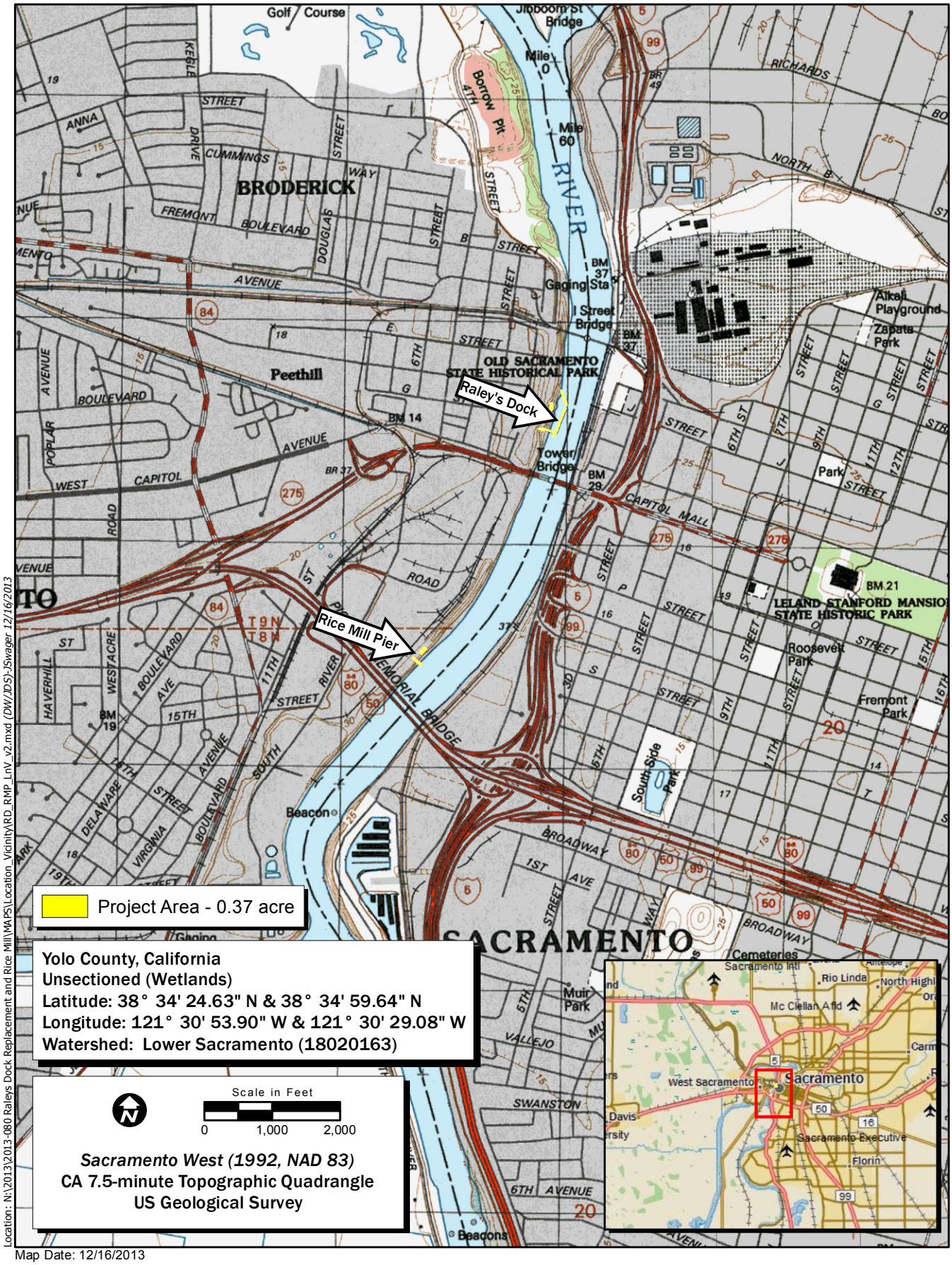
The Rice Mill Pier parcel is located on the western bank and within the Sacramento River, approximately 400 feet north of Interstate 80/US 50 Capitol Expressway Bridge. Access to Rice Mill Pier is provided by Mill Street and Riverfront Street.

1.2 Project Description

The Proposed Project objectives are to: (1) replace previously privately-owned river access areas with publicly accessible docks and pier; (2) provide riverfront access at strategic locations to the public for a variety of recreational uses; and, (3) provide public facilities that meet California Building Code and Safety Standards, are ADA-compliant, and conform with the California Department of Boating and Waterways (DBAW) guidelines and standards.

1.2.1 Raley's Replacement Floating Dock

The City intends to build a replacement dock with a facility that is open to the public, meets current building and safety standards, and is accessible and compliant with the requirements of the ADA. The new floating docks would support dead loads consisting of utilities, access gangways and landing platforms, and live (transient) loads. Vessels would be able to temporarily moor to the floating docks, and all float modules would be held in position by guide piles. The new dock would provide a new recreational boating facility with docking available for small boats, water taxis and other vessels, and the dock would meet current building code and safety standards as well as be ADA-compliant.



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Map Date: 12/16/2013
Service Layer Credits: Copyright:© 2012 DeLorme

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Figure 1. Project Location and Vicinity

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

The City intends to implement the following facility improvements:

- replace floating docks using durable, low maintenance and stable concrete floating units;
- provide lighting and cleats on replacement docks to improve public access and safety, and to enhance aesthetics;
- implement use of upstream debris deflector float to protect docks from logs and other floating debris in the river; and
- reuse existing steel guide piles where possible to secure new replacement floating docks. Where reuse of existing docks is not possible due to damage, misalignment, or non-compliance with dock improvements, the existing piles will be removed and new steel pipe piles installed.

The City also intends to:

- provide accessible gangway with adjustability for use at varying river water levels;
- provide an ADA-compliant access ramp and landing from the top of the levee to the gangway entrance, where ramps would not exceed 1:12 slope and a 2.5-foot maximum rise in 30 feet;
- where possible, use prefabricated elements for project construction such as the floating docks, gangways and access ramp to reduce construction impacts at the site;
- utilize concrete floating docks with flotation units polyethylene-encased with foam in place of timber to provide longer service life with reduced maintenance requirements and costs; and
- remove existing debris around the guide piles.

Additional Project activities are detailed in the CEQA IS/MND for the Project. Please refer to the CEQA document for additional Project details.

Debris Deflector Boom

A debris deflector boom would be located approximately 60 feet from the upstream end of the floating dock. The debris deflector boom would extend from the end of the dock towards the shore. The purpose of the debris deflector boom is to divert debris traveling down the river from getting trapped between the floating dock and the shore. This would prevent the need for costly debris removal and protect the dock from excess debris floating downstream during storms.

Gangways

The Project calls for installation of two gangway sections. The gangway would consist of ADA-compliant handrails. There would be a flotation box and cable pulleys attached to gangway ends to make the gangway adjustable for varying river water levels.

Access Ramp on Levee

The access ramp on the levee would be timber, steel, plastic, or fiberglass (FRP) construction. It would be elevated on posts above the level within the flood channel. The post will be supported by cast-in-drilled-hole concrete piers drilled into the levee slope. The deck would have ADA- and code-compliant railing, and the landing would be located at the gangway entrance.

1.2.2 Rice Mill Pier

The Rice Mill Pier consists of an elevated concrete deck about 12 inches thick, 18 feet wide, and 120 feet long. The pier deck elevation is approximately level and during typical summer flows is about 25 feet above the river level at the waterside end of the pier. The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of

two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

Rehabilitation

The City intends to rehabilitate the existing Rice Mill Pier for public access use along the Sacramento River. The Proposed Project would include implementation of repairs and strengthening to the pier along with structural and mechanical options for full compliance with the accessibility requirements of the ADA.

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; however, the existing piles would be reused where possible to avoid pile driving. Fiberglass or steel pile jackets may be used to restore or increase the structural capacity of the existing piles. Strengthening of the piles may be needed, depending on the results of the seismic evaluation. The Proposed Project would also repair the existing concrete pier abutment. The abutment walls will be repaired or replaced as required. All existing openings into the abutment will be sealed, at least to the extent that access by the public or pests is precluded. A protective rail or fencing system and lighting along the pier perimeter would be provided.

The existing vegetation under the pier would be cleared as part of the rehabilitation, and an existing tree immediately adjacent to the pier would be removed. The existing debris against the pier substructure would also be removed during rehabilitation. Other pier improvements would include a debris deflector structure to prevent future damage to the pier substructure.

1.3 Area of Potential Effects

The Area of Potential Effects (APE) consists of the horizontal and vertical limits of the Project, and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the Project. The horizontal APE consists of all areas where activities associated with the Project are proposed, and in the case of the current Project, equals the Project Area subject to environmental review under CEQA and Section 106. This includes areas proposed for dock replacement, construction of new facilities, installation of pier foundations, rehabilitation, vegetation removal, staging, and other elements described in the official project description. The horizontal APE is illustrated in Figures 1 and 2 and also represents a portion of the pedestrian survey coverage area. Additional Project Area is located within the Sacramento River and outside of pedestrian survey coverage range. This portion of the Project Area was surveyed by visual reconnaissance from the shoreline and the resources protruding from the top of the river were photographed and recorded as appropriate.

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations, pier rehabilitations, and facilities will extend. Thus, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The Project includes a floating dock and piers located within the Sacramento River. The replacement or rehabilitation of these structures currently does not require an underwater archaeological component. The current Project Description states that existing pier foundations and pilings will be rehabilitated in place in order to avoid replacement and pile driving. However, there remains a possibility that some existing piles will need to be replaced. If pile driving is

required, this will cause disturbance to the riverbed and potential impact to archaeological sites underwater, thus requiring an underwater archaeological study.

The current ground-disturbing activities encompass areas on the banks of the Sacramento River used for staging equipment or constructing associated facilities. These ground-disturbing activities vary across the Project depending on the facility being constructed but could extend up to 15 feet below the surface, the depth which may be necessary to install new pier foundations into the ground.

The vertical APE also is described as the maximum height of new facilities and equipment, which could impact the physical integrity and integrity of setting of cultural resources, including buildings, districts and traditional cultural properties. For the current project, the above-surface vertical APE was considered up to 15 feet above the surface of the water, which would be equivalent to the maximum height of the components of the new dock or modifications to the pier. The Project Description does not specifically identify any components to be installed or constructed at or near 15 feet above the river water level. Facilities associated with a pier and dock are typically floating on the water, at or just above the water level, not nearly 15 feet above the water. However, vertical APE considers visual impacts and, therefore, the height of 15 feet above the water level was used as a reasonable good faith effort to consider visual impacts of the Project on the setting of nearby properties.

1.4 Regulatory Context

To meet the regulatory requirements of this project, this cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within Section 106 of the National Historic Preservation Act (NHPA) and in the California Environmental Quality Act (CEQA; Pub. Res. Code § 21000 *et seq*.). The goal of NHPA and CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require state or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps. NHPA pertains to projects that entail some degree of federal funding or permit approval.

NHPA and CEQA (Title 14, CCR, Article 5, Section 15064.5) apply to cultural resources of the historical and prehistoric periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on either the California Register of Historical Resources (CRHR) (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) or the National Register of Historic Places (NRHP) (36 CFR 60.4). Cultural resources eligible for listing on the NRHP are considered Historic Properties under 36 CFR Part 800 and are automatically eligible for the CRHR. Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

In anticipation of the possibility that the project may affect Waters of the United States (U.S.), thereby requiring the project proponent to meet the requirements of Section 404 of the Clean Water Act and obtain a permit from the U.S. Army Corps of Engineers' Sacramento District Regulatory Branch, this report is also in compliance with the 2011 *Sacramento District Regulatory Branch Guidelines for Compliance with Section 106 of the National Historic Preservation Act of 1966, as amended*. Moreover, because this project qualifies as a federal undertaking, regulations (36 CFR Part 800) implementing Section 106 of the NHPA require that cultural resources be identified and then evaluated using NRHP eligibility criteria.

1.5 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's *Archaeological Resource Management Reports: Recommended Contents and Format.* Attachment A includes a confirmation of the records searches with the California Historical Resources Information System (CHRIS). Attachment B contains documentation of Native American Coordination. Attachment C presents photographs of the Project Area, and Attachment D contains cultural resource site locations and site records.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code §6250 *et seq*.) and California's open meeting laws (The Brown Act, Government Code §54950 *et seq*.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 USC 5), because the disclosure of cultural resources location information on federal lands is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 304 of the NRHP, it is also exempted from disclosure under the Freedom of Information Act.

Likewise, the Information Centers of the CHRIS maintained by the Office of Historic Preservation prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared in a publicly accessible format that omitted archaeological site locations. Restricted information, such as site location information and records, is only presented in confidential attachments with highly restricted distribution.

2.0 SETTING

2.1 Environmental Setting

The City is located in eastern Yolo County, California, largely on reclaimed land located on the natural floodplain of the Sacramento River (West Sacramento 2000). The climate is Mediterranean with summer high temperatures reaching above 100 degrees Fahrenheit (F) and winter low temperature of below freezing; annual precipitation is 18.10 inches, with most occurring between December and March (West Sacramento 2000). The local topography is relatively flat. The Project Area is situated on the western bank and in the water column of the Sacramento River at an elevation of approximately 19 feet above mean sea level. The Raley's Pier is located within a landscaped park-like setting along the crest and slopes of the western levee above the Sacramento River. The land surrounding the parcel consists of several commercial buildings including the State of California Department of General Services headquarters, also known as the "Ziggurat" and the CalSTRS headquarters. The Rice Mill parcel is located along the crest and slopes of the western levee adjacent to the Sacramento River. The land surrounding the Rice Mill parcel was historically used as an industrial area, but all surrounding buildings have been removed within the last ten years. The land surrounding the Rice Mill parcel now consists of newly paved roads and graded landscapes in preparation for future development.

2.2 Geology and Soils

One soil type has been identified within the Project Area: Lang sandy loam (La). This soil is a somewhat poorly drained sandy loam derived from a mixed alluvium found along the toe and base slopes of alluvial fans (USDA 2013). The balance of the Project Area is situated in water.

Due to the likelihood of prehistoric archaeological sites located along major waterways such as the Sacramento River, there exists the potential for buried prehistoric archaeological sites in the Project Area, primarily along the banks. However, the meandering nature of the Sacramento River over geologic time means that the location of prehistoric sites associated with the former river channel may not conform to

the current river banks. As a result of the uncertainty of the potential for prehistoric resources, a cultural resources inventory that included an archaeological survey of the APE was required.

2.3 Vegetation and Wildlife

The vegetation communities found within the Project Area are remnant Great Valley cottonwood riparian forest, ruderal grassland, and urban. The riparian corridor is narrow and trees are rooted at water's edge or into the steep bank.

The riparian forest is dominated by Fremont cottonwood (*Populus fremontii*), with scattered black willow (*Salix gooddingii*), box elder (*Acer negundo*), black locust (*Robinia pseudoacacia*), and tree-of-heaven (*Ailanthus altissima*). The understory vegetation is made up of weedy ruderal grassland species including yellow star-thistle (*Centaurea solstitialis*), ripgut brome (*Bromus diandrus*), wild oats (*Avena fatua*), Bermuda grass (*Cynodon dactylon*). The understory vegetation is patchy with areas of bare ground from trampling or erosion on steep banks. Further inland, the vegetation at the Rice Mill location is made up of ruderal grassland with a paved walking trail within undeveloped lots, and the Raley's Dock location has a manicured lawn with paved walking trails.

These locations support minimal wildlife movement, as there is minimal vegetative cover, presence of pedestrians, and absence of adjacent high quality wildlife habitat. The area probably supports nocturnal urban wildlife, such as feral cats (*Felis silvestris*), striped skunks (*Mephitis mephitis*), Virginia opossums (*Didelphis virginiana*), raccoons (*Procyon lotor*), and rats (*Rattus* spp.). The trees within the riparian corridor support nesting habitat for birds such as American crow (*Corvus brachyrhynchos*), Western scrub-jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*). According to the CNDDB, the state-threatened Swainson's hawk (*Buteo swainsoni*) has been documented to nest in close proximity to the project locations (CDFW 2013).

3.0 CULTURAL CONTEXT

3.1 Regional Prehistory

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found, but cannot definitely be associated with human artifacts. Although small animal bones and plant grinding tools are rarely found within archaeological sites of this period, small game and floral foods were probably exploited on a limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 8000 BP, there was a shift in focus from hunting towards a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5000 BP, is sometimes referred to as the "Millingstone Horizon" (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8000 BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

In sites dating to after about 5000 BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. Mortars and pestles were added to metates and manos for grinding seeds and other

vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. During this period, new peoples from the Great Basin began entering southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the "Late Horizon," population densities were higher than before and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1976; McCawley 1996; Moratto 1984). These were most likely the basis for the groups encountered by the first Europeans during the eighteenth century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The introduction of the bow and arrow into the region sometime around 2,000 years BP is indicated by the presence of small projectile points (Wallace 1978; Moratto 1984).

3.2 Local Prehistory

The earliest evidence of the prehistoric inhabitants of the region surrounding the Project Area comes from a single, deeply buried site in the bank of Arcade Creek, north of Sacramento, containing grinding tools and large, stemmed projectile points. The points and grinding implements suggest an occupation date of sometime between 8000 and 5000 BP (Wallace 1978). However, it was not until after about 5500 BP, in the Late Archaic Period, when people began to move into the San Joaquin and Sacramento Valleys in any significant numbers. This earliest permanent settlement of the Delta region of the Sacramento River is called the Windmiller Tradition and is known primarily from burial sites containing relatively elaborate grave goods (Ragir 1972; Wallace 1978). The Windmiller Tradition reflects the amplification of cultural trends begun in the Middle Archaic, as seen in the proliferation of finished artifacts such as projectile points, shell beads and pendants, and highly polished charmstones. Stone mortars and pestles, milling stones, bone tools such as fishhooks, awls, and pins, are also present. It is probable that people during this time subsisted on deer and other game, salmon, and hard seeds. They also were apparently the first Californians to discover the process for leaching the tannins out of acorns, thus making them edible by humans. Based on linguistic evidence, it has been suggested that the Windmiller culture was ancestral to several historic tribes in the Central Valley, including the Penutian-speaking Nisenan (Elsasser 1978). The Windmiller Tradition lasted until about 3000 BP.

Around 3000 BP, subsistence strategies in the Delta region became noticeably more "focal," with a clear increase in the reliance on acorns and salmon (Elsasser 1978). Culturally, this has been dubbed the Cosumnes Tradition (3700 to 1000 BP), and appears to be an outgrowth of the Windmiller Tradition (Ragir 1972). People in this time continued to occupy knolls or similar high spots above the floodplain of the Sacramento River and the terraces of tributaries such as the Cosumnes and American Rivers, flowing out of the foothills of the Sierra Nevada Mountains located to the east. Populations increased and villages became more numerous than before, with more milling tools and specialized equipment for hunting and fishing. Trade appears to have increased, with burials containing larger amounts of seashell and obsidian. Burial styles, too, became more varied, with the addition of flexed interments along with the extended ones of the Windmiller period. Projectile points found embedded in the bones of excavated skeletons suggest that warfare was on the rise, possibly as a result of increased competition over available resources and trade (Beardsley 1954; Lillard et al. 1939; Ragir 1972).

The next, and final, discrete prehistoric culture is the Hotchkiss Tradition (1000 to 181 BP [AD 1769]) that persisted until the arrival of European settlers in central California (Beardsley 1954; Ragir 1972). During this period, use of acorns and salmon reached its peak, along with hunting of deer. Diet was supplemented with the addition of waterfowl, hard seeds, and other resources. Large sedentary villages along the lower Sacramento and San Joaquin Rivers, and their tributaries and delta were common. The size and density of these settlements suggest a further increase in population from Cosumnes times. Trade goods were plentiful, and burials exhibit a marked stratification of society with wide differences in the amount and variety of funerary objects. Cremation of the dead appears, along with the flexed

inhumations of the previous period (Ragir 1972). While ornamental or ritual artifacts, such as large, fragile projectile points and trimmed bird bone increase during this period, milling tools are rare or absent. Shell beads are found in large numbers, and there are numerous utilitarian artifacts of bones such as awls, needles, and barbed harpoon points. Polished charmstones are rare during this time, but ground stone pipes become more abundant. In addition, fired and unfired clay objects begin to appear.

3.3 Ethnography

Ethnographically, the Project Area is in the eastern portion of the territory occupied by the Penutian-speaking River Patwin. The Patwin territory included both the River and Hill Patwin and extended from the southern portion of the Sacramento River Valley to the west of the river, from the town of Princeton south to San Pablo and Suisun bays. As a language, Patwin (meaning "people") for part of the Wintu linguistic family which has three main groups: Southern or Patwin; Central, of Glenn and Tehama counties; and the Northern, of the upper Sacramento, lower Pit, and the upper Trinity drainages (Johnson 1978). The Hill Patwin territory includes the lower hills of the eastern Coast Range mountain slope (Long, Indian, Bear, Capay, Cortina, and Napa Valley). Between there and the foothills, the grassy plains were largely unsettled, used mainly as a foraging ground by both valley and hill groups (Johnson 1978). Patwin pre-contact population numbers are not precise, but Kroeber (1977) estimates 12,500 for the Wintu, *Nomlaki*, and Patwin groups. These numbers reflect groups prior to the 1833 malaria epidemic.

Individual and extended families "owned" hunting and gathering grounds, and trespassing was discouraged unless permission was given. Residence and marriage was generally matrilocal, but unrestricted. Politically, the Patwin were divided into "tribelets," made up of a primary village and a series of outlying hamlets, presided over by a more-or-less hereditary chief. Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The chief had unrestricted power and presided over economic and ceremonial decisions (Johnson 1978).

Subsistence activities centered around hunting and fishing of deer, tule elk, antelope, bear, ducks, geese, quail, turtles, fish, and other small animals. Hunting of deer often took the form of communal drives, with the actual killing of the deer performed by individuals or groups. Decoys were used for attracting such game as deer and ducks. Nets and holding pens were used for fishing, which was also an important part of normal subsistence activities. Types of fish included sturgeon, salmon, perch, chub, sucker, hardhead, pike, trout, steelhead, and mussels. Although acorns were the staple of the Patwin diet, they also harvested sunflower, alfilaria, clover, bunchgrass, wild oak, and yellow flower, which was parched or dried, then pounded into a meal. Buckeye, pine nuts, juniper berries, manzanita berries, blackberries, wild grapes, brodiaea bulbs, and tule roots were also collected. Each village had its own locations for these food sources, and the village chief was in charge of assigning particular families to each collecting area. Game was prepared by roasting, baking, or drying of the meat. Tobacco was collected along the river and inhaled, but not cultivated. Salt was scraped off rocks (in the Cortina region) or by burning a grass found in the plains (Johnson 1978).

Patwin houses were built in the form of a dome, using tree branches as for the framing, then covered with thatch and earth. House floors were typically dug out and the walls were built up as a mound, with the entrance to the building made through the roof (Powers 1976).

One of the most distinctive aspects of the Patwin culture was the cult system, found throughout northern central California. The main feature of the cult was the occurrence of one or more secret societies whose membership was by strict initiation, each with its own series of dances and rituals (Johnson 1978). Patwin culture is most distinctive in that it possessed three secret societies: the ghost, *Hesi*, and *Kuksu*. These involved elaborate ceremonial activities consisting of singing and dancing (Foster 1995). Membership included mostly males, beginning around the ages of eight to 16, but on limited occasions, included high status women (Johnson 1978). Everyday *Patwin* life centered on the rituals performed

within the secret societies. Details involving the ceremonies varied, but most had sacred dances requiring careful preparation, costume and music. These dances could last several days. Detailed summaries are provided by Kroeber (1976) and Loeb (1933).

3.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978).

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterey Bay Area in 1769. As a result of this expedition, Spanish missions to convert the native population, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California) beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. The nearest missions were in the vicinity of San Francisco Bay and included Mission San Francisco de Asis (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asis at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an *asistencia* in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823 (Castillo 1978; California Missions Online n.d.). Presidios were established at San Francisco and Monterey. The Spanish took little interest in the area and did not establish any missions or settlements in the Central Valley.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. In 1827, American trapper Jedediah Smith traveled along the Sacramento River and into the San Joaquin Valley to meet other trappers of his company who were camped there, but no permanent settlements were established by the fur trappers (Thompson and West 1880).

The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or "ranchos" (Robinson 1948). During the Mexican period there were small towns at San Francisco (then known as Yerba Buena) and Monterey. The rancho owners lived in one of the towns or in an adobe house on the rancho. The Mexican Period includes the years 1821 to 1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American Rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort (Bidwell 1971). Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848 (Marshall 1971). The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, Alta California became part of the United States as the territory of California. Rapid population increase occasioned by the Gold Rush of 1849 allowed California to become a state in 1850. Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries, which were surveyed by the U.S. Surveyor General's office. Land

outside the land grants became federal public land which was surveyed into sections, quarter-sections, and quarter-quarter sections. The federal public land could be purchased at a low fixed price per acre or could be obtained through homesteading (after 1862) (Robinson 1948).

3.5 Project Area History

The Project Area is located in the eastern portion of West Sacramento, along the bank of the Sacramento River. The first Euro-American to permanently settle in this area was a Flemish traveler named Jan Lows de Swart in 1844 (City of West Sacramento 2013). He eventually became known as John Schwartz and acquired a land grant from the then Mexican Governor Manuel Micheltorena for a long stretch of land approximately one mile wide and twenty-two miles long, which he named Rancho Nueva Flandria. Schwartz established a salmon fishery along the Sacramento River, as well as engaged in raising livestock and agriculture, specifically potatoes and melons. The Gold Rush, which brought thousands of travelers to California, increased profitability of the Rancho Nueva Flandria because the travelers utilized Schwartz' fishery, livestock, and agricultural businesses to stock up on supplies.

Another group of early settlers in the area was James McDowell and his family. McDowell bought 600 acres of Rancho Nueva Flandria from Schwartz in 1846 and settled in the area known today as Broderick (City of West Sacramento 2013). James McDowell was later shot and killed in 1849 in a barroom brawl leaving his wife, Margaret McDowell, and his family without a means of income. Margaret quickly hired a land surveyor to parcel out 160 acres of her land, individually divided into forty-one blocks, which she sold as individual lots in an area she called the Town of Washington (currently West Sacramento). Many of these lots were located along the banks of the Sacramento River and the business development of the area was significantly centered on shipping activity. The California Steam Navigation Company was one of the earliest shipping companies to establish a profitable business in the area utilizing the Sacramento River in 1859. As the shipping industry grew, other enterprises sprang up, including saloons, restaurants, and boarding houses for travelers in the area.

Along with the shipping industry utilizing the Sacramento River, the fishing and farming industries also quickly grew in the areas of West Sacramento. The fishing industry, which had great potential with the abundance of salmon, sturgeon, catfish, eel, crayfish, and clams from the river, thrived by supplying fish markets in Sacramento, San Francisco, and the many smaller mining towns in the region (City of West Sacramento 2013). In addition to fishing, agriculture and farming increased simultaneously with the growth of the area. Well-known dairy farmers, such as Mike Bryte, established dairy farms in the West Sacramento area in 1853. Bryte utilized the California Steam Navigation Company shipping capabilities to deliver his dairy products to several regional markets which allowed him to expand his holdings. Bryte owned 1,500 acres of land, raised 150 cows and 100 young stocks, and farmed 2,500 acres in Sacramento and Yolo Counties by 1879. Bryte's property eventually became so vast it was eventually subdivided, sold, and became known as the community of Bryte. The small communities, Broderick, Town of West Sacramento, and Bryte eventually grew into one large city, known today as the City of West Sacramento (City of West Sacramento 2013).

The Old Sacramento Historic District is located on the western edge of Sacramento County along the Sacramento River. Sacramento's waterfront location has always been a prime area for commercial success. With the huge influx of people from the onset of the Gold Rush in 1848, the City of Sacramento was created. Local merchant Samuel Brannan first opened a store near the Sacramento River to take advantage of the convenient location and river access (Old Sacramento History 2013). Several storefronts were opened shortly after all along the Sacramento River to support the commercial needs of the early Gold Rush in Sacramento. Following a series of devastating floods in the flood-prone area around the Sacramento River, the City proposed and carried out a massive project to raise the cityscape above the flood level. The plan was carried out over the course of a few years in the 1860s and several thousands of cubic yards of earth were brought in on wagons to help raise the streets. The original street level still exists below the current level. Currently, over 50 historic buildings exist within the District. Some of these

significant historical buildings include the 1849 Eagle Theater; the 1853 B.F. Hastings Building which was once the home to the California State Supreme Court; and the 1855 Big Four Building (California State Parks 2013). Old Sacramento derives its historical significance from being the western terminus of the Pony Express postal system, the first transcontinental railroad, and the transcontinental telegraph (California State Parks 2013). Many of the Gold Rush era commercial buildings are still currently in use as small shops or business offices.

The site of the First Pacific Coast Salmon Cannery is located on the western bank of the Sacramento River, adjacent to the Raley's Dock portion of the Project Area. The Cannery was established in 1864 by William and George Hume and Andrew Hapgood. This is the site where salmon was first canned on the Pacific Coast. In the 1850s, the salmon industry was already thriving, but marketability was limited because preserving the fish meat was difficult and presented many issues. The Hume brothers first worked in the salmon industry selling fresh and salted salmon. They were moderately successful in the salmon-selling industry, but were never able to reach distant markets. In 1864, an old friend of theirs, Andrew Hapgood, joined their business. Hapgood had experience canning lobster in Maine and when he arrived to join their team, he brought with him some technology to start the canning operation. Andrew Hapgood and the Hume brothers began canning salmon upon his arrival in 1864. The salmon-canning business flourished for the following two years, producing several thousand cases of canned salmon each year. Eventually, in 1866, the company relocated to the Columbia River. The success of the salmon cannery led to additional operations in the Sacramento area and the expansion of a large salmon canning industry on the Pacific Coast. Nothing from the original operation remains at the site; however, it is commemorated with a plaque at its location (National Park Service 2013).

3.5.1 Raley's Dock History

The Raley's Dock facility was originally constructed by the Raley Corporation and included a floating wood dock, steel pilings, a gangway and timber walkway. Research conducted for this cultural resources inventory did not identify exactly when Raley's Dock was originally constructed; however, according to historical aerial photographs, the Dock was constructed sometime after 1966 and, therefore, is not yet 50 years old and is not considered to be a cultural resource. The dock was privately owned by the Raley Corporation and later was used as the boarding area for the Elizabeth Louise, a steam-powered paddlewheel boat. The dock has also been used for the River Otter Taxi service; however, all use of the dock was discontinued in the early 2000s. Since its services have been discontinued, the dock has fallen into a state of disrepair and left unused for several years. Eventually, the dock and gangway collapsed and floating debris began to cause a hazard to life and property downstream of the dock, so the Central Valley Flood Protection Board ordered its removal. The Raley Corporation ceded its dock lease and the control of the dock to the City of West Sacramento. The City hired PBM Construction to remove the dock and gangway in 2012. Currently, only the pile structures remain and all associated features have been removed

3.5.2 Rice Mill Pier History

The rice industry in West Sacramento was responsible for a large percentage of California's rice production and exports through the Port of West Sacramento. According to the City of Sacramento, in 1918 a rice storage and milling facility was constructed by a company called National Rice Mills. The company was incorporated in that same year, confirmed by an article in the *Western Canner and Packer* journal published in May 1918. A 1921 City of West Sacramento directory of manufacturers and wholesale distributors confirms that the National Rice Mills Company operated a rice mill and pier on the bank of the Sacramento River. According to the City, in 1930 the rice mill building was purchased by the Rice Growers Association (RGA) and additional structures were built. The rice mill and additional buildings are all clearly seen on the 1947 USGS historical aerial photograph of the Project Area. The rice storage and milling facility, and any other associated buildings, no longer exist at the site. The inland Port of West Sacramento opened in 1963 for the primary purpose of serving Northern California's rice industry. In

1982, the RGA and the State Lands Commission entered into a lease agreement for the purpose of providing public wharfage utilizing the pier and other adjacent sites. The 30-year lease expired in August 2012 and the City of West Sacramento applied for a new lease through the State Lands Commission. Because the rice mill pier was originally constructed in 1918 and is associated with the rice industry in West Sacramento, it is a cultural resource.

4.0 METHODS

4.1 Personnel Qualifications

All phases of the cultural resources investigation were conducted or supervised by Registered Professional Archaeologist Lisa Westwood, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeologist. Fieldwork was conducted by Field Director Stephen Pappas. Historical research was carried out by Architectural Historian Jeremy Adams.

Lisa Westwood, the Principal Investigator, has over 18 years of cultural resource management, contract archaeology, museum curation, and teaching experience in California, Utah, New Mexico, and the Midwest. She holds a B.A. degree in Anthropology and an M.A. degree in Anthropology (Archaeology). She has participated in or supervised numerous survey, testing, and data recovery excavations, has recorded and mapped hundreds of prehistoric and historical sites, and has cataloged, identified, and curated hundreds of thousands of artifacts. She has conducted evaluations of cultural resources for eligibility to the National Register of Historic Places and California Register of Historical Resources and is well versed in impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects.

Jeremy Adams meets the Secretary of the Interior's Standards for Architectural History and History, holding an M.A. degree in Public History and a B.A. degree in History, with four years' experience specializing in historic resources of the built environment. He is skilled in carrying out historical research at repositories such as city, state, and private archives, libraries, CHRIS information centers, and historical societies. He has experience conducting field reconnaissance and intensive surveys. Mr. Adams has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR and has specialized experience evaluating electric transmission utilities.

Stephen Pappas is a Staff Archaeologist and Field Director for ECORP and has nine years of experience in cultural resources management, primarily in California and New Mexico. He holds a B.A. degree in Anthropology and has participated in all aspects of archaeological fieldwork, including survey, test excavation, data recovery, and construction monitoring. He has extensive experience in meeting the cultural resource requirements of CEQA and Section 106 of the NHPA.

4.2 Records Search Methods

The Project Area is located in Yolo County along the Sacramento River immediately adjacent to Sacramento County; therefore, the previously prepared records of sites within a 0.5 mile radius and surveys within a 0.25 mile radius of the Project Area were split between two Information Centers: (1) the Northwestern Information Center (NWIC) for those in Yolo County; and, (2) the North Central Information Center (NCIC) for those in Sacramento County. A records search for the property was completed at NCIC of the California Historical Resources Information System at California State University-Sacramento on 22 October 2013 (NCIC search #SAC-13-127; Attachment A). A records search request was also sent to NWIC at California State University-Sonoma on 18 October 2013 to request those records held at that information center for the Project Area (NWIC File No. 13-0640; Attachment A).

The purpose of the records searches was to determine the extent of previous surveys within a 0.25-mile (400-meter) radius of the proposed project locations, and whether previously documented prehistoric or historic archaeological sites, architectural resources, or traditional cultural properties exist within these areas. A 0.25-mile radius was used as an attempt to reduce the number of previously recorded sites within the records search radius due to the high density of previously recorded cultural resource sites along the banks of, and within, the Sacramento River, resources near the Old Sacramento Historic District, and properties around historic downtown Sacramento.

In addition to the official records and maps for archaeological sites and surveys in Sacramento and Yolo Counties, the following historic references were also reviewed: Historic Property Data File for Sacramento and Yolo Counties (Office of Historic Preservation 2012); *The National Register Information System website* (National Park Service 2013); *Office of Historic Preservation, California Historical Landmarks websit*e (Office Historic Preservation 2013); *California Historical Landmarks* (Office of Historic Preservation 1996 and updates); *California Points of Historical Interest* (Office of Historic Preservation 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2013a); and *Caltrans State Bridge Survey* (Caltrans 2013b). Historic aerial photos taken in 1937, 1947, 1953, 1966, 1984, 1998 and 2010 were also reviewed to help better determine property usage history of the Project Area.

The local Sacramento City historical registry was also reviewed to examine the list of cultural resources inventoried by the City that are not on the CRHR or NRHP lists. The resources listed on the Sacramento City Register are considered Historical Resources, as defined by CEQA.

4.3 Native American Coordination Methods

ECORP contacted the California Native American Heritage Commission (NAHC) on 23 October 2013 to request a search of the Sacred Lands File for the Project Area. Although the search failed to yield information on Native American cultural resources located within or adjacent to the Project Area, the NAHC provided a list of individuals and organizations in the Native American community that may be able to provide information about unrecorded sites in the project vicinity.

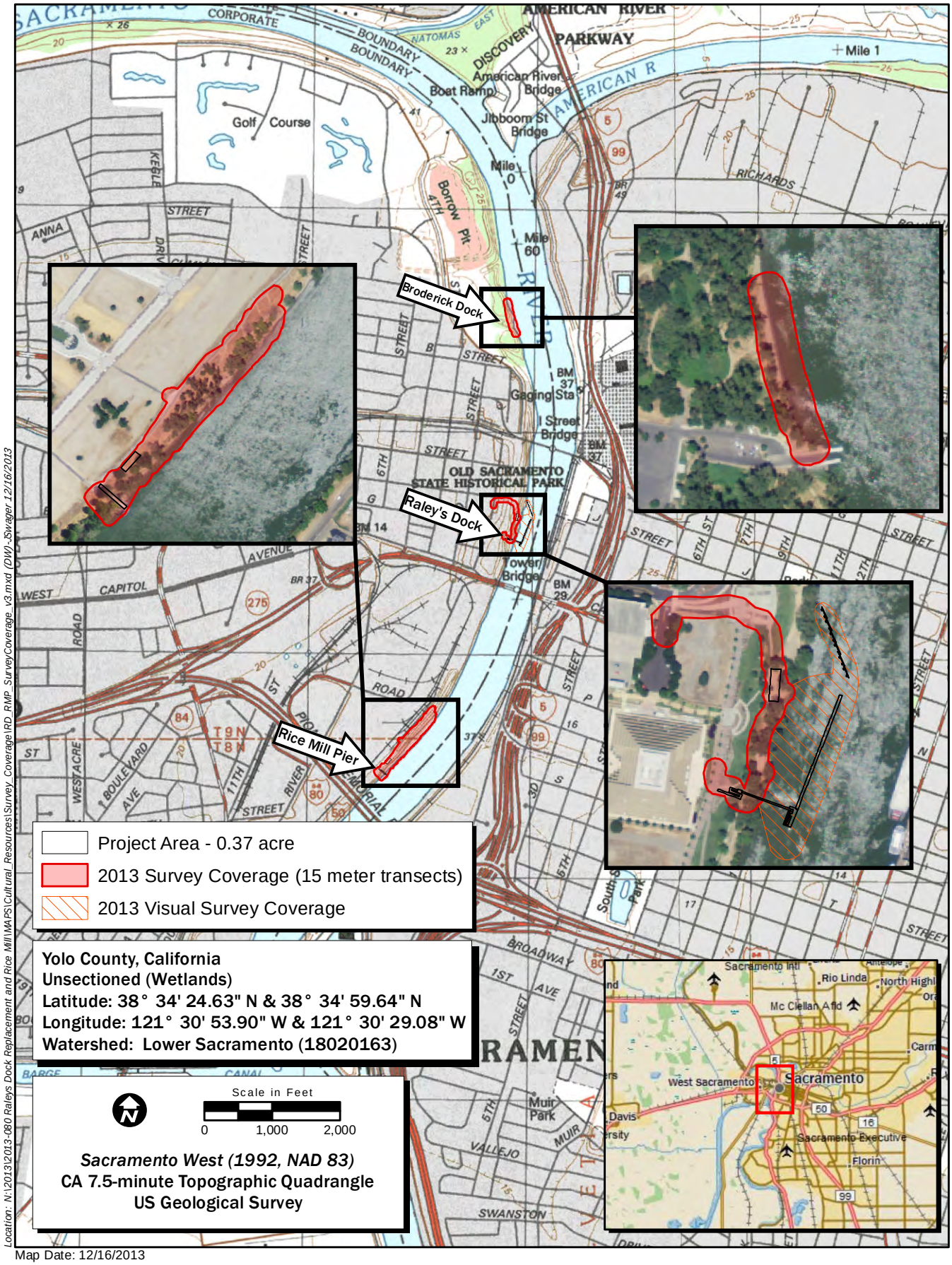
ECORP contacted all persons or organizations on the NAHC list by letter on 6 November 2013 to request information on unrecorded cultural resources that may exist within the current Project Area, or to inquire about any concerns regarding sacred sites or traditional cultural properties in the vicinity that might be affected by the proposed action. Each individual was subsequently telephoned on 11/22/2013 and 12/6/2013 to ensure that the materials had been received and to further solicit comments (Attachment B).

4.4 Other Consulting Party Methods

ECORP contacted the Sacramento and Yolo County Historical Societies by letter on 24 October 2013 in order to solicit comments or obtain historical information that the repositories might have regarding events, people, or resources of historical significance in the area. A copy of the relevant correspondence is provided in Attachment E.

4.5 Field Methods

On 31 October 2013, the Raley's Dock and Rice Mill Pier Project Area was subjected to a pedestrian survey under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (National Park Service 1983; Figure 2 and Figure 3).



Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Cultural_Resources\Survey_Coverage\RD_RMP_SurveyCoverage_v3.mxd (DW)-JSwager 12/16/2013

Map Date: 12/16/2013
Service Layer Credits: Copyright:© 2012 DeLorme

Figure 2. Survey Coverage

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Cultural_Resources\Survey_Coverage\RD_RMP_SurveyTransect_v2.mxd (ECK/JDS) JSwager 12/16/2013

Map Date: 12/16/2013
Photo Source: NAIP 2012

Figure 3. Survey Transects

2013-080 Raley's Dock Replacement and Rice Mill Pier Rehabilitation

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Areas around Raley's Dock and Rice Mill Pier were also surveyed, as well as Broderick's Pier, which is north of the Project Area. A total of two hours was expended in the field. At that time, the ground surface on the banks of the Sacramento River within and surrounding the Project Area was examined for indications of surface or subsurface cultural resources. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

All cultural resources encountered during the survey were recorded using Department of Parks and Recreation 523-series forms approved by the California Office of Historic Preservation (OHP). The resources were also photographed to document their presence.

5.0 RESULTS

5.1 Records Search

The records search consisted of a review of previous research and literature, records on file with the NCIC and NWIC for previously recorded resources, and historical aerial photographs of the Project Area.

5.1.1 Previous Research

Records searches conducted at the NWIC and NCIC reveal that more than 70 cultural resource studies have been conducted within a 0.25 mile radius of the Project Area. Due to the location of Raley's Dock and the Rice Mill Pier on the banks of, and within, the Sacramento River, and the high volume of previously conducted cultural resources investigations within 0.25 mile radius of the Project Area, only the previous studies conducted *within* the Project Area that are relevant to this research study are discussed in this section.

Of those 70 previous studies within the 0.25 mile records search radius, only eight previous cultural resource investigations contain portions of the current Project Area (Table 1) and represent both terrestrial and riverine (underwater) surveys. These studies revealed the presence of archaeological (including underwater) sites and historical properties in the Project Area.

Table 1 – Previous Cultural Studies Within the Project Area

Report Number	Author(s)	Report Title	Year
9423	URS	Cultural Resources Survey Report for the Urban Levee Project	2008
18031	Jones and Stokes Associates, Inc.	Archaeological Inventory and Determination of Effect for the City of West Sacramento Riverfront Improvements Project, Yolo County, California	1996
26372	William Self Associates	Evaluation of Navigation Hazards in the Sacramento River, Sacramento and Yolo Counties	2002
26373	William Self Associates	Report of Archival and Historical Literature Research on Select Obstructions to Navigation in the Sacramento River, Sacramento and Yolo Counties, California	2002
34075	URS	Cultural Resources Report for the Geotechnical Evaluation Project	2007
36992	ICF International	Final Cultural Resources Survey and Inventory Report, West Sacramento Bridge District, Levee Access Road and River Walk Trail Project, City of West Sacramento, Yolo County, California	2010

Report Number	Author(s)	Report Title	Year
38635	Panamerican Consultants, Inc.	Cultural Resources Remote Sensing Survey and Diver Investigations at Selected Target Locations, Sacramento River Bank Protection Project (SRBPP), Sacramento River and Tributaries	2010
38637	ICF International	Historic Properties Treatment Plan, Sacramento River Bank Protection Project	2012

The results of the records searches indicate that the most recent cultural resources document addressing a portion of the Project Area was a Historic Properties Treatment Plan for the Sacramento River Bank Protection Project completed in 2012. This study was preceded by a cultural resources survey and inventory report for the Levee Access Road and River Walk Trail Project, completed by ICF in 2010. The 2010 cultural resources inventory covered the levee along the west bank of the Sacramento River which included areas within the Project Area. In 2007, URS Corporation also prepared a Cultural Resources Report for the Geotechnical Evaluation Project which also covered the western bank of the Sacramento River including the Project Area. Therefore, the entire terrestrial portion of the Project Area was surveyed for cultural resources in both 2007 and 2010. In addition, an underwater archaeological study was conducted in 2010 covering several areas of the Sacramento River including the entire Project Area that lies within the waterway. The underwater archaeology study did not include a pedestrian survey or architectural inventory of the land along the banks of the Project Area. Therefore, the entire Project Area within the Sacramento River has undergone an underwater archaeological study in 2010. The most recent survey of the Project Area was conducted in 2010; however, the survey failed to identify the Rice Mill Pier as a cultural resource and thus lacked reliability for the identification of cultural resources within the Project Area. Therefore, an updated cultural resources survey of the Project Area was warranted. In addition, current project activities do not require the need for an underwater archaeological inventory.

The records search also determined that 48 previously recorded prehistoric and historic-era cultural resources are located within 0.5 mile of the Project Area. Though several resources are located nearby, no previously recorded resources are located within the Project Area. Due to the great number of previously recorded sites located within 0.5 mile of the Project Area, only those sites located within the Project Area or within the viewshed of the Project Area are discussed. The viewshed is defined as the area where previously recorded cultural resources were close enough to the project that the project activities could be seen from the historical resource. The viewshed does not necessary mean these resources will be visually or physically impacted by the project, but instead it was used as a tool to help focus the effort to identify previously recorded resources near the project. Of the 48 previously recorded cultural resources within 0.5 mile of the Project Area, 12 previously recorded resources are located within the viewshed of the Project Area. In addition, the Old Sacramento Historic District and Delta King are located directly across the river from the Raley's Dock portion of the Project Area.

Table 2 – Previously Recorded Cultural Resources Within the Viewshed of the Project Area

Site Number CA-SAC-	Primary Number	Recorder and Year	Age / Period	Site Description	Within Project Area?
428-H	P-34-455	Eleanor Derr	Historic	Railroad	No
575-H	P-34-750	Meyer and Schur	Historic	Remains of a city block	No

Site Number CA-SAC-	Primary Number	Recorder and Year	Age / Period	Site Description	Within Project Area?
None	P-34-2358	Heather Lavezzo Downey	Historic	Downtown Sacramento	No
None	P-34-4110	Warren Wulzen	Historic	Remnant of a railroad trestle	No
None	P-34-4370	Page & Turnbull	Historic	Commercial building	No
None	P-57-651	Panamerican Consultants	Historic	Potential shipwreck	No
None	P-57-653	Panamerican Consultants	Historic	Vessel hulls	No
None	P-57-654	Panamerican Consultants	Historic	Lapstrake steel-hulled WWI era lifeboat	No
None	P-57-655	Panamerican Consultants	Historic	Historic marine landing	No
None	P-57-658	Panamerican Consultants	Historic	Unknown historic artifact	No
None	P-57-661	Panamerican Consultants	Historic	Two flat-bottomed vessels	No
None	P-57-662	Panamerican Consultants	Historic	Remains of a cabin cruiser boat	No

5.1.2 Records

The *Office of Historic Preservation's Directory of Properties, Historic Property Data Files* (dated 4/05/2012) indicated that no historic resources were located within the Project Area (OHP 2012a, OHP 2012b). Due to the quantity of historic resources located within 0.5 mile of the Project Area, including the quantity located within the viewshed of the Project Area at the Old Sacramento Historic District, only the sites within very close proximity of the Project Area are discussed. The OHP Data File included only one site within very close proximity to the Raley's Dock portion of the Project Area: the First Pacific Coast Salmon Cannery (Property Number 046760). The Cannery, constructed in 1864, but no longer extant, is listed as a State Historic Landmark, on the California Inventory of Historical Resources, is listed on the NRHP and CRHR, and is on the directory of historic properties in the historic property data file for Yolo County (OHP 2012b).

The National Register Information System (National Park Service 2013) also identified several listed properties near the Project Area. The closest NRHP-listed property, the First Pacific Coast Salmon Cannery site, is located adjacent to the western portion of Raley's Dock section of the Project Area. The site is located outside of the Project Area on the western bank of the Sacramento River. The I Street Bridge and Tower Bridge are also both located within 0.25 mile of the Raley's Dock portion of the Project Area. Both bridges span the Sacramento River; I Street Bridge on the upstream side and Tower Bridge on the downstream side of the Raley's Dock portion of the Project Area. The Old Sacramento Historic District is also located along the eastern bank of the Sacramento River in Sacramento County. Old Sacramento Historic District has many buildings which are within the viewshed of the Raley's Dock portion of the Project Area. Lastly, the J Street Wreck marks the location of the shipwreck *The Sterling*, located at the foot of the Sacramento River bank on the Sacramento County side of the river near Old Sacramento Historic District.

Resources listed as *California Historical Landmarks* (Office of Historic Preservation 1996), on the Office of Historic Preservation website (OHP 2013), and in the California Inventory of Historic Resources were also

reviewed. The nearest listed landmark and California Inventory site is also the cannery, which is designated as #1040: the First Pacific Coast Salmon Cannery. A commemorative plaque is located at the site on the western bank of the Sacramento River, adjacent to the Project Area.

A search of the Caltrans Historic Bridge Inventory revealed that the I Street Bridge is located within 0.25 mile of the Project Area. The I Street Bridge (22C0153) was built in 1911 and is listed on the NRHP. The Tower Bridge is also located within 0.25 mile of the Project Area. Tower Bridge (22 0021) was built in 1934 and modified in 2005 and is listed on the NRHP. The Tower Bridge is within 0.25 mile downstream of the Raley's Dock portion of the Project Area and the I Street Bridge is within 0.25 mile upstream of the Raley's Dock portion of the Project Area. The project activities include rehabilitations to an existing pier and dock within the river which will not have a physical or visual impact to either bridge. Therefore, the bridges will not be affected by the project.

A review of the Sacramento City historical registry did reveal cultural resources in the vicinity of the Project Area; however, these resources were all located within the cityscape of Sacramento and will not be impacted by the rehabilitation and replacement project activities.

The review of historical aerial photographs of the Project Area provides information on the past use of the dock and pier. Following is a summary of the review of historical maps and photographs.

- Raley's Dock first appears in historical aerial photographs in 1984. Previous historical aerial photographs from 1966 and earlier clearly show that the dock had not yet been constructed. The cutoff for a property to be 50 years or older currently is 1963; therefore, Raley's Dock is not 50 years or older and is not considered a cultural resource.
- Recent historical aerials from 1998 and 2010 show that the dock in good condition. The dock appears capable of being used in these photographs.
- The Rice Mill Pier is first clearly seen on a USGS historical aerial photograph from 1947; it is difficult to discern the presence of the pier in earlier historical aerial photographs. The 1947 aerial indicates that the Rice Mill Pier is associated with building complex, possibly a manufacturing facility. The facility has many buildings and structures on the complex in the 1947 photograph.
- The 1966 historical aerial also clearly shows the Rice Mill Pier associated with the same set of facilities and buildings in its same location. It appears to still be in operation and used to support the industries along the river.
- In 1998, the facilities previously associated with the Rice Mill Pier no longer appear in the same location. The buildings appear to have been demolished and removed leaving only the pier. Many of the industrial buildings along the riverbank are no longer present indicating that the pier is not being used by any industries. The pier appears in the same condition as it does presently.

5.2 Native American Coordination Results

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources in the Project Area. Follow-up telephone calls resulted in no comments on the proposed project from the list of Native American contacts provided by the NAHC. Two detailed telephone messages were left for each Native American contact and some contacts that provided e-mail addresses were also sent e-mail letters. Of particular note, every contact of the Yocha Dehe Wintun Nation tribe mentioned that James Sarmento was a new member of the tribe and the primary point of contact for cultural resource outreach. A message was left for Mr. Sarmento at the Yocha Dehe Wintun Nation tribal office and a follow-up e-mail was sent to him on 2 December 2013, but no response has been received from him.

A letter was received from Marshall McKay, Tribal Chairman of the Yocha Dehe Wintun Nation, on 13 December 2013. Mr. McKay stated that the Cultural Resources Department had reviewed the project and concluded it is within the aboriginal territories of the Yocha Dehe Wintun Nation and that they are aware

of several recorded historic and prehistoric sites in close proximity of the Project. Mr. McKay highly recommended a mitigation plan, as well as having cultural monitors on site during construction. He also requested contacting Mr. James Sarmento for any further questions. A follow-up e-mail was sent to Mr. Sarmento on 16 December 2013 regarding the letter from Mr. McKay. The follow-up e-mail referenced Mr. McKay's recommendations and stated that the comments provided by the Tribe will be forwarded to the lead agency for them to respond. Mr. Sarmento then followed-up with ECORP in an e-mail received on 17 December 2013 stating that he has received all of our correspondence and filed them, and the letter sent from Mr. McKay is still their only comment for the Project.

A record of all correspondence is provided in Attachment B. If any additional comments are received after the submission of this report, then they will be forwarded to the lead agencies for further consideration and appropriate action.

5.3 Other Consulting Party Results

No responses to the letters sent to the Sacramento and Yolo County Historical Societies have been received to date.

5.4 Field Survey Results

Archaeologist Stephen Pappas conducted pedestrian surveys within the two project areas, the Rice Mill Pier and the Raley's Dock. Due to changes in project plans during the course of the investigation, ECORP surveyed areas beyond the current Project Area. Figure 2 illustrates the survey coverage and Section 5.4.3 describes the results of the survey beyond the current Project Area. The area shown in red represents the total survey coverage, but within the survey coverage, the Project Area is limited to four areas (two in Raley's Dock and two in the Rice Mill Pier area).

5.4.1 Raley's Pier Field Survey Results

The Raley's Pier and staging area consisted of mostly exposed dirt in a landscaped area directly east of the CALSTRS complex (Figure 4). Surface visibility was 100 percent; however, the soil appeared to have been leveled and landscaped. Several photographs were taken of the existing Raley's Dock pilings located south of the staging area. The pilings were mostly located within the river with one set of pilings located in the landscaped area (Figure 5). The piers within the river were visually inspected from the shoreline and appeared to be in good condition (Figure 6). No cultural resources were observed within the staging area, or near the areas of the piers on land or in the water.

Figure 4. Overview of Raley's Pier Staging Area, View Northeast (photo taken 31 October 2013).

Figure 5. Overview of Raley's Pier on landscaped hill, View Southeast (photo taken 31 October 2013).

Figure 6. Overview of Raley's Piers in the Sacramento River, View South (photo taken 31 October 2013).

5.4.2 Rice Mill Pier Field Survey Results

The Rice Mill Pier parcel was surveyed in three transects: above the levee, on the River's shore, and along the slope of the levee. The area on top of the levee consisted of a flat surface and partially built-up graded, graveled, and paved path. This area is within the construction staging area for the Rice Mill Pier (Figure 7). No cultural resources were observed within this staging area. The area along the shore contained a large amount of modern refuse from previous and currently residing transients.

Figure 7. Overview of Rice Mill Pier Staging Area, View Southwest (photo taken 31 October 2013).

As a result of the survey, one historic-era resource was identified and recorded.

RAL-001 (Rice Mill Pier): The site consists of the remains of the Rice Mill Factory Pier originally constructed in 1918 as part of National Rice Mills Company rice storage and milling facility (Figure 8). The pier consists of an elevated concrete deck measuring 120 feet long, 18 feet wide and 12 inches thick. The deck is elevated approximately 25 feet above the waterline. The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible, but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

The site also contains a series of columns and square concrete footings located directly southwest of the main pier. Two rows of four fluted steel cased columns are located along the water's edge, while three rows of eight-by-eight-inch square concrete footings are located up the side of the levee. Each row contains five footings. Both the fluted columns and the square footings are approximately two feet above the surface. The function of the footings is unknown, but may have once contained a deck on top of the footings for entry onto the lover levels of docked ships.

Figure 8. Overview of RAL-001, Rice Mill Pier, View South (photo taken 31 October 2013).

5.4.3 Results of Survey Outside of Current Project Area

As stated in the previous report sections, areas beyond the current Project Area were surveyed due to a previously larger Project Area. These areas included expanded areas of the Rice Mill pier and Raley's pier parcels as well as a parcel surrounding the Broderick boat ramp located approximately 0.5 mile north of the Raley's pier parcel.

The surveys beyond the current project area resulted in the discovery of two cultural resources and one isolated find. An approximate 1,000-foot long by 125-foot wide area was surveyed north of the Rice Mill pier along the levee and shoreline. One isolate and one site was recorded in this area.

RAL-002 is an isolate consisting of two rectangular concrete blocks (Figure 9) discarded on the side of the levee overlooking the Sacramento River. The blocks measure approximately 3 feet long, by 1.5 feet square consisting of a rough aggregate. The blocks were surrounded by piles of discarded asphalt, both of which may have been a result of dumping from nearby construction.

Figure 9. RAL-002 Isolated Concrete Block, View West (Photo Taken 31 October 2013).

RAL-003 is a site consisting of eight sets of wooden piers located on the western bank and shore of the Sacramento River (Figure 10). Each set of piers contains two to five heavily water-worn pieces of wooden posts which may have once been footings for a pier or dock. The heavily worn pieces of wood stood approximately one-foot above the water, with the western four sets on the shore and the eastern four sets located approximately 30 feet into the river. Overall, the site appeared to be in poor condition with no evidence of a platform.

Figure 10. RAL-003 Overview of Wooden Piers, View Southeast (Photo Taken 31 October 2013).

Additional surveyed areas surrounding the Raley's piers parcel consisted of two 550-foot long transects walked along the landscaped area between the slope of the levee to the east and the Ziggurat building to the west. No additional cultural resources were discovered in this area.

The northernmost surveyed area beyond the current Project Area consisted of a 500-foot long span of shoreline located 0.5 mile north of the Raley's Pier Project Area. This area began at the Broderick Boat ramp at the southern end, encompassing the shoreline to the north. As a result of this surveyed area, two sets of wooden piers were observed.

RAL-004 consists of two rows of five wooden poles standing 1.5 to 2 feet above the surface located on the shoreline approximately 200 feet north of the Broderick boat ramp (Figure 11). The poles are approximately 10-inches diameter and are in poor condition.

Figure 11. RAL-004 Overview from Shore. View East (photo taken 31 October 2013).

RAL-005 (Figure 12) consists of two rows of seven wooden poles standing 1.5 to 2 feet above the surface with the eight western poles on the shoreline and the six eastern poles in the water. The site is located approximately 450 feet north of the Broderick boat ramp and 250 feet north of RAL-004. The poles are approximately 10-inches diameter and are in poor condition.

Figure 12. RAL-005 Overview from Shore. View East (photo taken 31 October 2013).

6.0 MANAGEMENT CONSIDERATIONS

6.1 Conclusions

As a result of the cultural resources inventory, one cultural resource is located within the terrestrial environment of the Project Area: site RAL-001, the historic Rice Mill Pier. This resource has not been evaluated for eligibility using significance criteria for the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). No maritime (underwater) archaeological sites were identified by previous underwater surveys. No prehistoric archaeological sites were observed inside the Project Area.

6.2 Recommendations

If it will remain inside the Project Area, then the Rice Mill Pier (RAL-001) must be evaluated using CRHR and NRHP eligibility criteria to determine if it is a Historical Resource, as defined by CEQA, or a Historic Property for the purposes of Section 106 of the NHPA. The evaluation should be based on the results of focused archival research and an architectural history assessment. If the Rice Mill Pier is determined by the lead agency as being eligible for the CRHR or NRHP, then the lead agency must determine whether or not the Proposed project will have a significant impact on the resource. If so, then mitigation would be required and would consist of documentation consistent with the Historic American Engineering Record program, administered by the National Park Service.

In addition, if the Project will require a Section 404 Clean Water Act permit from the US Army Corps of Engineers, or any other federal approval, permit, or funding, then compliance with Section 106 of the NHPA will be required. Compliance with Section 106 will require consideration of a potentially larger APE, which may include an assessment of the impacts the project activities would have on neighboring resources in and along the river that are currently outside of the CEQA project area.

Until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, including archaeological sites, standing structures, and underwater resources nearby, no ground-disturbing activity or demolition should occur.

6.3 Unanticipated Discovery

There always remains a possibility that unrecorded cultural resources are present beneath the ground surface, and that such resources could be exposed during project construction. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during project construction. Therefore, in addition to any mitigation measures that may be required following implementation of the recommendations above, ECORP recommends the following mitigation measures be adopted and implemented by the lead agency to reduce potential adverse impacts to less than significant.

> Unanticipated Discovery
> If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. A Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, will be required if the nature of the unanticipated discovery is prehistoric.
>
> Work cannot continue within the no-work radius until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR.
>
> If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA/NEPA for managing unanticipated discoveries have been met.

In the event that evidence of human remains is discovered, construction activities within 100 feet of the discovery will be halted or diverted and the requirements of Mitigation Measure #1 will be implemented. In addition, the provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. When human remains are discovered, state law requires that the discovery be reported to the County Coroner (Section 7050.5 of the Health and Safety Code) and that reasonable protection measures be taken during construction to protect the discovery from disturbance (AB 2641). If the Coroner determines the remains are Native American, the Coroner notifies the Native American Heritage Commission which then designates a Native American Most Likely Descendant (MLD) for the project (Section 5097.98 of the Public Resources Code). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning

designation or easement; or recording a document with the county in which the property is located (AB 2641).

The Lead Agency is responsible for ensuring compliance with these mitigation measures because damage to significant cultural resources is in violation of CEQA and Section 106. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, *Mitigation Monitoring or Reporting*, "the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

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LIST OF ATTACHMENTS

Attachment A – Records Search Confirmation

Attachment B – Native American Coordination

Attachment C – Project Area Photographs

Attachment D – Cultural Resource Site Locations and Site Records

Attachment E – History Society Letters

ATTACHMENT A

Records Search Confirmation

NORTH CENTRAL INFORMATION CENTER

916-278-6217 **ncic@csus.edu** **FAX: 916-278-5162**
CSU-SACRAMENTO – 6000 J STREET, FOLSOM HALL, STE. #2042–SACRAMENTO, CA 95819-6100
Amador, El Dorado, Nevada, Placer, Sacramento, and Yuba Counties

INFORMATION CENTER ELECTRONIC ACCESS AGREEMENT

FILE NO.: SAC-13-127

I, the undersigned, have been granted access to historical resources electronic data housed at the North Central Information Center (NCIC) of the Historical Resources Information System, for the purpose of 1) Project Planning ____ ; 2) Scientific Research_____ or; 3) Other (specify)_____.

I understand that all access fees charged for services are subject to a one hour minimum charge, thereafter increased by half hour increments, and that payment must be remitted within thirty days of billing.

I understand that any confidential information that I access at the NCIC must remain out of the public domain, except in those circumstances which may be required by law. I fully understand the confidential nature of this information and I agree to respect that confidentiality. I will attempt to ensure that specific site locations are not distributed in public documents or made available to unauthorized individuals within my company, institution, or agency. I also understand that prior written consent by the NCIC Coordinator or the State Historic Preservation Officer is required for any exceptions to the above stipulations.

I agree to forward to the North Central Information Center, no later than 30 days after completion, a final version of any report(s) and/or site record(s) resulting from access to the NWIC database for this project. I also agree to forward to the North Central Information Center any subsequent reports or records for which I am responsible.

I understand that failure to comply with above agreement is grounds for denial of access CHRIS Information.

***** PLEASE SIGN AND RETURN THIS FORM. SEE ATTACHED INVOICE *****

Print Name: Jeremy Adams Date: October 22, 2013

Signature:

Affiliation: Ecorp Consulting

Address: 2525 Warren Drive

City/State/Zip: Rocklin, CA 95677

Billing Address (if different than above):

Telephone: 916-782-9100 Email:

Purpose of Access: Record Search

Reference (project name or number) Raleys Dock 2013-060

Counties: Sacramento

USGS 7.5' Quads: Sacramento East & West

----------STAFF USE ONLY ----------

INFORMATION CENTER ELECTRONIC ACCESS AGREEMENT

Date request rec'd: Mail:_____ **Phone:**_____ **Fax:**_____ **In person:** 10/22/2013

Date of response: Mail:_____ **Phone:**_____ **Fax:**_____ **In person:** 10/22/2013

CHECK IN:_____ CHECK OUT:_____

CHECK IN:_____ CHECK OUT:_____

Staff processing:	_____ Hour(s) @ $150/hour		$ N/A
In person research:	5.5 Hour(s) @ $100/hour/person		$ 550.00
Shapes:	Number:_____		$ N/A
Quads:	Number:_____	Cultural Resources 2013-080	$ N/C
Address-mapped Flat Fee:			$
Xerox/Computer Pages ($0.15/page):	Page(s): 590	Raleys Docks	$ 88.50
Labor Charge:	Hour(s):_____		$
Fax @ $1/page:	Page(s):_____		$
PDF pages:	Page(s):_____		$
PDF Flat Fee:			$
Other:	0 COLOR MAP(S) (8 ½ X 11) @.25 each		$ 628.50

BILLING INVOICE:

	SUBTOTAL	$
SUBTOTAL	Date	$
SUBTOTAL	Date:	$
SUBTOTAL	Date:	$

Rapid Response surcharge of 50% of final sub-total cost: **SURCHARGE** $

Emergency Response surcharge of 100% of final sub-total cost: **SURCHARGE** $

MAKE CHECK PAYABLE TO: University Enterprises, Inc.
Forward to: North Central Info Center CSU - Sacramento
6000 J Street, Folsom Hall, #2042
Sacramento, CA 95819-6100

Nathan Hallam
Information Center Staff

Invoice SAC-13-127 **TOTAL** $ 628.50

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

Date: 12 December 2013 NWIC File No.: 13-0640

To: Jeremy Adams, ECORP Consulting, Inc., 2525 Warren Drive, Rocklin, CA 95677

From: Lisa Hagel

re: Raleys Docks Replacement Project 2013-080

Sacramento West 7.5'

Resources In	P-57-662 & 651. Enclosed are pdf copies of the site record forms and the mapped resource locations.
Resources within 0.25-mile radius	P-57-423, 631, 632, 653, 654, 655, 658, 659, & 661; HRI-8/238, 8/221, 8/225, 8/231, 8/220, 8/222, & HRI-SW. Enclosed are pdf copies of the site record forms and paper copies of the HRI forms. The resource locations are plotted on the enclosed maps.
Reports In	S-38635, 38637, 26372, 26373, 18031, 34075, & 36992. Enclosed is a copy of S-38635 (it includes resources within and near the project areas), database printouts for the reports, and the mapped study locations.
Reports within 0.25-mile radius	S-30907, 23229, 33061, 12191, 2943, 22069, 11910, 22464, 27892, 33070, 26375, 34840, & 35208. Enclosed are database printouts for the reports and the mapped study locations.
Other Reports	Two reports are classified as "Other Reports" (reports with little or no field work, missing maps, or inadequate locational information) that include your search area: S-9795 & 12790. Enclosed are database printouts for the reports.
OHP HPD	Copied the indices for West Sacramento.
OHP ADOE	None of the above referenced recorded resources appeared in the ADOE.
California Inventory	Copied the index page that included properties in Broderick (now part of West Sacramento).

ATTACHMENT B

Native American Coordination

Native American Coordination Log
Raley's Dock and Rice Mill Pier Project, Yolo County (Project 2013-080)

Name	Affiliation	Date Contacted			Response Received?	Comments
		1. Letter	2. Phone	3. Phone		
Native American Heritage Commission 915 Capital Mall, Room 364 Sacramento, CA 95814 nahc@pacbell.net (916) 373-3710 (916) 373-5471 Fax	N/A	10/23/2013	N/A	N/A	Yes 11/6/2013	11/6/2013 – Records search failed to indicate the presence of Native American traditional cultural properties.
Kesner Flores PO Box 1047 Wheatland, CA 95692 calnagpra@hotmail.com 925-586-8919	Wintun/Patwin	11/6/2013	11/22/13	12/2/2013	Yes	11/22/2013-JP Left voicemail 12/02/2013-JP spoke w/ Kesner who requested an email be sent with the letter attached. He will review and return any comments if necessary. JP sent E-mail 12/2/2013.
Cortina Band of Indians Charlie Wright, Chairperson PO Box 1630 Williams, CA 95987 (530) 473-3274 – Voice (530) 473-3301 – Fax	Wintun/Patwin	11/6/2013	11/22/13	12/2/2013	Yes	11/22/2013-JP left voicemail 12/02/2013-JP spoke with Charlie, he stated he received the letter and has no comments at this time.
Yocha Dehe Wintun Nation Marshall McKay, Chairperson PO Box 18 Brooks, CA 95606 (530) 796-3400 (530) 796-2143 Fax	Wintun (Patwin)	11/6/2013	11/22/13	12/2/2013	Yes	12/02/2013-JP spoke with Todd in the YDWN office who referred to James Sarmento (head of Cultural). He requested we forward the letter in an email and also address who is on our NAHC list so that they can call and update the information. 12/13/2013 – A letter was received addressed to JA from Mr. Marshall McKay of the YDWN on 13 December 2013. Mr. McKay recommended a mitigation plan and cultural monitors during construction. He also recommended coordinating with James Sarmento moving forward. A follow-up e-mail was sent to Mr. Sarmento stating the McKay letter and recommendations be forwarded to the lead agency.

Name	Affiliation	Date Contacted			Response Received?	Comments
		1. Letter	2. Phone	3. Phone		
Yocha Dehe Wintun Nation Leland Kinter, Native Cultural Renewal Committee PO Box 18 Brooks, CA 95606 Lkinter@yochadehe-nsn.gov (530) 979-6346 (530) 796-3400 – office (530) 796-2143 Fax	Wintun (Patwin)	11/6/2013	11/22/2013	12/2/2013	Yes	12/02/2013-JP spoke with Todd in the YDWN office who referred to James Sarmento (head of Cultural). He requested we forward the cultural letter in an email and also address who is on our NAHC list so that they can call and update the information.
Yocha Dehe Wintun Nation Cynthia Clarke, Native Cultural Renewal Committee PO Box 18 Brooks, CA 95606 (530) 786-3400 – office (530) 796-2143 Fax	Wintun (Patwin) 11/6/2013	11/6/2013	11/23/2013	12/2/2013	yes	12/02/2013-JP spoke with Todd in the YDWN office who referred to James Sarmento (head of Cultural). He requested we forward the cultural letter in an email and also address who is on our NAHC list so that they can call and update the information.
Yocha Dehe Windun Nation James Sarmento PO Box 18 Brooks, CA 95606	Wintun (Patwin)	12/2/2013 – E-mail	N/A	N/A	No	12/02/2013: JA sent E-mail to James Sarmento with NA letter attached. JA also requested that the YDWN contact the NAHC if they want James as the primary contact for the tribe. 12/13/2013 – A letter was received addressed to JA from Mr. Marshall McKay of the YDWN on 13 December 2013. Mr. McKay recommended a mitigation plan and cultural monitors during construction. He also recommended coordinating with James Sarmento moving forward. A follow-up e-mail was sent to Mr. Sarmento stating the McKay letter and recommendations be forwarded to the lead agency. 12/17/2013: James Sarmento responded to JA in an e-mail stating he has received all of our correspondence regarding the project and has filed it. He states the letter we received on 12/13/2013 is still the Tribe's official response for our Project.

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Raleys Dock and Rice Mill Project 2013-080

County Yolo

USGS Quadrangle

Name: Sacramento West

Township 8N & 9N Range 4E Section(s) Unsectioned

Company/Firm/Agency:
ECORP Consulting, Inc.

Contact Person: Jeremy Adams

Street Address: 2525 Warren Drive

City: Rocklin Zip: 95677

Phone: (916) 782-9100

Fax: (916) 782-9134

Email: jadams@ecorpconsulting.com

Project Description:

See attached letter and map.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 23, 2013

Ms. Debbie Pilas-Treadway
Associate Governmental Program Analyst
Native American Heritage Commission
1550 Harbor Blvd
West Sacramento, CA 95691

RE: Cultural Resources Identification Effort for the Raleys Dock and Rice Mill Pier Project, Yolo County, California T8N and 9N, R4E, Unsectioned (ECORP Project No. 2013-080).

Dear Ms. Pilas-Treadway:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the Native American community with concerns about possible traditional cultural properties or potential impacts within or adjacent to the Area of Potential Effects. Please understand that this is not a request for location, data or any other information that may be deemed sensitive or confidential to individual Native Americans, Native American organizations, or Federally Recognized Tribes. Information on other parties that may have interests or concerns in the undertaking would be appreciated, so that we may coordinate such comments with the lead agency. Please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

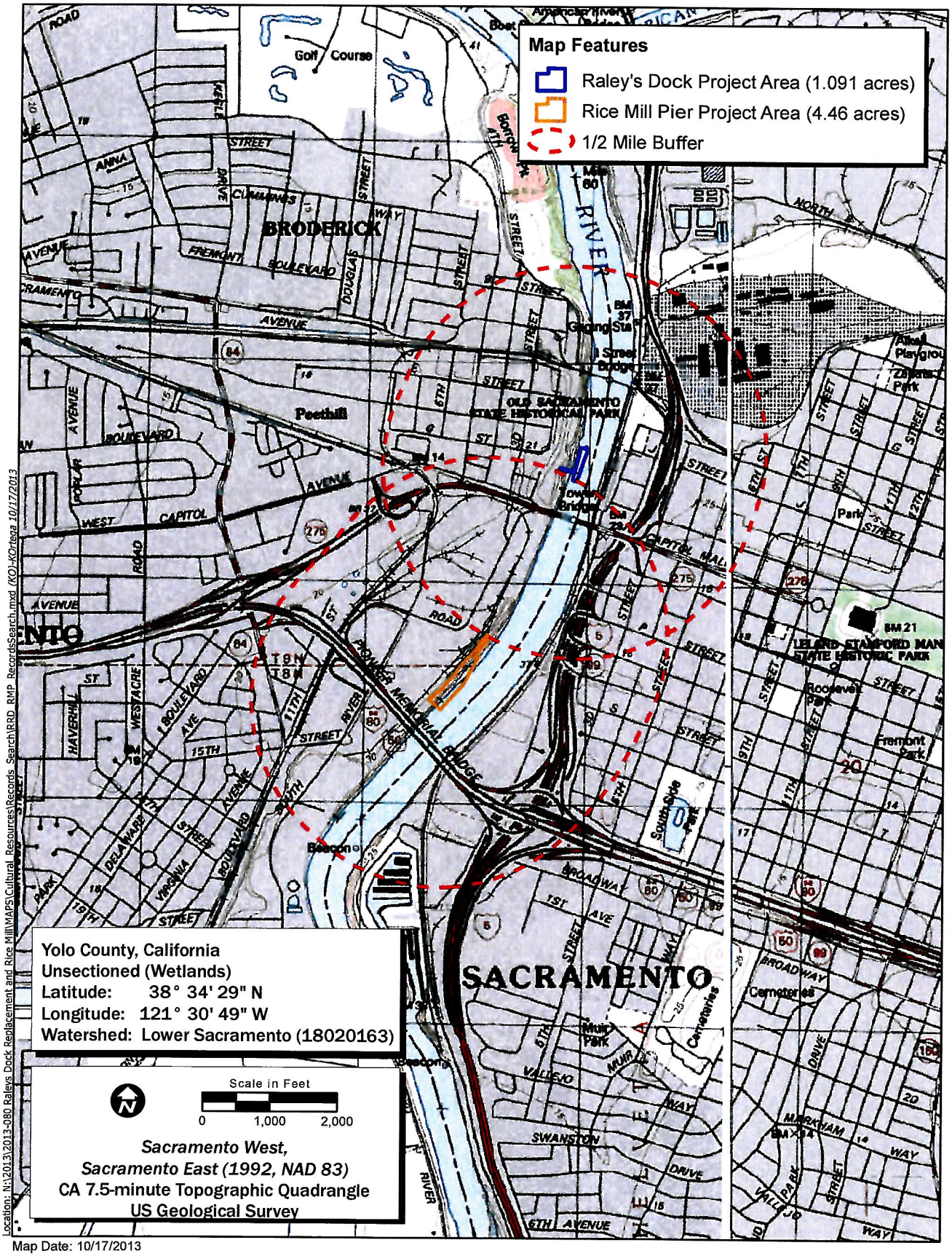
Thank you in advance for your assistance.

Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian

2525 Warren Drive, Rocklin, California 95677 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web: www.ecorpconsulting.com



Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Cultural_Resources\Records_Search\RRD_RMP_RecordsSearch.mxd (KO)-KOrtega 10/17/2013

Map Date: 10/17/2013

DRAFT

ECORP Consulting, Inc.

Records Search

2013-080 Raleys Dock Replacement and Rice Mill

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd.
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

November 5th, 2013

Jeremy Adams
ECORP Consulting, Inc.
2525 Warren Dr.
Rocklin, CA 95677

By Fax: 916-782-9134

Number of Pages: 2

Re: Raleys Dock and Rice Mill Project, Yolo County

Dear Mr. Adams

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3713.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Yolo County
November 1, 2013

Kesner Flores
PO Box 1047 Wintun / Patwin
Wheatland , CA 95692
calnagpra@hotmail.com
925-586-8919

Cortina Band of Indians
Charlie Wright, Chairperson
PO Box 1630 Wintun / Patwin
Williams , CA 95987
(530) 473-3274 - Voice
(530) 473-3301 - Fax

Yocha Dehe Wintun Nation
Marshall McKay, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks , CA 95606
(530) 796-3400
(530) 796-2143 Fax

Yocha Dehe Wintun Nation
Leland Kinter, Native Cultural Renewal Committee
P.O. Box 18 Wintun (Patwin)
Brooks , CA 95606
lkinter@yochadehe-nsn.gov
(530) 979-6346
(530) 796-3400 - office
(530) 796-2143 Fax

Yocha Dehe Wintun Nation
Cynthia Clarke, Native Cultural Renewal Committee
P.O. Box 18 Wintun (Patwin)
Brooks , CA 95606
(530) 796-3400 - office
(530) 796-2143 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Raleys Dock and Rice Mill project, Yolo County

11/05/2013 14:22 FAX 916 657 5390 NAHC 002

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

6 November 2013

Cortina Band of Indians
Charlie Wright, Chairperson
PO Box 1630
Williams, CA 95987

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Charlie Wright:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, which is subject to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with both the Northwestern Information Center (NWIC) and North Central Information Center (NCIC) and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

As part of this study, ECORP would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the proposed development of the property. We invite you to offer comments on the project, and we will forward them to the lead agency for consideration and appropriate action. The lead agency will respond to your comments as appropriate. At this time, however, cultural resources investigations are being conducted for project planning purposes only. ECORP is gathering information on potentially unrecorded cultural resources that might be affected by this project.

We encourage you to participate in this process, so that potential impacts to Native American resources can be proactively addressed and minimized to the greatest extent feasible. We would like to receive a response from you about this project within the next two weeks. If we have not heard from you within 30 days of the receipt of this letter, we will assume that you do not wish to comment on this project. If you have any questions, please feel free to call me at (916) 782-9100 or via email at jadams@ecorpconsulting.com. Thank you for your assistance and participation in this project.

Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated

6 November 2013

Yocha Dehe Wintun Nation
Cynthia Clarke, Native Cultural Renewal Committee
PO Box 18
Brooks, CA 95606

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Cynthia Clarke:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, which is subject to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with both the Northwestern Information Center (NWIC) and North Central Information Center (NCIC) and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

As part of this study, ECORP would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the proposed development of the property. We invite you to offer comments on the project, and we will forward them to the lead agency for consideration and appropriate action. The lead agency will respond to your comments as appropriate. At this time, however, cultural resources investigations are being conducted for project planning purposes only. ECORP is gathering information on potentially unrecorded cultural resources that might be affected by this project.

We encourage you to participate in this process, so that potential impacts to Native American resources can be proactively addressed and minimized to the greatest extent feasible. We would like to receive a response from you about this project within the next two weeks. If we have not heard from you within 30 days of the receipt of this letter, we will assume that you do not wish to comment on this project. If you have any questions, please feel free to call me at (916) 782-9100 or via email at jadams@ecorpconsulting.com. Thank you for your assistance and participation in this project.

Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated

6 November 2013

Kesner Flores
PO Box 1047
Wheatland, CA 95692

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Kesner Flores:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, which is subject to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with both the Northwestern Information Center (NWIC) and North Central Information Center (NCIC) and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

As part of this study, ECORP would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the proposed development of the property. We invite you to offer comments on the project, and we will forward them to the lead agency for consideration and appropriate action. The lead agency will respond to your comments as appropriate. At this time, however, cultural resources investigations are being conducted for project planning purposes only. ECORP is gathering information on potentially unrecorded cultural resources that might be affected by this project.

We encourage you to participate in this process, so that potential impacts to Native American resources can be proactively addressed and minimized to the greatest extent feasible. We would like to receive a response from you about this project within the next two weeks. If we have not heard from you within 30 days of the receipt of this letter, we will assume that you do not wish to comment on this project. If you have any questions, please feel free to call me at (916) 782-9100 or via email at jadams@ecorpconsulting.com. Thank you for your assistance and participation in this project.

Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated

6 November 2013

Yocha Dehe Wintun Nation
Leland Kinter, Native Cultural Renewal Committee
PO Box 18 Brooks, CA 95606

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Leland Kinter:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, which is subject to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with both the Northwestern Information Center (NWIC) and North Central Information Center (NCIC) and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

As part of this study, ECORP would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the proposed development of the property. We invite you to offer comments on the project, and we will forward them to the lead agency for consideration and appropriate action. The lead agency will respond to your comments as appropriate. At this time, however, cultural resources investigations are being conducted for project planning purposes only. ECORP is gathering information on potentially unrecorded cultural resources that might be affected by this project.

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Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated

6 November 2013

Yocha Dede Wintun Nation
Marshall McKay, Chairperson
PO Box 18
Brooks, CA 95606

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Marshall McKay:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, which is subject to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with both the Northwestern Information Center (NWIC) and North Central Information Center (NCIC) and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

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Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated

Tribal Council

Marshall McKay
Chairman

James Kinter
Secretary

Anthony Roberts
Treasurer

Mia Durham
Member

Matthew Lowell, Jr.
Member

December 11th, 2013

Jeremy Adams
Architectural Historian
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

RE: Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear Mr. Adams:

Thank you for your comment request letter dated, November 6, 2013 regarding the proposed Raley's Dock and Rice Mill Project, Yolo County, CA. We appreciate your effort to contact us.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have cultural interest and authority in the proposed project area.

We have reviewed your project and, based on the information provided, we are aware of several recorded historic and prehistoric sites in close proximity. We highly recommend a mitigation plan, as well as having cultural monitors on site during construction.

Should you have any questions, please feel free to contact the following individual:

Mr. James Sarmento
Cultural Resources Manager
Yocha Dehe Wintun Nation
Office: (530) 723-0452, Email: jsarmento@yochadehe-nsn.gov

Please refer to identification number YD – 11132013-01 in any correspondences concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

Marshall McKay
Tribal Chairman

From: Jeremy Adams
To: jsarmento@yochadehe-nsn.gov
Subject: YD-11132013-01: Raleys Dock and Rice Mill Project
Date: Monday, December 16, 2013 11:43:14 AM
Attachments: McKay ltr response 12-13-2013.pdf

Dear Mr. James Sarmento,

I am writing to follow-up on a letter we received on 13 December 2013 regarding the Raleys Dock and Rice Mill Project (identification number YD-11132013-01). We received a response letter from Mr. Marshall McKay, Tribal Chairman of the Yocha Dehe Wintun Nation, regarding our inquiry for comments for the Project. Mr. McKay responded with the attached letter and requested further contact with you regarding the Project. We have reviewed the letter and will forward the letter including his recommendations for a mitigation plan and monitoring to the lead agency for review along with the cultural resources report.

We have already initiated contact with you by e-mail on 2 December 2013. This serves as a follow-up to the letter from Mr. McKay only.

Thank you and if you have any additional questions or comments regarding the project that you would like submitted to the lead agency, please do not hesitate to write me back! Thank you!

Sincerely,

Jeremy D. Adams
Architectural Historian
ECORP Consulting, Inc.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2525 Warren Drive, Rocklin CA 95677
Ph: 916.782.9100 ♦ Cell: 916.708.7015 ♦ Fax: 916.782.9134
jadams@ecorpconsulting.com ♦ www.ecorpconsulting.com

NOTE: All ECORP offices will be closed from Wednesday, December 25th through Wednesday, January 1st. Our offices will reopen on Thursday, January 2nd. Happy Holidays!

2 December 2013

Yocha Dehe Wintun Nation
James Sarmento
PO Box 18
Brooks, CA 95606

RE: Cultural Resources Identification Effort for the Raley's Dock and Rice Mill Project in Yolo County (ECORP Project No. 2013-080)

Dear James Sarmento:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of two discontiguous properties, a dock and pier, located within the Sacramento River in Yolo County, California. The study is being conducted in advance of approval of a proposed dock replacement and pier rehabilitation project. The project area is situated in unsectioned areas of Township 8N and 9N, Range 6E, MDBM. For your reference, the boundaries of the project area are marked on the enclosed 1992 Sacramento West, California, U.S. Geological Survey 7.5' topographic quadrangle.

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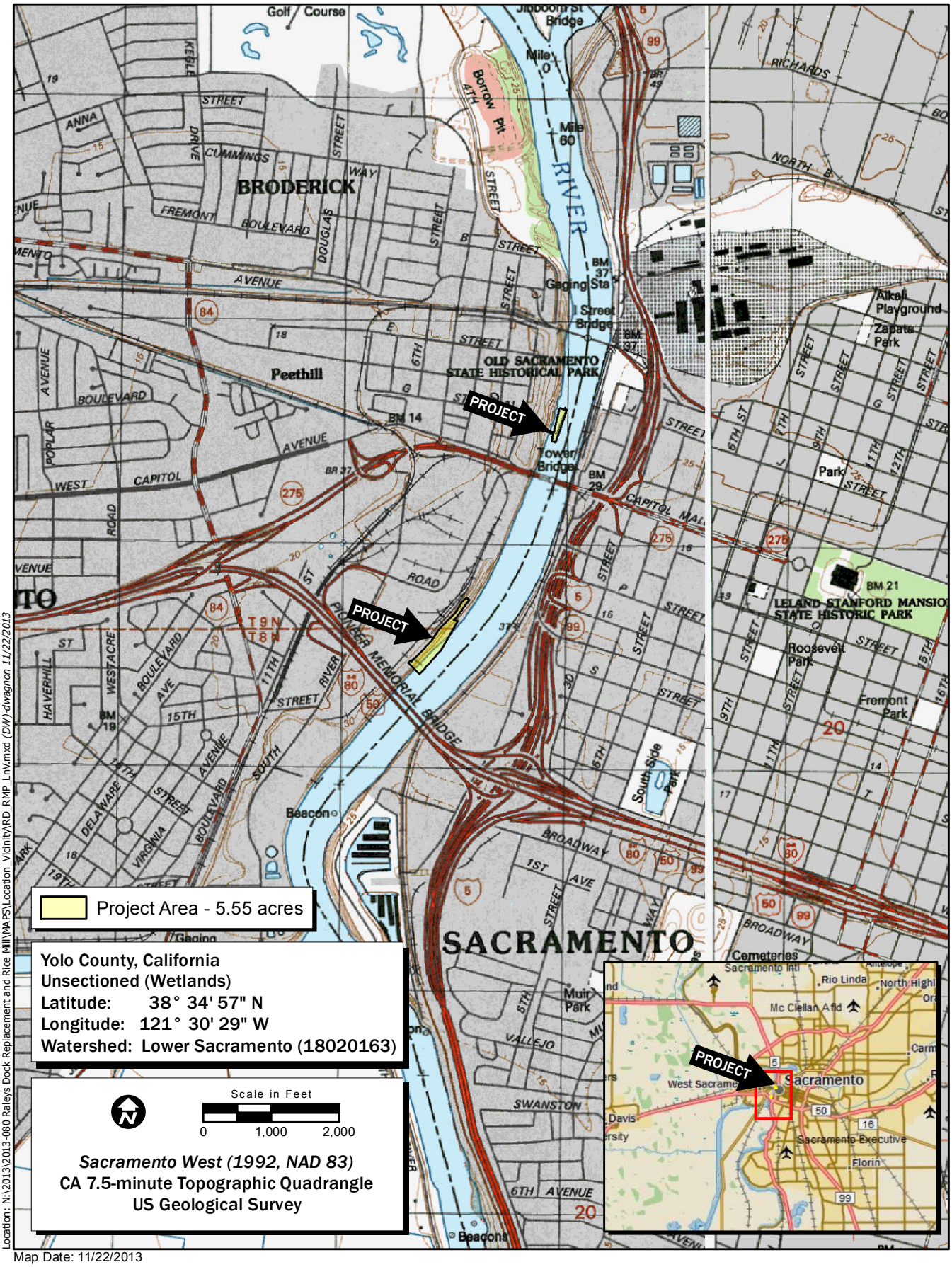
Sincerely,

Jeremy Adams

Jeremy Adams
Architectural Historian
Enclosures, as stated



Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Location_Vicinity\RD_RMP_LnV.mxd (DW)-dwagnon 11/22/2013

Map Date: 11/22/2013

Service Layer Credits: Copyright:© 2012 DeLorme

DRAFT

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location and Vicinity

2013-080 Raleys Dock Replacement and Rice Mill

From: Jeremy Adams
Sent: Monday, December 02, 2013 3:24 PM
To: 'jsarmento@yochadehe-nsn.gov'
Subject: Raleys Dock Project - NA Coordination

Dear James Sarmento,

I am contacting you regarding a cultural resources inventory for a dock and pier replacement project located in Yolo County (please refer to letter and map attached). Native American coordination efforts originally took place beginning in November, 2013, with contact with the Native American Heritage Commission (NAHC). Though the NAHC failed to identify cultural resource concerns within the Project Area, they provided contact information of several Native Americans who may have interest in the Project, of which three individuals were identified from the Yocha Dehe Wintun Nation including; Marshall McKay, Leland Kinter, and Cynthia Clarke. Those three individuals were contacted via letter sent on 6 November, 2013, and follow-up telephone calls were completed on 2 December, 2013. As a result of follow-up telephone calls, we were transferred to an individual at the Yocha Dehe Wintun Nation office named Todd, who subsequently referred us to you as the primary contact for cultural resources comments for Projects such as this. If you are the primary contact for the Yocha Dehe Wintun Nation for these such Projects, I recommend you update the NAHC regarding these changes.

I am contacting you with the information and map for our Project to see if you would like to participate in consultation regarding the Project. If you have any comments about the Project, please do not hesitate to e-mail or write me back. You may also call me at (916) 782-9100. Thank you and have a great day!

Sincerely,

Jeremy D. Adams
Architectural Historian
ECORP Consulting, Inc.

2525 Warren Drive, Rocklin CA 95677
Ph: 916.782.9100 ♦ Cell: 916.708.7015 ♦ Fax: 916.782.9134
jadams@ecorpconsulting.com ♦ www.ecorpconsulting.com

NOTE: All ECORP offices will be closed from Wednesday, December 25th through Wednesday, January 1st. Our offices will reopen on Thursday, January 2nd. Happy Holidays!

From: James Sarmento
To: Jeremy Adams
Subject: Re: YD-11132013-01: Raleys Dock and Rice Mill Project
Date: Tuesday, December 17, 2013 8:10:53 AM

Greetings Mr. Jeremy Adams,
I just wanted to make sure that you knew I am responding to your emails and that they aren't falling into a void. I did receive your email on December 2, 2013 and I filed it with the other letters received by Mr. McKay, Mr. Kinter and Mrs. Clarke. Your email prompted the December 13, 2013 Letter to you. We are currently working with the NAHC to resolve contact changes. On our end if you send a letter to either myself or Mr. McKay, Mr. Kinter and Mrs. Clarke, they will be forwarded to myself.

Again, I wanted to make sure that you knew your last email was received.

Respectfully,
James Sarmento

James Sarmento
Cultural Resources Manager

Tewe Kewe Cultural Center
PO Box 18 | Brooks, CA 95606
c 530.723.0452 | p 530.796.3400 | f 530.796.2143
jsarmento@yochadehe-nsn.gov
www.yochadehe.org

From: Jeremy Adams <jadams@ecorpconsulting.com>
Date: Monday, December 16, 2013 11:43 AM
To: James Sarmento <jsarmento@yochadehe-nsn.gov>
Subject: YD-11132013-01: Raleys Dock and Rice Mill Project

Dear Mr. James Sarmento,

I am writing to follow-up on a letter we received on 13 December 2013 regarding the Raleys Dock and Rice Mill Project (identification number YD-11132013-01). We received a response letter from Mr. Marshall McKay, Tribal Chairman of the Yocha Dehe Wintun Nation, regarding our inquiry for comments for the Project. Mr. McKay responded with the attached letter and requested further contact with you regarding the Project. We have reviewed the letter and will forward the letter including his recommendations for a mitigation plan and monitoring to the lead agency for review along with the cultural resources report.

We have already initiated contact with you by e-mail on 2 December 2013. This serves as a follow-up to the letter from Mr. McKay only.

Thank you and if you have any additional questions or comments regarding the project that you

would like submitted to the lead agency, please do not hesitate to write me back! Thank you!

Sincerely,

Jeremy D. Adams
Architectural Historian
ECORP Consulting, Inc.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2525 Warren Drive, Rocklin CA 95677
Ph: 916.782.9100 ♦ Cell: 916.708.7015 ♦ Fax: 916.782.9134
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ATTACHMENT C

Project Area Photographs

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PHOTOGRAPH RECORD

Primary #
HRI#
Trinomial

 Resource/Project Name: Raley's Piers **Year** 2013

Camera: Lens Size: 35mm

Film Type and Speed: Digital Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
10	31			Wooden piers at Broderick boat launch	North	001
10	31			Wooden piers at Broderick boat launch	NE	002
10	31			Close up of Broderick boat launch piers	East	003
10	31			Overview of river, wooden piers in distance	NE	004
10	31			Additional set of Broderick wooden piers	SE	005
10	31			Additional set of Broderick wooden piers	East	006
10	31			Additional set of Broderick wooden piers	SE	007
10	31			Rice Mill survey area: path to shore in north central portion of survey area	SE	008
10	31			Rice Mill survey area: overview of west edge, path	NE	009
10	31			Rice Mill survey area: overview of west edge, path	SW	010
10	31			Rice Mill pier at south end, view from top of levee	SW	011
10	31			Rice Mill pier at south end, view from mid-slope of levee	SW	012
10	31			Rice Mill pier at south end, view from underneath	SE	013
10	31			Rice Mill pier at south end, view from south	NE	014
10	31			Wooden poles associated with Rice Mill south of raised pier	South	015
10	31			Rice Mill pier, view from south	NE	016
10	31			Detail of concrete pillars next to Rice Mill pier	NE	017
10	31			Overview of concrete pillars next to Rice Mill pier	NW	018
10	31			Overview of concrete pillars and Rice Mill pier	North	019
10	31			Wooden poles on north side of Rice Mill pier	SE	020
10	31			Overview of shore northeast of Rice Mill pier	NE	021
10	31			Overview of shore and refuse northeast of raised pier	NE	022
10	31			Overview of shore (refuse) and Rice Mill pier	SW	023
10	31			Discarded concrete and asphalt chunks along shore	North	024
10	31			Concrete block detail	North	025
10	31			Detail of discarded asphalt and concrete	NW	026
10	31			Detail of discarded asphalt and concrete on slope	South	027
10	31			Overview of path mid-slope on levee	NE	028
10	31			Wooden piers/previous docks	East	029
10	31			Wooden piers/previous docks	NE	030
10	31			Detail of wooden piers/previous docks	South	031
10	31			Detail of wooden piers/previous docks	North	032
10	31			Shore overview at midpoint of Rice Mill survey area	SW	033
10	31			Shore overview at midpoint of Rice Mill survey area	NE	034
10	31			Discarded granitic rocks overview	NE	035
10	31			Discarded granitic rocks overview	SW	036
10	31			Overview of levee at north end of Rice Mill survey area	SW	037
10	31			Overview of levee at north end of Rice Mill survey area	NE	038
10	31			Overview of discarded granitic rocks from top of levee	East	039
10	31			Overview of central area from top of levee	East	040
10	31			Overview of central area from midpoint on levee	SW	041
10	31			Raley's piers survey area (riverwalk east of CALSTRS complex)	South	042

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

PHOTOGRAPH RECORD

Trinomial

Page 2 **of** 2 **Resource/Project Name: Raley's Piers** **Year** 2013

Camera: Lens Size: 35mm

Film Type and Speed: Digital Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
10	31			Detail of ground cover at Raley's pier survey area	North	043
10	31			Overview of Raley's piers	SE	044
10	31			Overview of Raley's piers	SE	045
10	31			Overview of Raley's piers	SE	046
10	31			Close up of Raley's piers	SE	047
10	31			Looking through center of Raley's piers	SE	048
10	31			Looking through center of Raley's piers	SE	049
10	31			Overview of pier footings on riverwalk	North	050
10	31			Looking through center of Raley's piers from riverwalk	SE	051
10	31			Overview of piers and riverwalk from CALSTRS stairs	SE	052
10	31			Riverwalk Salmon Cannery panel	Detail	053

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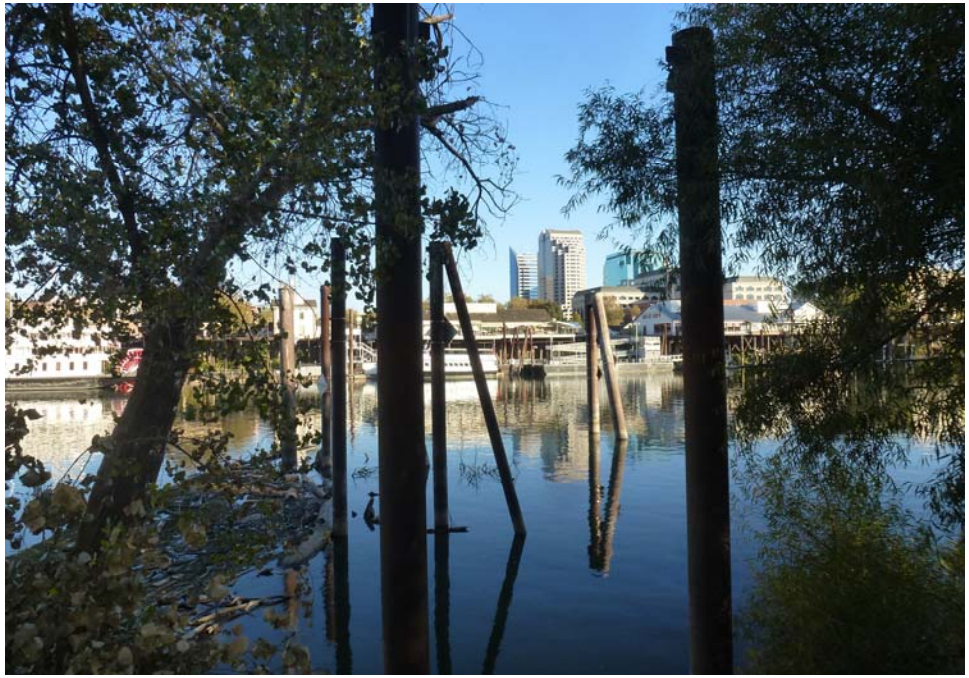
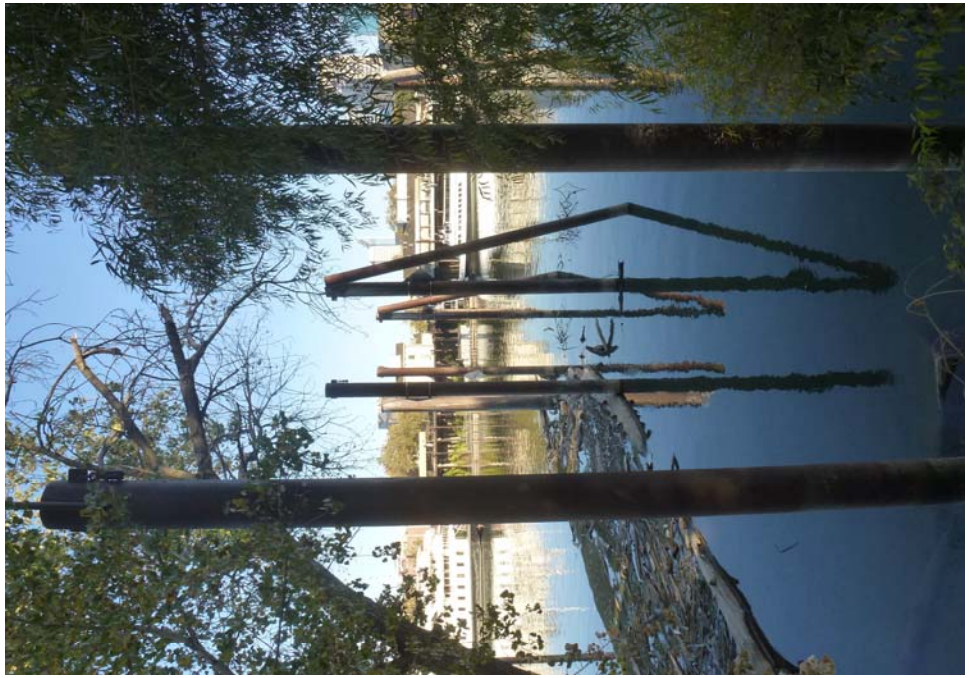
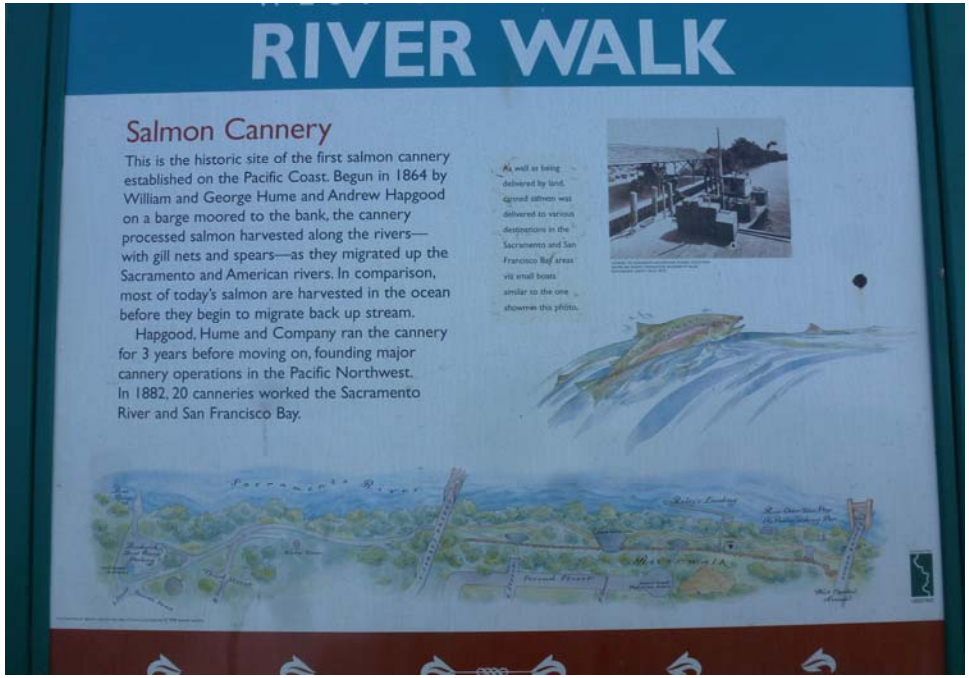
DANGER






RIVER WALK
Salmon Cannery
This is the historic site of the first salmon cannery established on the Pacific Coast. Begun in 1864 by William and George Hume and Andrew Hapgood on a barge moored to the bank, the cannery processed salmon harvested along the rivers—with gill nets and spears—as they migrated up the Sacramento and American rivers. In comparison, most of today's salmon are harvested in the ocean before they begin to migrate back up stream.
Hapgood, Hume and Company ran the cannery for 3 years before moving on, founding major cannery operations in the Pacific Northwest. In 1882, 20 canneries worked the Sacramento River and San Francisco Bay.
As well as being delivered by land, ground salmon was delivered to various destinations in the Sacramento and San Francisco Bay areas via small boats similar to the one shown in this photo.

ATTACHMENT D

Cultural Resource Site Locations and Site Records

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial # NRHP Status Code	
Other Listings Review Code	Reviewer	Date

 *__Resource Name or #:__ RAL-001

P1. Other Identifier: Rice Mill Pier

***P2. Location:** ☒ **Not for Publication** ☐ **Unrestricted** ***a. County:** Yolo

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Sacramento West, CA **Date:** 1992 **T8**N; **R4**E; Unsectioned**;** Mount Diablo B.M.

d. UTM: Zone: 10; 629348 mE/ 4270456 mN (NAD 83)

e. Other Locational Data: Elevation: 21 feet AMSL

From the intersection of the Tower Bridge Gateway and Riverfront Street in West Sacramento, proceed south on Riverfront Street for 0.6 mile. From this point, the west end of the pier is located 350 feet at 127 degrees southeast.

***P3a. Description:** The site consists of the remains of the Rice Mill factory pier originally constructed in 1918 as part of National Rice Mills company rice storage and milling facility. The pier consists of an elevated concrete deck measuring 120 feet long, 18 feet wide and 12 inches thick. The deck is elevated approximately 25 feet above the waterline (see Continuation Sheet).

***P3b. Resource Attributes:** AH13. Wharf/ pier

***P4. Resources Present:** ☐Building ☐Structure ☐Object ☒Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Overivew of pier/deck from north end, view SW, 10/31/2013, Photo #012.

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

***P8. Recorded by:**
Stephen Pappas
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677

***P9. Date Recorded:** 10/31/2013

***P10. Survey Type:** 15-meter complete intensive pedestrian

***P11. Report Citation:** Adams, Jeremy and Stephen Pappas. 2013. *Cultural Resources Inventory Report, California Department of General Services Real Estate Services Division, Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project, Yolo County, California.*

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

P3a. (continued from Primary Record):
The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

The site also contains a series of columns and square concrete footings located directly southwest of the main pier. Two rows of four fluted steel cased columns are located along the water's edge, while three rows eight by eight-inch square concrete footings are located up the side of the levee. Each row contains five footings. Both the fluted columns and the square footings are approximately two feet above the surface. The function of the footings is unknown but may have once contained a deck on top of the footings for entry onto the lover levels of docked ships.

Rows of columns and footings southwest of main pier 10/31/2013, Photo #018

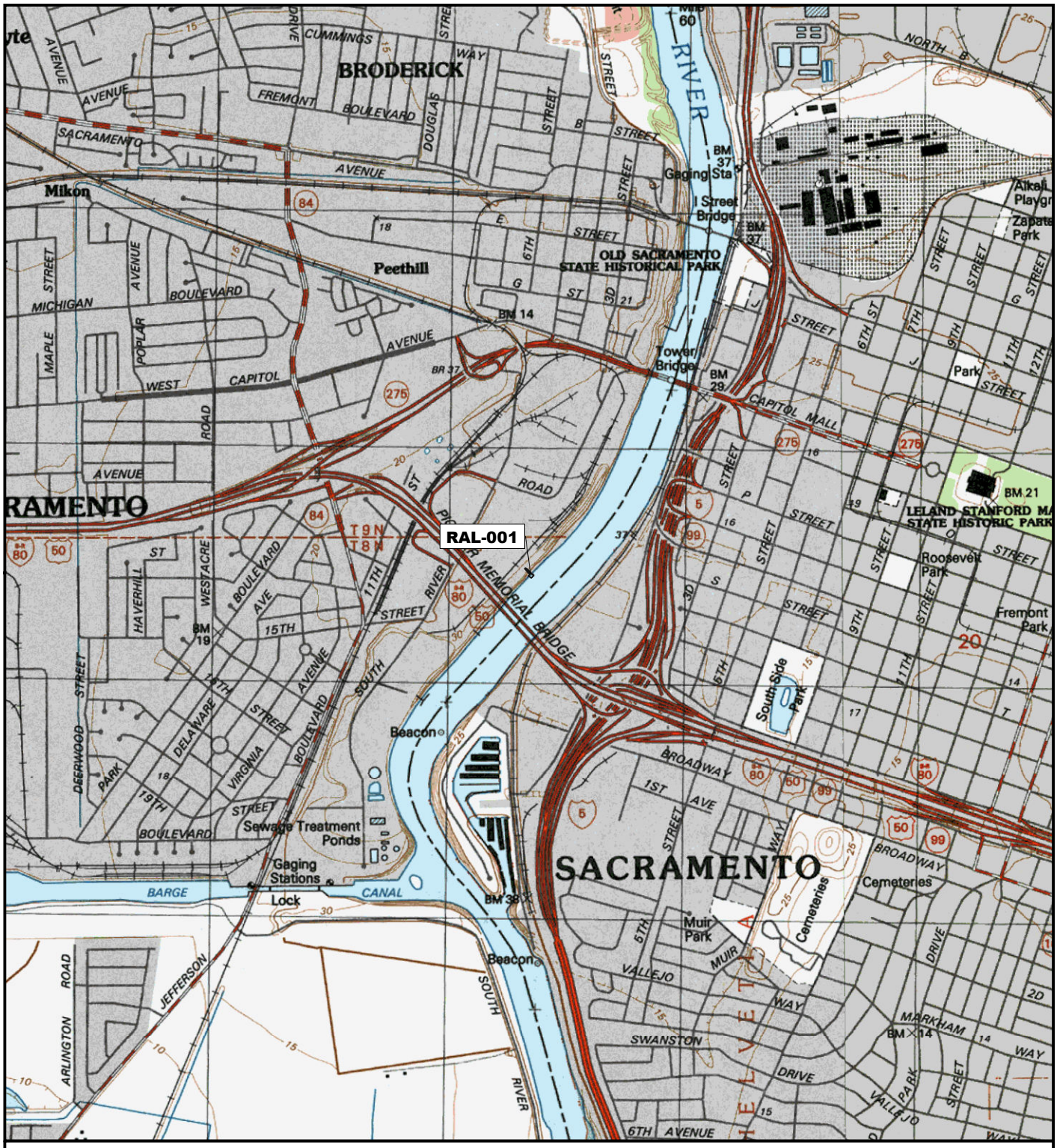
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI #
Trinomial

Page 3 **of** 3 ***Resource Name or #:** RAL-001

***Map Name:** Sacramento West and Sacramento East ***Scale:** 1:24,000 ***Date of Map:** 1992



Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Cultural_Resources\Location_Maps\RDRecemil_DRPLocations_v1.mxd (rJSwager 12/12/2013

***Required Information**

0 1,000 2,000 4,000 Feet
0 250 500 1,000 Meters

DRAFT

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

DPR 523J (1/95)

ATTACHMENT E

History Society Letters

October 24, 2013

Sacramento County Historical Society
P.O. Box 160065
Sacramento, CA 95816-0065

RE: Cultural Resources Identification Effort for the Raleys Dock and Rice Mill Pier Project, Yolo County, California T8 and 9N, R4E, Unsectioned (ECORP Project No. 2013-080).

Dear Sacramento County Historical Society:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the two discontiguous project areas outlined. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If possible, please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100 or LWestwood@ecorpconsulting.com.

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Attachment(s)
Records Search Project Area Map

2525 Warren Drive, Rocklin, California 95677 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web: www.ecorpconsulting.com

October 24, 2013

Yolo County Historical Society
P.O. Box 1447
Woodland, CA 95776

RE: Cultural Resources Identification Effort for the Raleys Dock and Rice Mill Pier Project, Yolo County, California T8 and 9N, R4E, Unsectioned (ECORP Project No. 2013-080).

Dear Yolo County Historical Society:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the two discontiguous project areas outlined. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If possible, please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100 or LWestwood@ecorpconsulting.com.

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Lisa Westwood

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Cultural Resource Manager

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Records Search Project Area Map

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APPENDIX C

Historic Evaluation of Rice Mill Pier Addendum Letter Report

29 January 2014

John Sneed
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, California 95691

RE: Rice Mill Pier Evaluation Addendum for the Cultural Resources Inventory Report, Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project, Yolo County, California, ECORP Project No. 2013-080

Dear Mr. Sneed:

In October 2013, ECORP was retained by the City of West Sacramento (City) to conduct a cultural resources inventory of two separate parcels of land surrounding the Raley's Dock and the Rice Mill Pier, located on the Yolo County side of the Sacramento River in the City of West Sacramento, California. The Project involves the replacement of Raley's Dock and the rehabilitation of Rice Mill Pier. An Initial Study is being prepared in accordance with the California Environmental Quality Act (CEQA) to identify and assess the anticipated environmental impacts of the proposed Project. The City is the Lead Agency for this Initial Study. A cultural resources inventory of the property was required to identify potentially eligible cultural resources (archaeological sites and historic buildings, structures, and objects) that could be affected by the Project.

As a result of the field survey, one previously unrecorded cultural resource was recorded inside the Project Area: RAL-001, herein referred as the Rice Mill Pier. The following letter is an addendum to the Cultural Resources Inventory Report for the Project, which is an evaluation of the Rice Mill Pier for the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). The research and analysis presented in this addendum serves to supplement the historical and regulatory context provided in the original Inventory Report (2013) in order to satisfy the requirements of CEQA for the evaluation of the Rice Mill Pier.

RAL-001: Rice Mill Pier

The Rice Mill Pier consists of an elevated concrete deck about 12 inches thick, 18 feet wide, and 120 feet long. The pier deck elevation is approximately level and during typical summer flows is about 25 feet above the river level at the waterside end of the pier. The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use (Figures 1-3).

2525 Warren Drive • Rocklin, CA 95677 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web: www.ecorpconsulting.com

Figure 1. Rice Mill Pier, northern elevation, view towards the south.

Figure 2. Rice Mill Pier, view from underneath the pier.

Figure 3. Rice Mill Pier, southwestern elevation, view towards northeast.

Project Description

The City intends to rehabilitate the existing Rice Mill Pier for public access use along the Sacramento River. The Proposed Project would include implementation of repairs and strengthening to the pier along with structural and mechanical options for full compliance with the accessibility requirements of the ADA.

The rehabilitation of Rice Mill Pier includes structural repairs to the pier substructure, abutment, and the existing piles. The construction work would include repairs to the spalled concrete and cracks; however, the existing piles would be reused where possible to avoid pile driving. Fiberglass or steel pile jackets may be used to restore or increase the structural capacity of the existing piles. Strengthening of the piles may be needed, depending on the results of the seismic evaluation. The Proposed Project would also repair the existing concrete pier abutment. The abutment walls will be repaired or replaced as required. All existing openings into the abutment will be sealed, at least to the extent that access by the public or pests is precluded. A protective rail or fencing system and lighting along the pier perimeter would be provided.

Area of Potential Effects (APE)

The APE for the Project is described in detail in the Inventory Report (2013) and consists of the horizontal and vertical limits of the Project. The APE includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the Project. The horizontal APE consists of all areas where activities associated with the Project are proposed, and in the case of the current Project, equals the Project Area subject to environmental review under CEQA and Section 106.

Methods

Personnel Qualifications

The architectural history analysis and evaluation, including historical and archival research, was conducted by architectural historian Jeremy Adams, who meets the Secretary of the Interior's (SOI) Professional Qualifications Standards for architectural history and history. Fieldwork and archival research was conducted by Field Director Stephen Pappas. Resumes are available upon request.

Jeremy Adams meets the SOI Standards by holding an M.A. degree in Public History and a B.A. degree in History, with four years' experience specializing in historic resources of the built environment. He is skilled in carrying out historical research at repositories such as city, state, and private archives, libraries, California Historical Resources Information System information centers, and historical societies. He has experience conducting field reconnaissance and intensive surveys. Mr. Adams has conducted evaluations of cultural resources of all types for eligibility to the NRHP and CRHR.

Stephen Pappas is a Staff Archaeologist and Field Director for ECORP and has nine years of experience in cultural resources management, primarily in California and New Mexico. He holds a B.A. degree in Anthropology and has participated in all aspects of archaeological fieldwork, including survey, test excavation, data recovery, and construction monitoring. He has extensive experience in meeting the cultural resource requirements of CEQA and Section 106 of the National Historical Preservation Act (NHPA).

Archival Research Methods

ECORP conducted preliminary historical research on the Rice Mill Pier and developed a general context for inclusion in the Inventory Report (2013). Additional focused archival research on the Rice Mill Pier and its associated historical ties with the rice industry in West Sacramento was conducted for this addendum evaluation report. As part of the focused archival research for the evaluation; several archival repositories were visited in an attempt to uncover property history and develop an appropriate expanded historical context to assist with an evaluation of the Rice Mill Pier.

Extensive archival research was conducted at the California State Library, History Reading Room. Historical records reviewed include Sanborn fire insurance maps, historical newspapers, city directories, and literature on the rice and shipping industries in West Sacramento. In addition, historical construction photographs of the nearby Interstate 80 Bridge showing the pier and associated rice mill in the background were reviewed at the Library.

An online search was also conducted for other documents relating specifically to the Rice Mill Pier and rice industry. Online research consisted of review of historical newspaper articles, census records for specific individuals associated with the Rice Mill, periodicals, rice and shipping industry related publications, and State of California statistic sheets.

In addition, several historical Sanborn fire insurance maps were reviewed and include:

- 1951 Sacramento, CA, Volume 1, Sheet 93, Sanborn Fire Insurance Map
- 1952 Sacramento, CA, Volume 3, Sheet 325, Sanborn Fire Insurance Map
- 1957 Sacramento, CA, Volume 3, Sheet 325, Sanborn Fire Insurance Map
- 1960 Sacramento, CA, Volume 3, Sheet 325, Sanborn Fire Insurance Map
- 1968 Sacramento, CA, Volume 3, Sheet 325, Sanborn Fire Insurance Map
- 1970 Sacramento, CA, Volume 3, Sheet 325, Sanborn Fire Insurance Map

Historical aerial photos taken in 1937, 1947, 1953, 1966, 1984, 1998, and 2010 were also reviewed for any indications of pier usage developments, modifications, and setting and association changes.

The online research, review of historical aerials, historical Sanborn maps, and other historical documents, and State Library archival research resulted in sufficient information for ECORP to prepare an evaluation of the Rice Mill Pier.

Field Methods

On 31 October 2013, the Raley's Dock and Rice Mill Pier Project Area was subjected to a pedestrian survey under the guidance of the SOI's Standards for the Identification of Historic Properties. Details of the field methods and results are described in the Inventory Report (2013). The documentation and recording of the Rice Mill Pier prepared during the pedestrian survey provided the details for this addendum evaluation report.

Historic Context

Local and regional histories are included in the Inventory Report (2013). The following historic context provides supplemental information specific to the industry and site relevant to the Rice Mill Pier.

Rice Industry in California

Rice has been cultivated worldwide for more than 7,000 years. The United States first began rice production in Virginia in the early 17th century, but the industry rapidly grew after the introduction of a superior variety of rice grown in South Carolina in 1694. The production of rice spread throughout the country and eventually into California in the early 20th century (California Rice Commission 2014).

The California Gold Rush is primarily responsible for the demand for rice in the region. The huge influx of people following the discovery of gold in 1848 created a high demand for food, among other necessities, to survive. Chinese immigrants were among the largest group of laborers to come to California during this period. The Chinese primarily worked on railroads and as miners but their largest contribution to the rice industry was their diet. Many of these immigrants came to California with a background in farming rice and when the Gold Rush slowed, they returned to their original professions in agriculture. Several small farms and local rice paddies are documented in California beginning in the mid-1800s, but these farms were small scale and only supported the local grower's appetites (California Rice Commission 2014).

In 1862, recognizing the high demand for rice in California, the State legislature offered valuable premiums for the production of rice. For the first 1,000 pounds of rice mass produced, the State would give $250; the first 5,000 pounds, $500; and the first 10,000 pounds, $1,000 (California State Board of Agriculture 1920). According to the State Statistical Report in 1919, the average consumption of rice per person in the United States was only approximately six pounds per year. Rice in other countries, however, was consumed at significantly higher rates per capita per year:

- England - 27 pounds
- France - 34 pounds
- Italy - 101 pounds
- Japan - 147 pounds
- China - 158 pounds

The Department of Agriculture initially began investigations into rice development in 1909, which assisted the beginning of the industry (California State Board of Agriculture 1920).

By 1912, the California Rice Experiment Station was established in Biggs, Butte County, which signified the official start of the commercial rice industry in California. The facility was designed to research improvements to rice growing, including maximizing yields and effect water usage, as well as seed production. The Rice Experiment Station still exists today (California Cooperative Rice Research Foundation 2014). Soon after the establishment of the Station, commercial rice production in California exploded, particularly in the Sacramento Valley.

By 1918, California ranked fourth in the United States for rice production and by 1919, had jumped to second to Louisiana in quantity produced and sold. According to the California Resources and Possibilities Annual Report for 1909, many of the rice mills throughout the State began enlarging in size in order to adjust with the increased production (California Resources and Possibilities 1910). California's rice mills handle the complete process of rice production, from when it leaves the field until it is packed in bags for sale. The rice milling process involves husking, sifting, cleaning, grading, sorting, and bagging rice, and each of these tasks have historically been completed at rice mills (California State Board of Agriculture 1920). From the mills in California, rice is shipped throughout the world.

Rice has been a primary crop in many small towns throughout the Sacramento Valley. According to an article in the Pacific Rural Press, in 1919 several new rice mills opened up in California and the presence of the crop had expanded significantly in the Valley. Sacramento acted as the primary hub for shipping rice, along with all of Sacramento Valley's field crops, by utilizing the Sacramento River to transport the Valley crops to the larger main ports in San Francisco. From San Francisco, rice was, and still is, shipped worldwide. Since the early stages of rice crop development, science has introduced new ways to cultivate, grow, and protect rice from harmful diseases, pests, and natural environmental constraints such as weather. Advancements in rice milling and cultivation processes have led to significant changes in the industry, including the reduction and ultimate disappearance of many early 20th century milling sites. Despite the removal of the original milling facilities, California remains one of the leaders in worldwide rice production.

Site History

The Rice Mill Pier was a component of a large-scale, early 20th century rice mill located on the Yolo County side of the Sacramento River in West Sacramento. The original rice mill and pier was owned by the National Rice Mill Corporation, a San Francisco-based organization, which operated mills throughout San Francisco and Sacramento. The National Rice Mill, as it was named, was constructed in 1918 and though it changed names and owners several times, the mill operated for several decades. Eventually, the rice mill shut down and by the mid-1990s it was completely removed, leaving only the Rice Mill Pier. Below is the relevant history of the rice mill which includes the Rice Mill Pier.

The contract to construct a reinforced concrete rice mill for the National Rice Mills Corporation was awarded to E.L. Younger of Woodland in 1918 (Western Machinery and Steel World 1918; California Grocers Advocate 1918). According to an advertisement in the Woodland Daily Democrat in 1919, E.L. Younger was a general contractor who worked out of an office in the Porter Building in Woodland, California. He advertised for "all classes of construction", which apparently included rice mills (Woodland Daily Democrat 1919). The National Rice Mills facility that Younger was contracted to build included a "three-story reinforced concrete factory and warehouse" at a contract price of $250,000 (Western Machinery and Steel World 1918; California Grocers Advocate 1918).

A 1918 article in the Pacific Rural Press (PRP) exaggerated the description of the facility, describing the new rice mill as the "biggest rice mill in the State" in which the "warehouse facilities will be provided for half a million sacks" of rice (Pacific Rural Press 1918). The rice mill, though originally contracted at $250,000 and three-stories tall, was described when finished as costing $200,000 and being four stories tall. It officially opened for operation in December 1918. Also installed, according to the article, was rice

flour equipment and a warehouse capable of holding 100,000 sacks of rice (Pacific Rural Press 1918). Another article in the PRP in 1919, describes the operation of the new mill as seen during an inspection by its owners. The article states:

> "…this mill is one of the most modern, compact, and convenient in the State, though not the largest. Four-thousand sacks of paddy can be milled here in 24 hours, and all of the products-coated rice for export, natural rice of three grades for domestic consumption, 'brewers' rice, broken rice, chicken feed, rice polish, and rice bran-all of these products of 4000 sacks of paddy per day are packed in sacks on the main floor within a radius of 25 feet. On one side of the mill is the Sacramento River, which carries much of the export and domestic rice to San Francisco. On the other side is a railroad spur." (Pacific Rural Press 1919).

The original National Rice Mills Company facility is depicted in Figure 4.

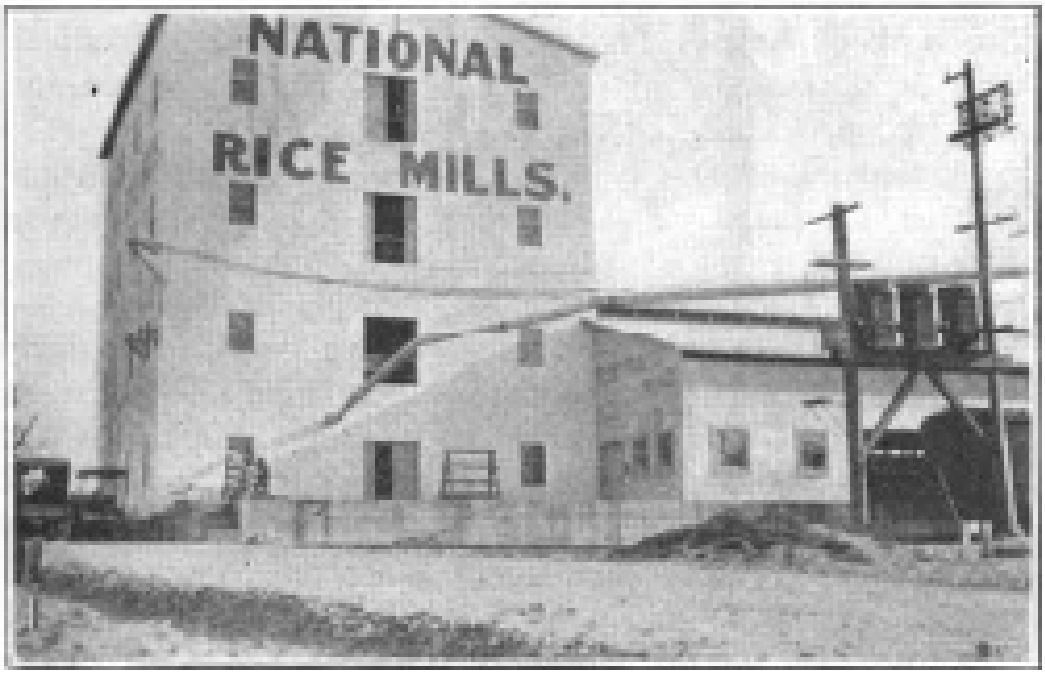

Figure 4. National Rice Mill at Sacramento 1919 (Electric Railway Journal 1919)

The operation of the National Rice Mill facility is also described in detail in the 1919 PRP article. According to the article, the National Rice Mill facility milled rice by first accepting the rice in sacks of kernels, each still covered by a bearded hull. A coated kernel is called a "paddy," and these were initially taken to the fourth floor of the mill for cleaning. After the paddies went through the cleaner, which removed coarse foreign substances such as nails and straw, it was loaded into a 4,000-sack paddy bin which extended through three of the four stories. The bins acted as separators which sorted the weeds and straw from the grain and eventually the paddy's ended up in the "stone" bins. The stone bins contained emery and cement stones which revolved horizontally on a vertical shaft. The stones loosened the hulls without crushing the kernels and eventually, everything passed through a sifter in which the rice, bran, and hulls were separated. The sifter at the National Rice Mill facility was the rotating type, which was newer than the old-fashioned "reel" type, according to the PRP article. After the rice was separated, it was sent to the storage bins and prepared for export (Pacific Rural Press 1919).

The National Rice Mill facility was also equipped with the necessities for exporting rice long distances. According to the 1919 PRP article, much of the rice which passed through the National Rice Mill was shipped to San Francisco and from there exported to Cuba, Puerto Rico, and South America. In addition to exporting to other countries, the premium quality rice was sold to Americans. In order to prepare the rice for export, the kernels needed to be "coated." According to the PRP:

> "Coating is done by running the rice through a chute into and through revolving churns, called 'toumbles,' of which the National [Rice] Mill has two. Into the chute there is continually dripping the proper amount of glucose from a tank and of 'talc' from a hopper. The coat put on in the toumbles not only gives the kernels the luster demanded, but also preserves them better for the long shipment. All rice to be exported is put into cotton bags inside of burlap bags." (Pacific Rural Press 1919).

The articles in the PRP also depict the owners, operators, and associations of the rice mill. The National Rice Mills Corporation of San Francisco was the owner of the National Rice Mill in Sacramento. The Sacramento chapter of the corporation was organized by C.F. Thomas, W.G. Stephens, F.L. Mattel, and C.S. Morse with the goal of building and operating a rice milling plant and warehouse in the city (Salt Lake Mining Review 1918). The Company managed operations of the Sacramento rice mill through a superintendent of the facility. The first superintendent of the National Rice Mill facility was C.S. Morse.

According to an advertisement in the Rice Belt Journal in 1902, C.S. Morse was originally from Jennings, Louisiana, and was the manager of the Jennings Rice Milling Company. The Jennings Rice Milling Company was the first milling plant in Jennings and was constructed in 1895 (Riser 1947). Louisiana was the only state with a larger production of rice than California by 1919 and Jennings was the hub of rice production in Louisiana. Upon construction of the National Rice Mill in Sacramento, C.S. Morse, with his extensive background in the Louisiana rice industry, moved to California and began his work as superintendent of the facility.

By 1920, C.S. Morse was elected as second vice-chairman to the executive committee of the Rice Association of California. George Morse took over as superintendent of the National Rice Mill in Sacramento that same year (Grams 2014). Review of census records failed to determine if George Morse was related to C.S. Morse. The election occurred during the reorganization of the Pacific Rice Growers' Association into the newly formed Rice Association of California (Weekly Commercial News 1920).

The Pacific Rice Growers' Association (PRGA) was a cooperative organization of rice growers in California for the purpose of marketing and selling the crop they grow. The PRGA was first organized in 1915 and by 1919 it had nearly 500 members and involvement in education and legislature for the purpose of advancement and protection of the rice industry. Members of the PRGA had access to market information prepared by the organization's experts, as well as inspection of their facilities and rice product. Rice was graded by the PRGA and sold to appropriate markets for the different grains, types, and qualities of rice. In 1919, the PRGA charged a commission fee of five cents per hundred pounds of rice and excess funds, after paying operating expenses for the Association, was returned to members in the form of a rebate check (Pacific Rural Press 1919).

The PRGA was reorganized as the Rice Association of California in 1920 and later was officially incorporated in 1921 as the Rice Growers Association (RGA) of California as an attempt to increase the effectiveness of the organization. The RGA cooperative then grew into the dominate rice industry leader in California, holding control of the majority of exports through the early 1980s (Merritt 1962). In the 1980s, a series of lawsuits with smaller rice growers, and issues with the South Korean government, caused the RGA to slowly lose its dominance. In the early 1990s, the RGA sold assets in Puerto Rice, West Sacramento, Biggs, and Cheney and by 2001, the RGA cooperative closed permanently (Keeling 2004).

According to City of Sacramento directories, the National Rice Mill facility in West Sacramento retained its name until 1927 when the name was dropped from directory listings and the mill was documented as owned by the RGA.

By 1951 and 1952, Sanborn fire insurance maps indicate the rice mill was still a functioning facility with a large warehouse, several storage bins, and multiple ancillary buildings and structures. Also shown on the Sanborn maps is the Rice Mill Pier, identified on the map as a "Conveyor." The pier jutted into the Sacramento River and contained a long narrow skew to assist ships with stable docking while being loaded with rice. The gangway appeared straight and connected with a square foundation, which is directly attached to the warehouse containing the grain bins. Subsequent Sanborn maps in 1957, 1960, 1968, and 1970 continue to show the rice mill and ancillary buildings and structures, including the pier, in their same location and function with no changes.

Several historical aerial photographs were reviewed and described in detail in the Inventory Report (2013). Overall, the location and function of the pier appears to have remained constant and active for the entirety of the use of the rice mill. The rice mill was still present at the site in 1993; however, only the piles which supported the skew attached to the pier were present at this time. By 1998 the rice mill was completely gone and the entire area in which it was previously located had been graded.

Evaluation Criteria

Regulatory context is provided in the Inventory Report (2013). Provided below are outlines of the federal and state evaluation criteria, which describe additional regulatory context necessary for this evaluation.

Federal Evaluation Criteria

The Rice Mill Pier was evaluated against the NRHP eligibility criteria subject to federal regulations implementing Section 106 of the NHPA (36 CFR Part 800). The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

"The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

(A) Is associated with events that have made a significant contribution to the broad patterns of our nation's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history."

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Historical buildings, structures, and objects are usually evaluated under Criteria A, B, and C based on historical research and architectural or engineering characteristics. Archaeological sites are usually evaluated under Criterion D, the potential to yield information important in prehistory or history. The lead

federal agency makes the determination of eligibility and seeks concurrence from the State Historic Preservation Officer (SHPO).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

State Evaluation Criteria

Under state law (CEQA) cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied.

An Historical Resource is a resource that 1) is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission; 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k); 3) has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or 4) is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)]. In making this determination, the CEQA lead agency usually applies the CRHR eligibility criteria.

The eligibility criteria for the CRHR [CCR Title 14, Section 4852(b)] state that a resource is eligible if:

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

(2) It is associated with the lives of persons important to local, California, or national history.

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)].

Historical buildings, structures, and objects are usually evaluated under Criteria 1, 2, and 3 based on historical research and architectural or engineering characteristics. Archaeological sites are usually evaluated under Criterion 4, the potential to yield information important in prehistory or history. The CEQA lead agency makes the determination of eligibility. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

Impacts to an Historical Resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].

Evaluation

Focused archival research and analysis was conducted on site RAL-001, Rice Mill Pier, in order to make a recommendation of eligibility for inclusion on the NRHP and CRHR. Archival research resulted in a substantial amount of information on the history of the pier and its associated rice mill. As a result of focused archival research, historical aerial and Sanborn map review, and analysis on the significance and importance of the pier as it relates to the overall operation of the mill, the Rice Mill Pier was evaluated as not eligible for inclusion on the NRHP or CRHR. Following is the evaluation of Rice Mill Pier.

NRHP / CRHR Criterion A or 1: Site RAL-001 is not eligible under NRHP Criterion A or CRHR Criterion 1 (association with important historic events) because the pier itself does not have individual associations with the initial phases or historical patterns of growth of California rice production or the Sacramento rice industry. The pier is a component of a rice mill that no longer exists and does not itself identify with the history of the rice industry. The pier itself is one of many piers and docks available to the shipping industry on the Sacramento River during the early 20th century and does not itself provide a direct link to the pattern or growth of the shipping industry at that time. The pier is not associated with the pattern of events linked to the rice industry; therefore, it does not have the level of historical association necessary to be eligible under criteria A or 1.

NRHP / CRHR Criterion B or 2: Site RAL-001 is not eligible under NRHP Criterion B or CRHR Criterion 2 because the pier does not have a direct significant association with an individual who has made significant contributions to history. The most significant individual associated with the rice mill was C.S. Morse, who was superintendent of the mill for its first few years and then elected second vice-chairman of the Rice Growers' Association of California, which continued to own the mill until the 1990s. C.S. Morse, however, is more significantly associated with the Jennings Rice Milling Company, which was the first rice mill in Jennings, Louisiana. In addition, George Morse, the later superintendent, and all other notable individuals who may have had significant historical associations with the rice mill would not have had the same significant association with the pier by itself. Therefore, the Rice Mill Pier is not directly associated with any individuals important to the development of rice production in California.

NRHP / CRHR Criterion C or 3: Site RAL-001 is not eligible under NRHP Criterion C or CRHR Criterion 3 because the pier is of typical design and construction purposed to act as a conveyor to transport rice product to ships on the river, and it does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values. The function of the rice mill is clearly documented in articles appearing in the Pacific Rural Press as a new, high capacity facility that provides rice to both land and water transportation vessels. The Rice Mill Pier itself, however, is not specifically identified in any historical record as a significant engineering achievement or component of the mill containing unique characteristics. The pier is among multiple piers and docks located along the Sacramento River, which were all designed to serve a simple economic purpose. The pier does not embody any distinctive characteristics of pier construction and does not contain all of the necessary components to be considered an excellent example or representation of pier construction for any specific historical period. In addition, research shows that E.L. Younger, the contractor who constructed the rice mill and its associated facilities, is not a significant architect or master builder. Advertisements in local newspapers indicate he is a general contractor who constructs facilities, buildings, and structures of all types and leaves no architectural or artistic significance with his work.

NRHP / CRHR Criterion D or 4: Site RAL-001 is not eligible under NRHP Criterion D or CRHR Criterion 4 because the pier ultimately has no potential to produce information important in prehistory or history. The pier is not a principle source of information on the rice industry or on the rice mill with which it was once associated. Historical archival research for the pier has adequately documented the significant history of the rice mill and association with the rice industry.

Integrity

Site RAL-001 is currently non-operational. The field inventory conducted in 2013 indicated that the pier retains integrity of location, materials, workmanship, and design. The association, however, has been completely removed from the site when the rice mill was demolished. The setting and feeling of the rice industry have also significantly waned since its periods of highest productivity. The pier retains integrity of materials and design, but since abandonment, these have deteriorated and the pier can no longer function in the same manner for which it was originally designed.

Overall, the Rice Mill Pier does not retain sufficient integrity of association, setting, or feeling, which are the qualities of integrity that contribute most to its significance. Therefore, site RAL-001 is recommended not eligible to the NRHP and CRHR under any criteria, and is not considered a Historical Resource under CEQA or a historic property under the NHPA.

Conclusions

ECORP conducted a cultural resources inventory for the Project in 2013. As a result of the inventory, one cultural resource was identified within the Project Area: RAL-001, referred to as Rice Mill Pier. The Rice Mill Pier was evaluated against the NRHP and CRHR criteria in 2014 as an addendum to the original inventory report. The evaluation concluded that the Rice Mill Pier is not eligible for inclusion on the NRHP or CRHR. Therefore, site RAL-001 is recommended not eligible to the NRHP and CRHR under any criteria and is not an Historical Resource under CEQA or an historic property under the NHPA.

If you have any questions, you may reach me by telephone at (916) 782-9100 or by email at JAdams@ecorpconsulting.com.

Sincerely,

Jeremy Adams, MA
Architectural Historian

Enclosure:

Attachment A: RAL-001: Rice Mill Pier DPR 523 form

References

California Cooperative Rice Research Foundation, Inc.
2014 Rice Experiment Station, Centennial Field Day Celebration Brochure, University of California, United States Department of Agriculture.

California Grocers Advocate
1918 New Factory Construction, Retail Grocers Advocate article dated May 31, 1918.

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California Rice Commission
2014 California Rice 101, brochure of the California Rice Commission, www.calrice.org, accessed 10 January 2014.

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1920 Sixty-Sixth Annual Statistical Report of the California State Board of Agriculture, California State Printing Office, Sacramento.

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2014 Carlton E. Morse Biography, www.otrr.org/FILES/Articles/Martin_Grams_Jr_Articles/Carlton_E_Morse_Biography.htm, accessed 10 January 2014.

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---- Agricultural Notes, Pacific Rural Press article dated December 14, 1918.
1919 Preparing Our Rice for the Market, Pacific Rural Press article dated February 8, 1919.
---- The Pacific Rice Growers' Association, Pacific Rural Press article dated November 23, 1919.
1920 To Mill Own Rice Product, Pacific Rural Press article dated February 28, 1920.
1921 General Market Conditions: Rice Growers Happier, Pacific Rural Press article dated July 23, 1921.

Riser, Henry LeRoy
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Salt Lake Mining Review
1918 Mine, Mill and General Construction News, Salt Lake Mining Review article dated July 30, 1918.

Sanborn Fire Insurance Map
1951 Sacramento, CA, Volume 1, Sheet 93.
1952 Sacramento, CA, Volume 3, Sheet 325.
1957 Sacramento, CA, Volume 3, Sheet 325.
1960 Sacramento, CA, Volume 3, Sheet 325.
1968 Sacramento, CA, Volume 3, Sheet 325.
1970 Sacramento, CA, Volume 3, Sheet 325.

Weekly Commercial News
1920 To Increase the Effectiveness of Rice Association, Weekly Commercial News article dated June 26, 1920.

Western Machinery and Steel World
1918 Construction News Summary: Building Construction, Western Engineering article dated July 1918.

Woodland Daily Democrat
1919 Skilled Craftsman, E.L. Younger General Contractor advertisement, Woodland Daily Democrat, dated April 26, 1919.

ATTACHMENT A

RAL-001: Rice Mill Pier DPR 523 Form

P1. Other Identifier: Rice Mill Pier

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Yolo

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Sacramento West, CA **Date:** 1992 **T8**N; **R4**E; Unsectioned**;** Mount Diablo B.M.

d. UTM: Zone: 10; 629348 mE/ 4270456 mN (NAD 83)

e. Other Locational Data: Elevation: 21 feet AMSL

From the intersection of the Tower Bridge Gateway and Riverfront Street in West Sacramento, proceed south on Riverfront Street for 0.6 mile. From this point, the west end of the pier is located 350 feet at 127 degrees southeast.

***P3a. Description:** The site consists of the remains of the Rice Mill factory pier originally constructed in 1918 as part of National Rice Mills company rice storage and milling facility. The pier consists of an elevated concrete deck measuring 120 feet long, 18 feet wide and 12 inches thick. The deck is elevated approximately 25 feet above the waterline.

(see continuation sheet 3 of 7)

***P3b. Resource Attributes:** AH13. Wharf/ pier

***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Overivew of pier/deck from north end, view SW, 10/31/2013, Photo #012.

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

***P8. Recorded by:**
Stephen Pappas
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677

***P9. Date Recorded:** 10/31/2013

***P10. Survey Type:** 15-meter intensive pedestrian

***P11. Report Citation:**

Adams, Jeremy and Stephen Pappas. 2013. *Cultural Resources Inventory Report, California Department of General Services Real Estate Services Division, Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project, Yolo County, California.*

Adams, Jeremy. 2014. *Rice Mill Pier Evaluation Addendum for the Cultural Resources Inventory Report, Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project, Yolo County, California*

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code**

***Resource Name or #** RAL-001 (Rice Mill Pier)

B1. Historic Name: National Rice Mill Pier
B2. Common Name:
B3. Original Use: Conveyor for loading rice to ships B4. Present Use: Unused

***B5. Architectural Style:** None

***B6. Construction History:** (Construction date, alterations, and date of alterations)

The Rice Mill Pier was a component of a large-scale, early 20th century rice mill located on the Yolo County side of the Sacramento River in West Sacramento. The original rice mill and pier was owned by the National Rice Mill Corporation, a San Francisco-based organization, which operated mills throughout San Francisco and Sacramento. The National Rice Mill, as it was named, including the pier was constructed in 1918 and though it changed names and owners several times, the mill operated for several decades. Eventually, the rice mill shut down and by the mid-1990s it was completely removed, leaving only the Rice Mill Pier. The Rice Mill Pier is completely unused currently.

(see continuation sheet 4 of 7)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** None

B9a. Architect: None. b. Builder: E.L. Younger – General Contractor
***B10. Significance:** None. **Theme:** None. **Area:** West Sacramento
Period of Significance: N/A **Property Type:** Pier/Wharf **Applicable Criteria:** N/A

Focused archival research and analysis was conducted on site RAL-001, Rice Mill Pier, in order to make a recommendation of eligibility for inclusion on the NRHP and CRHR. Archival research resulted in a substantial amount of information on the history of the pier and its associated rice mill. As a result of focused archival research, historical aerial and Sanborn map review, and analysis on the significance and importance of the pier as it relates to the overall operation of the mill, the Rice Mill Pier was evaluated as not eligible for inclusion on the NRHP or CRHR. Following is the evaluation of Rice Mill Pier.

(see continuation sheet 5 of 7)

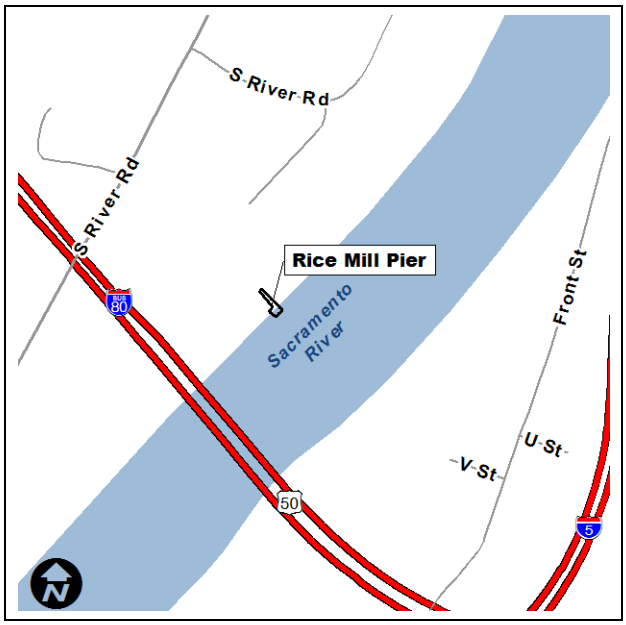
B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**
(see continuation sheet 6 of 7)

B13. Remarks:
None.

***B14. Evaluator:** Jeremy Adams, ECORP Consulting, Inc., 2525 Warren Drive, Rocklin, CA 95677

***Date of Evaluation:** 1/29/2014



(This space reserved for official comments.)

P3a. (continued from Primary Record):
The deck spans one way between bent caps. The deck is supported by a concrete abutment located on the levee and six pile bents. The pile bents are of two different types. The concrete abutment is supported by two steel H-piles, and the waterside bent is supported by three H-piles. The pile bents consist of two piles each and a concrete pile bent cap. The two landward pile bents consist of H-piles encased in 15-inch diameter fluted steel shells, which are assumed to be concrete filled. The four remaining pile bents consist of H-piles cross-braced with 6-inch diameter pipe braces both transversely and longitudinally to adjacent pile bents. Below grade, the H-pile sections appear to be embedded in 15-inch diameter concrete columns that are jacketed by a fluted steel casing. The foundations for the columns are not visible but the expectation is that the H-piles were driven into the underlying soils. The pier structure appears to be in generally fair to good condition considering its age and previous use.

The site also contains a series of columns and square concrete footings located directly southwest of the main pier. Two rows of four fluted steel cased columns are located along the water's edge, while three rows eight by eight-inch square concrete footings are located up the side of the levee. Each row contains five footings. Both the fluted columns and the square footings are approximately two feet above the surface. The function of the footings is unknown but may have once contained a deck on top of the footings for entry onto the lover levels of docked ships.

Rice Mill Pier, southwestern elevation, view towards northeast 10/31/2013

B6. Construction History (continued from BSO):
The contract to construct a reinforced concrete rice mill for the National Rice Mills Corporation was awarded to E.L. Younger of Woodland in 1918 (Western Machinery and Steel World 1918; California Grocers Advocate 1918). According to an advertisement in the Woodland Daily Democrat in 1919, E.L. Younger was a general contractor who worked out of an office in the Porter Building in Woodland, California. He advertised for "all classes of construction", which apparently included rice mills (Woodland Daily Democrat 1919). The National Rice Mills facility that Younger was contracted to build included a "three-story reinforced concrete factory and warehouse" at a contract price of $250,000 (Western Machinery and Steel World 1918; California Grocers Advocate 1918).

A 1918 article in the Pacific Rural Press (PRP) exaggerated the description of the facility, describing the new rice mill as the "biggest rice mill in the State" in which the "warehouse facilities will be provided for half a million sacks" of rice (Pacific Rural Press 1918). The rice mill, though originally contracted at $250,000 and three-stories tall, was described when finished as costing $200,000 and being four stories tall. It officially opened for operation in December 1918. Also installed, according to the article, was rice flour equipment and a warehouse capable of holding 100,000 sacks of rice (Pacific Rural Press 1918). Another article in the PRP in 1919, describes the operation of the new mill as seen during an inspection by its owners. The article states:

"…this mill is one of the most modern, compact, and convenient in the State, though not the largest. Four-thousand sacks of paddy can be milled here in 24 hours, and all of the products-coated rice for export, natural rice of three grades for domestic consumption, 'brewers' rice, broken rice, chicken feed, rice polish, and rice bran-all of these products of 4000 sacks of paddy per day are packed in sacks on the main floor within a radius of 25 feet. On one side of the mill is the Sacramento River, which carries much of the export and domestic rice to San Francisco. On the other side is a railroad spur." (Pacific Rural Press 1919).

The National Rice Mill facility was equipped with the necessities for exporting rice long distances. According to the 1919 PRP article, much of the rice which passed through the National Rice Mill was shipped to San Francisco and from there exported to Cuba, Puerto Rico, and South America. In addition to exporting to other countries, the premium quality rice was sold to Americans. In order to prepare the rice for export, the kernels needed to be "coated." According to the PRP:

The articles in the PRP also depict the owners, operators, and associations of the rice mill. The National Rice Mills Corporation of San Francisco was the owner of the National Rice Mill in Sacramento. The Sacramento chapter of the corporation was organized by C.F. Thomas, W.G. Stephens, F.L. Mattel, and C.S. Morse with the goal of building and operating a rice milling plant and warehouse in the city (Salt Lake Mining Review 1918). The Company managed operations of the Sacramento rice mill through a superintendent of the facility. The first superintendent of the National Rice Mill facility was C.S. Morse.

The Pacific Rice Growers' Association (PRGA) was a cooperative organization of rice growers in California for the purpose of marketing and selling the crop they grow. The PRGA was first organized in 1915 and by 1919 it had nearly 500 members and involvement in education and legislature for the purpose of advancement and protection of the rice industry. Members of the PRGA had access to market information prepared by the organization's experts, as well as inspection of their facilities and rice product. Rice was graded by the PRGA and sold to appropriate markets for the different grains, types, and qualities of rice. In 1919, the PRGA charged a commission fee of five cents per hundred pounds of rice and excess funds, after paying operating expenses for the Association, was returned to members in the form of a rebate check (Pacific Rural Press 1919).

The PRGA was reorganized as the Rice Association of California in 1920 and later was officially incorporated in 1921 as the Rice Growers Association (RGA) of California as an attempt to increase the effectiveness of the organization. The RGA cooperative then grew into the dominate rice industry leader in California, holding control of the majority of exports through the early 1980s (Merritt 1962). In the 1980s, a series of lawsuits with smaller rice growers, and issues with the South Korean government, caused the RGA to slowly lose its dominance. In the early 1990s, the RGA sold assets in Puerto Rice, West Sacramento, Biggs, and Cheney and by 2001, the RGA cooperative closed permanently (Keeling 2004).

According to City of Sacramento directories, the National Rice Mill facility in West Sacramento retained its name until 1927 when the name was dropped from directory listings and the mill was documented as owned by the RGA.

By 1951 and 1952, Sanborn fire insurance maps indicate the rice mill was still a functioning facility with a large warehouse, several storage bins, and multiple ancillary buildings and structures. Also shown on the Sanborn maps is the Rice Mill Pier, identified on the map as a "Conveyor." The pier jutted into the Sacramento River and contained a long narrow skew to assist ships with stable docking while being loaded with rice. The gangway appeared straight and connected with a square foundation, which is directly attached to the warehouse containing the grain bins. Subsequent Sanborn maps in 1957, 1960, 1968, and 1970 continue to show the rice mill and ancillary buildings and structures, including the pier, in their same location and function with no changes.

Several historical aerial photographs were reviewed and described in detail in the Inventory Report (2013). Overall, the location and function of the pier appears to have remained constant and active for the entirety of the use of the rice mill. The rice mill was still present at the site in 1993; however, only the piles which supported the skew attached to the pier were present at this time. By 1998 the rice mill was completely gone and the entire area in which it was previously located had been graded.

B10. Significance (continued from BSO):

NRHP / CRHR Criterion A or 1: Site RAL-001 is not eligible under NRHP Criterion A or CRHR Criterion 1 (association with important historic events) because the pier itself does not have individual associations with the initial phases or historical patterns of growth of California rice production or the Sacramento rice industry. The pier is a component of a rice mill that no longer exists and does not itself identify with the history of the rice industry. The pier itself is one of many piers and docks available to the shipping industry on the Sacramento River during the early 20th century and does not itself provide a direct link to the pattern or growth of the shipping industry at that time. The pier is not associated with the pattern of events linked to the rice industry; therefore, it does not have the level of historical association necessary to be eligible under criteria A or 1.

NRHP / CRHR Criterion B or 2: Site RAL-001 is not eligible under NRHP Criterion B or CRHR Criterion 2 because the pier does not have a direct significant association with an individual who has made significant contributions to history. The most significant individual associated with the rice mill was C.S. Morse, who was superintendent of the mill for its first few years and then elected second vice-chairman of the Rice Growers' Association of California, which continued to own the mill until the 1990s. C.S. Morse, however, is more significantly associated with the Jennings Rice Milling Company, which was the first rice mill in Jennings, Louisiana. In addition, George Morse, the later superintendent, and all other notable individuals who may have had significant historical associations with the rice mill would not have had the same significant association with the pier by itself. Therefore, the Rice Mill Pier is not directly associated with any individuals important to the development of rice production in California.

NRHP / CRHR Criterion C or 3: Site RAL-001 is not eligible under NRHP Criterion C or CRHR Criterion 3 because the pier is of typical design and construction purposed to act as a conveyor to transport rice product to ships on the river, and it does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values. The function of the rice mill is clearly documented in articles appearing in the Pacific Rural Press as a new, high capacity facility that provides rice to both land and water transportation vessels. The Rice Mill Pier itself, however, is not specifically identified in any historical record as a significant engineering achievement or component of the mill containing unique characteristics. The pier is among multiple piers and docks located along the Sacramento River, which were all designed to serve a simple economic purpose. The pier does not embody any distinctive characteristics of pier construction and does not contain all of the necessary components to be considered an excellent example or representation of pier construction for any specific historical period. In addition, research shows that E.L. Younger, the contractor who constructed the rice mill and its associated facilities, is not a significant architect or master builder. Advertisements in local newspapers indicate he is a general contractor who constructs facilities, buildings, and structures of all types and leaves no architectural or artistic significance with his work.

NRHP / CRHR Criterion D or 4: Site RAL-001 is not eligible under NRHP Criterion D or CRHR Criterion 4 because the pier ultimately has no potential to produce information important in prehistory or history. The pier is not a principle source of information on the rice industry or on the rice mill with which it was once associated. Historical archival research for the pier has adequately documented the significant history of the rice mill and association with the rice industry.

Integrity

Site RAL-001 is currently non-operational. The field inventory conducted in 2013 indicated that the pier retains integrity of location, materials, workmanship, and design. The association, however, has been completely removed from the site when the rice mill was demolished. The setting and feeling of the rice industry have also significantly waned since its periods of highest productivity. The pier retains integrity of materials and design, but since abandonment, these have deteriorated and the pier can no longer function in the same manner for which it was originally designed.

Overall, the Rice Mill Pier does not retain sufficient integrity of association, setting, or feeling, which are the qualities of integrity that contribute most to its significance. Therefore, site RAL-001 is recommended not eligible to the NRHP and CRHR under any criteria, and is not considered a Historical Resource under CEQA or a historic property under the NHPA.

B12 – References:

California Grocers Advocate
1918 New Factory Construction, Retail Grocers Advocate article dated May 31, 1918.

California Resources and Possibilities
1910 Twentieth Annual Report of the California State Board of Trade for the Year 1909, California Development Board, San Francisco.

California State Board of Agriculture
1920 Sixty-Sixth Annual Statistical Report of the California State Board of Agriculture, California State Printing Office, Sacramento.

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Merritt, Ralph Palmer
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---- The Pacific Rice Growers' Association, Pacific Rural Press article dated November 23, 1919.
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1921 General Market Conditions: Rice Growers Happier, Pacific Rural Press article dated July 23, 1921.

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Western Machinery and Steel World
1918 Construction News Summary: Building Construction, Western Engineering article dated July 1918.

Woodland Daily Democrat
1919 Skilled Craftsman, E.L. Younger General Contractor advertisement, Woodland Daily Democrat, dated April 26, 1919.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

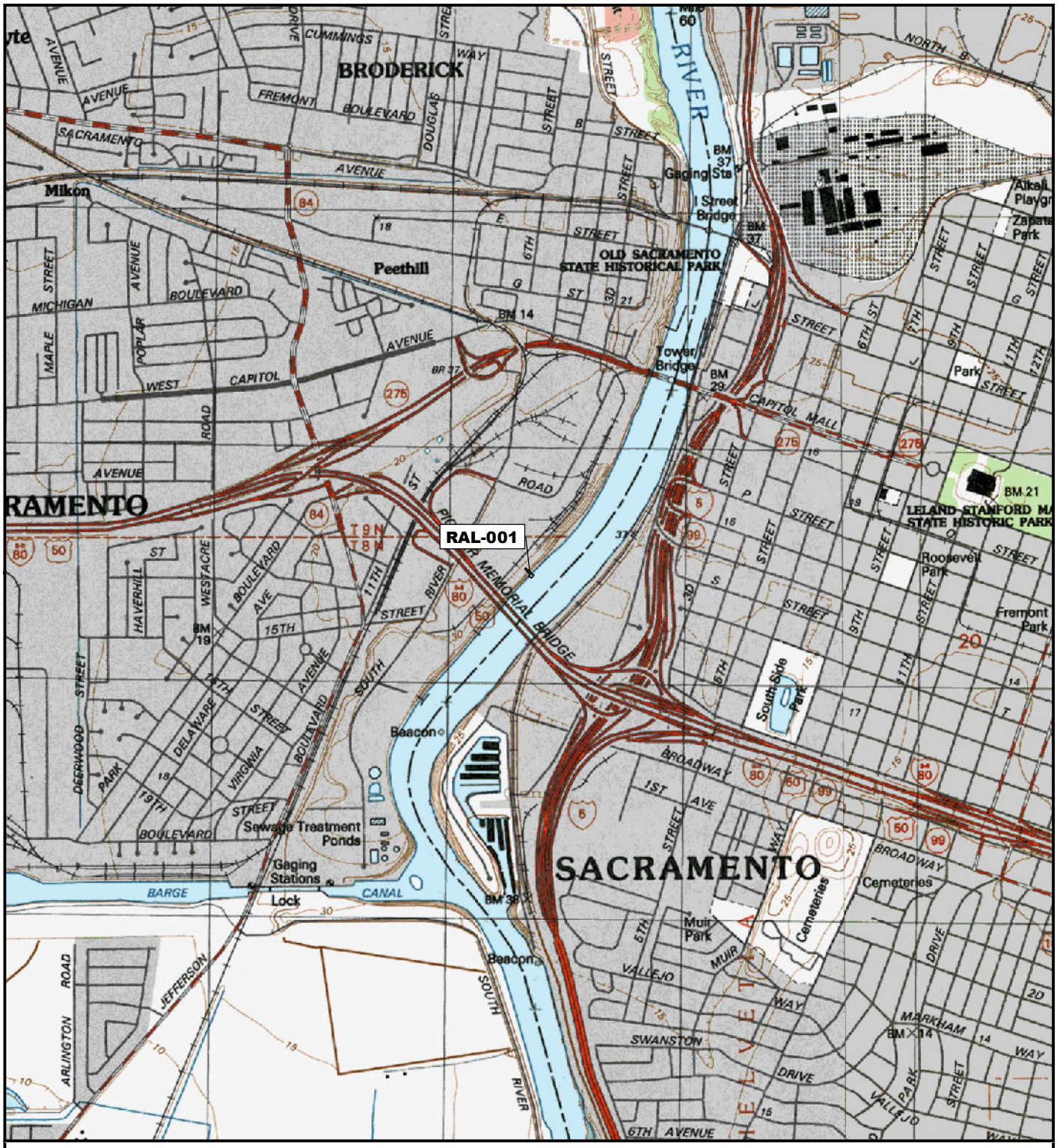
Primary #
HRI #
Trinomial

***Resource Name or #:** RAL-001

***Map Name:** Sacramento West and Sacramento East

***Scale:** 1:24,000

***Date of Map:** 1992



Location: N:\2013\2013-080 Raleys Dock Replacement and Rice Mill\MAPS\Cultural_Resources\Location_Maps\RDRicemill_DPRLocations_v2.mxd (JDS):KOrtega 1/29/2014

***Required Information**

DPR 523J (1/95)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

APPENDIX D

Paleontological Assessment

22 November 2013

John Sneed, Project Manager
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

RE: Paleontological Records Search and Preconstruction Assessment for the Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project (ECORP Project No. 2013-080)

Dear Mr. Sneed:

At your request, ECORP carried out a paleontological records search and preconstruction assessment for the Raley's Dock Replacement and Rice Mill Pier Rehabilitation Project (Project) to support the preparation of an environmental document under the California Environmental Quality Act (CEQA). The Project is located on the Sacramento River in the City of West Sacramento, Yolo County, California (Figure 1). The proposed Project objectives are to: (1) replace previously privately-owned river access areas with publicly accessible docks and pier; (2) provide riverfront access at strategic locations to the public for a variety of recreational uses; and, (3) provide public facilities that meet California Building Code and Safety Standards, are ADA-compliant, and conform with the California Department of Boating and Waterways (DBAW) guidelines and standards. The ground disturbing activities vary across the project depending on the facility being constructed but could extend up to 15 feet below the surface, the depth which may be necessary to install new pier foundations into the ground.

METHODS

The paleontological assessment was conducted by ECORP biologist Marin Meza. The assessment included a query of the University of California Museum of Paleontology (UCMP) online catalog records for Yolo County, a review of regional geologic maps from the California Geological Survey, and a review of existing literature on paleontological resources of Yolo County. The purpose of the paleontological assessment was to determine: the potential for the presence of significant nonrenewable paleontological resources within the Project area; whether or not known occurrences of paleontological resources are present within or immediately adjacent to the Project area; and whether or not implementation of the Project could result in significant impacts to paleontological resources. Paleontological resources include mineralized (fossilized) or unmineralized bones, teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains.

Sedimentary rock units may be described as having (a) high (or known) potential for containing significant nonrenewable paleontological resources; (b) low potential for containing nonrenewable paleontological resources; or (c) undetermined potential (SVP 2013). The determination of a site's (or rock unit's) degree of paleontological potential is first founded on a review of pertinent geological ad paleontological literature and on locality records of specimens deposited in institutions. The sensitivity of rock units in which fossils occur may be divided into three operational categories:

I. HIGH POTENTIAL. Rock units from which vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a have potential for containing significant nonrenewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for

yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

II. UNDETERMINED POTENTIAL. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

III. LOW POTENTIAL. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections. These deposits generally will not require protection or salvage operations.

RESULTS

The UCMP has 301 paleontological specimens from 124 localities in Yolo County (UCMP 2013a). Not all specimens in the UCMP collections have been cataloged and digitized however, and other specimens have likely been recorded within the vicinity of the project area. The specific location of all localities is available only to qualified paleontologists, and the location of these occurrences relative to the project area is unclear without more extensive archival research. Of the 301 specimens recorded within Yolo County, 49 are fossil invertebrates, 161 are microfossils, one is a plant fossil, and 90 are fossil vertebrates (UCMP 2013a). No fossil specimens are catalogued in or around the Project area (UCMP 2013a).

According to the Geologic Map of the Sacramento Quadrangle (Wagner et. al. 1981), the geologic feature that underlies the Project area is classified as levee and channel deposits (Qa). It is further described as alluvium, lake, playa, and terrace deposits (Q) that are unconsolidated and semi-consolidated (Gutierrez et al. 2010). These deposits are mostly non-marine but include marine deposits near the coast. The Soil Resource Report for Yolo County, California (NRCS 2007) indicates that the soil on-site is classified as Lang sandy loam. A portion of the Project occurring within the Sacramento River is classified as water and no soil data is applicable. Lang sandy loam (La) is considered an alluvial fan with the parent material/restrictive layer over 80 inches (approximately 6.6 feet) below the surface and classified as mixed alluvium. This soil type is a mixture of sandy loam in the upper layer with sand and silt loam in the middle and lowest layers. The eastern portion of Yolo County, where the Project is located, is in the Great Valley province and is directly underlain by Quaternary deposits (SACOG 2011). The youngest of these deposits, such as the levee and channel deposits, which are exhibited within the Project area, are of Holocene age, are unlikely to contain paleontological resources, and have low potential for yielding significant fossils. Older Pleistocene deposits, including the Riverbank and Modesto Formations, are considered to have high potential for yielding significant fossils, but do not occur at the ground surface within the Project area.

The geology within the Project area was created during the Quaternary period, approximately 2.6 million years ago to present day. This period includes the most recent Holocene epoch preceded by the Pleistocene epoch. The Holocene epoch covers the last 11,700 years of the Earth's history, the time since the end of the last major glacial epoch or "ice age" (UCMP 2013b). Since then, there have been small-scale climate shifts, notably the "Little Ice Age" but in general, the Holocene has been a relatively warm period in between ice ages. The Pleistocene epoch, approximately 2.6 million to 11,700 years ago, included the most recent episodes of global cooling (UCMP 2013c). Much of the world's temperate zones were alternately covered by glaciers during cool periods and uncovered during the warmer interglacial periods when the glaciers retreated. The Pleistocene was characterized by the presence of distinctive

large land mammals and birds including the mammoth, mastodons, longhorned bison, saber-toothed cats, and giant ground sloths.

RECOMMENDATIONS

The records search determined that no fossil vertebrate localities are located within the Project area. Additionally, based on the geologic rock unit and soil type present at the ground surface within the Project area, it was determined that the Project has low potential for containing nonrenewable paleontological resources. Therefore, no impacts to significant paleontological resources are expected and no mitigation measures are required for excavation or trenching within Holocene age deposits in the Project area. However, in all cases, the lead agency should implement a standard unanticipated discovery mitigation measure if Pleistocene age deposits containing paleontological resources are encountered during construction activities. If any fossils are recovered, they shall be analyzed to a point of identification and curated at an established accredited museum repository with permanent retrievable paleontologic storage. A technical report of findings shall be prepared with an appended itemized inventory of identified specimens and submitted with the recovered specimens to the curation facility.

Thank you for the opportunity to assist you in your project planning. If you have any questions, you may contact me by phone at (916) 782-9100 or by email at mmeza@ecorpconsulting.com.

Sincerely,

Marin Meza
Biologist
ECORP Consulting, Inc.

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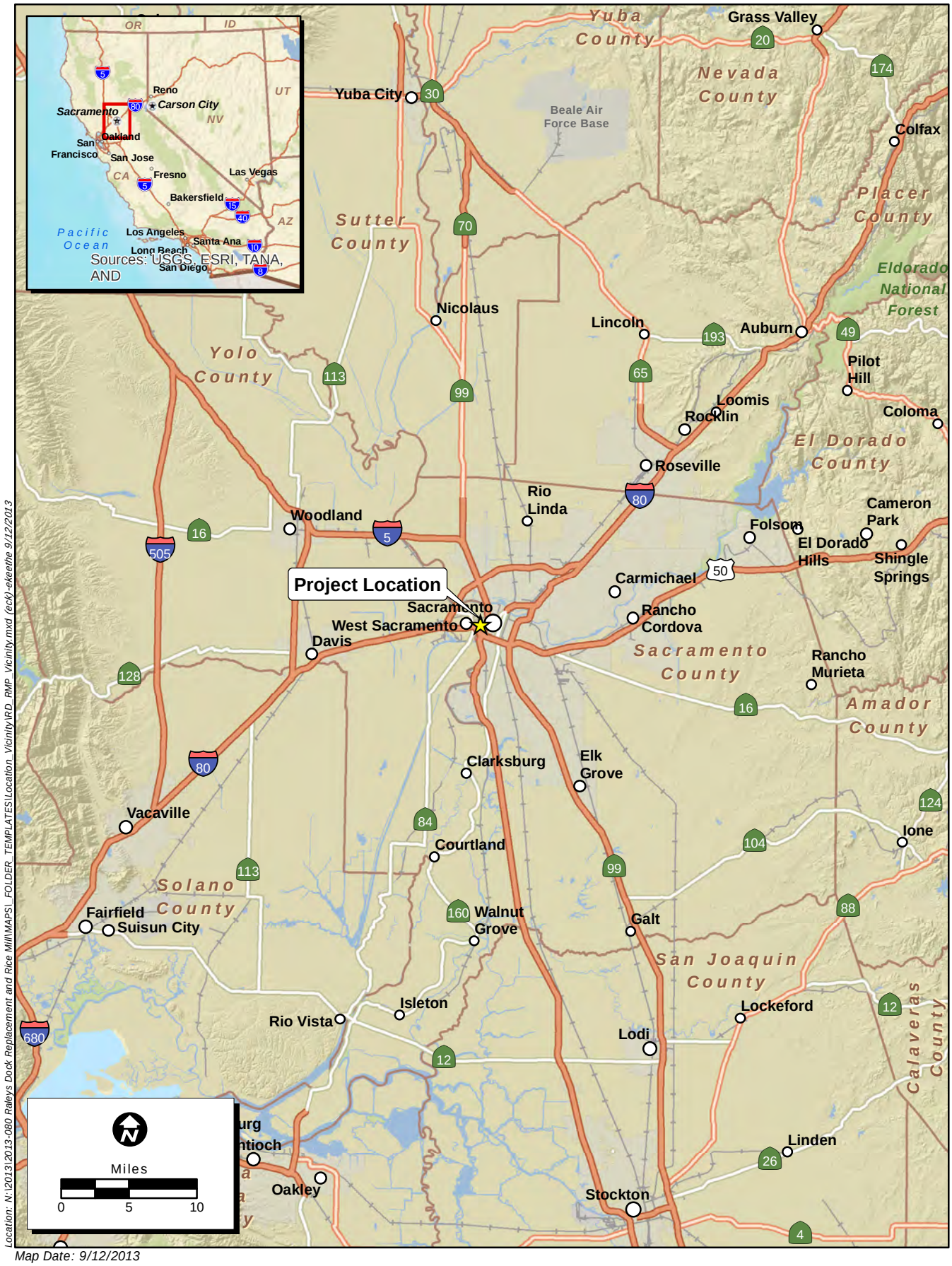

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Map Date: 9/12/2013

Service Layer Credits: Sources: USGS, ESRI, TANA, AND

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Vicinity

2013-080 Raley's Dock Replacement and Rice Mill Pier

APPENDIX E

Exploration Barge Anchoring and Operating Procedures
Water Pollution Control/ Spill Contingency Plan

Taber Drilling
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NOTES ON TYPICAL EXPLORATION BARGE ANCHORING AND OPERATING PROCEDURES

ANCHORING Typical anchoring procedures for the Taber barge include hand-set Danforth anchors from each corner of the 30 X 14-foot barge platform. The ± 30 lb anchors are tied to ¾ - 1" manila rope leads with ± 5ft of chain and marked directly above with high visibility buoys at water-surface. Typical distance of anchors from the barge corners is at a 1:1 ratio to the depth of water, i.e., in 50ft of water the anchors will be set 50ft out from the corners. Typical depth of anchor-set is in the upper 6-inches of ground surface. In calm water or directionally flowing water, often only one or two anchors are required (to prevent rotation of the barge or lateral movement).

Anchors are hand-set and hand-pulled with the assistance of a tool boat (size based on project requirements) which also provides materiel and personnel transport to and from shore. One tool-boat is a 24 X 7-foot "inboard", powered by a 200HP engine. Another is a small aluminum skiff (with a 3" sampling well in the center), powered by outboard motors. When not in use, these boats are tied to the land-side edge of the barge.

DRILLING The drill rig used on the barge, a fully-tooled CME-45 geotechnical exploration drill, has a "Tier Two" diesel engine and operates with environmentally friendly "Clarity" (mineral) hydraulic oil. Re-fueling and servicing products are stored on-shore. The rig is positioned in the center of the drill platform and secured to a permanently-anchored drill stand to prevent tipping over, even in very rough water. All typical geotechnical exploration and testing techniques are available with this set-up.

Drilling from the floating platform is generally accomplished within a closed rotary system. Steel casing is first set ("spudded-in") from deck into subsurface soils to create the closed system, thus preventing leakage into open water. Fluids are then pumped down the drill string as rotational cutting of the bit occurs. Drilling fluids and cuttings come back up inside the watertight drill casing to a re-circulating tank on the barge deck. Here the heavier drill cuttings are removed by screening and settling and the fluids are then again available for use within the closed system. At times (and when approved), naturally occurring (inert) Variflo QD (Guar Gum) is added to the drill fluid to increase its viscosity and aid in bringing cuttings up and out of the boring column. Soil sampling is performed at bottom-of-hole through the same protective steel casing.

The wooden and diamond-plate deck of the drill barge is covered with a poly-tarp to prevent accidental drill spillage from washing down through the deck to open water. The edges of the barge are spill-contained with rolled absorbent pads on all sides. Floating oil-absorbent booms are placed on the water surface, completely surrounding the barge and its on-deck operations.

BACKFILLING / CLEANUP At completion of exploration and testing, heavier drill cuttings are allowed to settle to the bottom of the boring. Backfill requirements vary by health department jurisdiction. Typically the remaining annular space (to within 5-feet of ground-surface) is filled with a mixture of lean cement and bentonite clay. Some jurisdictions request the use of clean sand or drill cuttings as the primary backfill, to avoid the possibility of cement residue getting into the open water. When backfill is complete, the inside of the casing is typically flushed with clean water, carefully pulled (breaking its seal) and brought back to the barge deck or "hung" below water-surface and taken to the next drill location.

At completion of operations (or, as appropriate, during operations), the drill fluids (muddy water, soil cuttings) remaining on the barge deck are pumped into 55-gallon drums, and, as appropriate, transported to shore in the tool boat or pumped into an on-shore hopper. Cuttings are then disposed of at approved on-site shore locations or taken to off-site disposal.

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Water Pollution Control / Spill Contingency Plan

I. INTRODUCTION AND PURPOSE

This Water Pollution Control / Spill Contingency Plan presents the Taber Drilling Standard Operating Procedures (SOP) for spill prevention and mitigation procedures for borings performed from a shallow-draft barge. The plan establishes the procedures and equipment required to prevent discharge of substances (petroleum hydrocarbons and drilling mud) due to reasonably foreseeable causes, in quantities that exceed applicable water quality standards, cause a sheen upon or discoloration of the surface of navigable waters or adjoining shorelines, or cause sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The plan also establishes the activities required to mitigate such discharges should a spill occur.

Note that drilling mud is a mixture of water and soil cuttings, and may contain bentonite clay if needed for increased mud viscosity. The mud should not contain chemical contaminants unless contamination is encountered in a soil boring and thus should not be considered a regulated or hazardous material (unlike petroleum-based products that are also used as part of drill rig operations.)

This plan presents Standard Operating Procedures plus procedures and information specific to this site if/as needed. It applies to the work sites(s) where drilling activities will occur and where such activities or equipment could potentially discharge materials in harmful quantities into the environment.

II. SCOPE

This plan applies to all members of Taber field teams involved in drilling from a shallow draft barge and associated activities.

III. DEFINITIONS

Petroleum: Any kind or form of refined petroleum hydrocarbon product, including but not limited to motor fuels, lubricants, sludge, or oil refuse.

Discharge: Includes but is not limited to any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

Navigable waters: All waters of the United States that are connected with a navigable stream, lake, or sea.

IV. RESPONSIBILITIES

a. The project manager is responsible for obtaining approval of this plan from the controlling authorities prior to the start of work.

b. The drilling manager is responsible for ensuring compliance with this plan, and ensuring that necessary equipment is readily available and in good working order. Steve Taber or his designated alternate is drilling manager for this project.

V. PLAN REVIEW AND AMENDMENTS

This plan shall be reviewed and amended, if necessary, whenever there is a change in the design of the site, drilling activities, operations, or maintenance which materially affects the site's potential to discharge regulated material or drill mud. The plan will be amended and rectified if such review indicates more effective control and/or prevention technology will significantly reduce the likelihood of a spill event from the site.

VI. SITE INFORMATION AND SPILL HISTORY

Each project site has a unique history which may include previous spills, known or unknown contaminants. It is understood as the client's responsibility to make Taber aware of any such available information prior to exploration - - to allow for both proper investigation procedures preparation and adequate personal protection.

VII. SPILL PREVENTION, CONTROL AND COUNTERMEASURES

Equipment and operations that could potentially spill and impact navigable waters are the following:

- Two outboard motors, each fueled from a standard 5-gallon motor fuel tank.
- One diesel powered drill rig with 20-gallon fuel tank, 20-gallon hydraulic oil tank, and lubricants.
- Refueling the drill rig using 4ea five-gallon Safety Fuel Cans containing diesel fuel.
- One ±100-gallon mud recirculation tank.
- One or more 55-gallon drums for containing drill cuttings and fluid.
- Pumping or shoveling drill cuttings and fluid from the recirculation tank to a 55-gallon drum.

The following measures will be implemented to prevent and control spills:

1. Outboard motor fuel tanks will be refilled at a commercial gas station. When exchanging tanks over water, a drip pan will be placed beneath fuel lines to contain any spills. Petroleum absorbent pads will be available for use if/as necessary.

2. The drill rig will be inspected daily before the start of work, and observed periodically during the course of work, to identify visual evidence of leaks or worn or loose fittings or other parts that could result in a leak. Where such evidence is identified, a drip pan will be placed under the leak or loose/worn part until repairs can be made. If there is apparent risk that a leak could exceed the capacity of the spill containment, the rig will be shut down until repairs are completed.
3. Hydraulic fluid used on the drill rig is Chevron Clarity Hydraulic Oil AW. The Material Safety Data Sheets (MSDSs) for this product indicate that it is biodegradable and that small accidental leaks are not expected to present an environmental problem. If hydraulic fluid does leak from the drill rig, drip pans will be used to contain the fluid.
4. Safety Fuel Cans used for refueling the drill rig will be filled at a commercial gas station and hand carried onto the barge, lifted and emptied into the drill rig fuel tank. During refueling, a drip pan will be placed on the barge deck under the refueling port. Absorbent pads will be placed around the drip pan. After fueling, cans will be immediately taken back to shore.
5. Booms that are petroleum absorbent will be deployed on the water in case a petroleum spill to the water surface should occur.
6. The mud recirculation tank contains drill fluid (water and, if necessary, a biodegradable viscosity enhancer) and cuttings from the boring. At least 4-inches of “freeboard” will be maintained at all times to prevent accidental spills. If high wind conditions occur that could result in wave action capable of resulting in a mud spill, all work will cease and the barge will be moved to a protected location until conditions are suitable for continued work.
7. 55-gallon drums for containerizing drill cuttings and fluid will be sealed with lids that are secured with bolts. A plastic tarp will be placed on the deck between the mud tank and drum during cuttings/fluid transfer.

VIII. EMERGENCY PROCEDURES / SPILL RESPONSE

US EPA regulations define a spill as the discharge of oil into, or upon, the navigable waters of the United States or adjoining shorelines, in harmful quantities. Harmful quantities are defined as a discharge that violates applicable water quality standards or causes a sheen upon, or discoloration of, the surface of the water or the adjoining shorelines. Contaminated ground water may also have the potential to seep, leach, or flow into navigable waters and is included in this definition.

An important facet of an effective response procedure during an oil or hazardous substance release incident is to keep the material separated from water to minimize migration and the resulting potential increase in human and environmental exposure. Every effort should be made to prevent spills and emphasize substances containment at the source rather than resort to separation of the material from expanded portions of the environment or downstream water.

1. Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should initiate certain actions immediately, including:

a. Extinguish any sources of ignition until the material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be removed. If the ignition source is stationary, attempt to move spilled material away from ignition source. Avoid sparks and activities creating sparks (like smoking cigarettes).

b. Identify the material released.

c. Attempt to stop the release at its source. Assure that no danger to human health exists first. Simple procedures (turning valves, plugging leaks, etc.) may be attempted by the discoverer if there are no health or safety hazards and there is a reasonable certainty of the origin of the leak.

d. Initiate spill notification and reporting procedures. Report the incident immediately to the Drilling Manager. If there is an immediate threat to human life (e.g., a fire in progress or fumes overcoming workers), immediately activate the drill rig emergency shut-off switch and evacuate personnel. Attempt to extinguish a fire with fire extinguishers or on-board water hose only if safe. Request the assistance of the fire department in case of fire or a hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the site boundaries by dialing 911 and/or the US Coast Guard.

2. Containment of a Release

If material is released outside a containment area, it is critical that the material be contained as quickly as possible. Action to be conducted may include:

a. Attempt to stop the release at the source.

If the source of the release has not been found; if special protective equipment is necessary to approach the release area; or if assistance is required to stop the release, appropriate emergency authorities should be contacted immediately.

b. Contain the material released into the environment.

Following proper safety procedures, the spill should be contained by absorbent materials and dikes using shovels and brooms.

c. Recover or cleanup the material spilled.

As much of the spilled material as possible should be recovered, contained, and disposed of as waste. Liquids absorbed by solid materials shall be shoveled into open top, 55-gallon drums, or (if the size of the spill warrants) into a roll-off container. When drums are filled after a cleanup, the drum lids shall be secured and the drums shall be appropriately labeled identifying the contents, the date of the spill/cleanup, and the site name and location.

d. Cleanup of the spill area.

Surfaces that are contaminated by the release shall be cleaned using an appropriate substance or water. Cleanup water must be minimized, contained and properly disposed. Occasionally, porous materials (such as wood) may be contaminated; such materials will require special handling for disposal.

e. Decontaminate tools and equipment used in cleanup.

Even if dedicated to cleanup efforts, tools and equipment that have been used must be decontaminated before replacing them in the spill control kit.

f. Notification and reports to outside agencies.

The Drilling Manager shall determine if a reportable spill has occurred and shall make all necessary notifications. Verbal notification to government agencies shall be executed, if necessary. In all cases where verbal notification is given, a confirming written report shall be sent to the same entity.

3. Internal Taber Report

Spills that are regulated per this plan must be documented in a report to be prepared by the Drilling Manager or designated alternate. At a minimum, the report will document the following items:

a. Date, time, and duration of the release;
b. Source and total volume of the release;
c. Spill cleanup procedures;
d. Personnel who discovered and/or participated in the spill remediation;
e. Equipment used during the cleanup;
f. Waste disposal methods; and
g. Usual events, injuries, or agency inspections.

4. Spill, Fire, and Safety Equipment

Portable fire extinguishers are located on the barge, are well marked, and are easily accessible. Records are kept on all fire equipment in service, and regular testing is performed in accordance with established procedures. A list of fire extinguishers, spill, and safety equipment is included in Appendix A. There will be one spill kit for this project. During drilling, the spill kit will be kept in a covered plastic container at an easily accessed location.

IX. EMERGENCY REPORTING PROCEDURES / EMERGENCY REPORTING CONTACTS

In the event of an accidental spill at the site, the Taber Consultants employee discovering the release or Drilling Manager will contact the Taber Consultants office as soon as possible after the incident has occurred and any client representatives present at the site. Contact preference is in the order listed below. If a spill/discharge to surface water is imminent, emergency agencies should be notified as described below.

1. Internal Reporting

In the event of a spill, the following internal contacts shall be made:

a. Project Manager: Steve Taber (916) 837-5883
b. Safety / Environmental Manager: Tim d'Arcy (916) 952-8546
c. Company CEO: Kimberly Taber (916) 371-8234

2. Reporting to Outside Agencies

After the Environmental Manager has been notified, he/she will conduct reporting to outside agencies, if necessary and subsequent to discussion with Client. Agencies contacted by the Environmental Manager may include:

- California Department of Toxic Substance Control (Berkeley, CA Field Office) (510) 540-2122
- US EPA Emergency Response Hotline (24 hrs a day, 7 days a week) (800) 424-2122
- California Department of Fish and Game
- County Sheriffs Department
- County Environmental Management Department
- Local Fire Department

The following information shall be communicated when reporting to outside agencies:

1. Name, title, telephone number, and address of reporter;
2. Name, telephone number, and location of the site/spill;
3. Time of the spill;
4. Type, and amount of material involved;
5. Extent of injuries/illnesses, if known;
6. Possible hazards to human health and environment;
7. Any body of water involved;
8. The cause of accident/spill; and
9. The action taken or proposed by the site/personnel

APPENDIX A

SPILL KIT AND SAFETY EQUIPMENT

ITEM	DESCRIPTION	NUMBER
1. Drip Pans	Metal or Heavy Plastic; 15-inch diameter or larger	3
2. Absorbent Pads	Petroleum absorbent; hydrophilic 15-inch by 18-inch	20
3. Plastic Tub	Volume greater than volume 1ea safety can and all operational tanks found on the drill	1
4. Absorbent Booms	Petroleum absorbent; hydrophilic 5-inch by 10-feet	8
5. Cuttings/Mud Drum	55-gallon with lid, retaining ring and bolt	1
6. Plastic Tarp	5-feet by 8-feet; Heavy Duty	1
7. Fire Extinguisher	ABC Levels, Ozone Safe	1
8. First Aid Kit	OSHA Approved	1
9. Extra Life Vest	Coast Guard Approved	1
10. Cellular Telephone	With spare battery	1
11. Shovel	Flat nose	1