YOLO COUNTY
PLANNING, PUBLIC WORKS AND ENVIRONMENTAL SERVICES DEPARTMENT

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

FILE # 2015-0003

BULLOCK BEND MITIGATION BANK

USE PERMIT, FLOOD HAZARD DEVELOPMENT PERMIT, AND WILLIAMSON ACT OPEN SPACE AGREEMENT

JULY 2015

Initial Environmental Study/Mitigated Negative Declaration

1. **Project Title: Zone File No. 2015-0003** Bullock Bend Mitigation Bank Use Permit, Flood Hazard Development Permit, and Williamson Act Open Space Agreement

2. **Lead Agency Name and Address:**
   Yolo County Planning, Public Works and Environmental Services Department
   292 West Beamer Street
   Woodland, CA 95695

3. **Contact Person:**
   Eric Parfrey, AICP
   (530) 666-8043
   eric.parfrey@yolocounty.org

4. **Project Location:**
   The property is located at the north end of County Road 97 along the Sacramento River, approximately 11 miles north of the unincorporated town of Knights Landing (APN: 053-030-010) (see Figure 1 and Figure 2).

5. **Project Sponsor's Name and Address:**
   Westervelt Ecological Services, LLC
   600 N. Market Street, Suite #3
   Sacramento, CA 95834

6. **Land Owner's Name and Address:**
   Westervelt Ecological Services, LLC

7. **General Plan Designation(s):**
   Designated as Agriculture (AG) in the 2030 Yolo Countywide General Plan

8. **Zoning:**
   Currently zoned Agricultural Intensive (A-N)

9. **Description of the Project:**
   See attached "Project Description" on the following pages for details.

10. **Surrounding Land Uses and Setting:** Sacramento River and the other properties that surround the site are in active agriculture

11. **Other public agencies whose approval is required:**
    Several federal and State agencies. See list under "Project Approvals Required" in the Project Description.

12. **Other Project Assumptions:** The Initial Study assumes compliance with all applicable State, Federal, and Local Codes and Regulations including, but not limited to, County of Yolo Improvement Standards, the State Health and Safety Code, and the State Public Resources Code.

PROJECT DESCRIPTION

The project is a Use Permit, a Flood Hazard Development Permit, grading permit, and a Williamson Act Open Space Agreement, to construct a mitigation bank for juvenile salmonid (salmon) and Swainson's hawk nesting habitat. Westervelt Ecological Services, LLC, the applicant and landowner, is proposing to establish the Bullock Bend Mitigation Bank on approximately 116.24 acres of a 119.65-acre property in northeast Yolo County. The project would provide mitigation credits to offset impacts to salmonids and Swainson's hawk nesting habitat as well as impacts to floodplain and riverine riparian habitats as regulated by state, federal and local agencies.

The project site is located on the right (western) bank of the Sacramento River at River Mile 106, approximately 11 miles north of the unincorporated town of Knights Landing and approximately 16.5 miles north of the City of Woodland (APN: 053-030-010-000) (Figure 1).

The project site is an oxbow of the Sacramento River and is bordered by the Sacramento River on three sides. The interior 88 acres of the oxbow is a cultivated field. Agricultural land surrounds the project site on the west side in Yolo County and across the Sacramento River in Sutter County (Figure 2).

The project would breach the existing farm berm along the Sacramento River and excavate back-water channels to restore floodplain function and create seasonal aquatic habitat on approximately 96 acres that would be newly inundated during Sacramento River flood events.

The application proposes that the excavated soil from the project will be used by the local Sacramento River West Side Levee District (SRWLD) to improve levee maintenance roads in the area, thereby helping protect thousands of acres of farmland in Yolo County. Approximately 260,000 cubic yards of material is planned to be excavated from the site and of this approximately 195,000 cubic yards will be balanced on site. Excavated soils will be placed against the existing project levee to act as a hydraulic buffer as non-structural fill to improve the integrity of the project levee that protects adjacent agricultural lands.

The remaining 65,000 cubic yards of excavated materials will be removed from the property. Exported material to be used by the Reclamation District is planned to be hauled on existing farm roads and project levee corridors. This material will be used by SRWLD and Reclamation District 108 for the maintenance of existing canal roads and interior project levee roads within the Districts.

Construction of the project is anticipated to occur in one phase in 2016. The total construction period for grading would be approximately 3-4 months. Grading activities for the restored channels and floodplain benches will begin no later than the summer of 2016, and barring any weather delays, will be completed prior to the end of the fall of 2016. Planting and/or seeding will be conducted in the fall and winter of 2016/2017.

Project Objectives

The objectives of the project, as expressed by the applicant, are as follows:

- To restore a complex of backwater channels and riparian vegetation along the Sacramento River. In addition to creating a matrix of riparian habitats, implementation of the Project will provide all of the necessary ecological processes that will fulfill the habitat requirements for listed juvenile salmonids. Additionally, restoration and enhancement activities will provide suitable Swainson's hawk (*Buteo swainsoni*) nesting trees and buffer habitat on the Property in close proximity to high value Swainson's hawk foraging areas (e.g., alfalfa, tomatoes, and other row crops) on adjoining properties.

- To restore seasonally inundated floodplain habitat that would rely on the natural, but regulated, flooding cycles of the Sacramento River for its hydrology and consequently its sustainable ecological function. Offering both in-channel and off-channel habitat benefits including an incremental increase in flood capacity by restoring the natural floodplain.

- To provide mitigation credits to offset unavoidable impacts to listed salmonids, Swainson's hawk nesting habitat and floodplain and riverine riparian habitats that are often required for flood facility and management improvement projects within the service area.

- To work with the adjacent land owners and agricultural operators to implement a project that minimizes adverse effects and provides relevant benefits to agriculture and flood control.

Environmental Commitments

The applicant has identified several "Project Proponent Mitigation Measures" to reduce the environmental impacts of the project. These commitments are noted within each topical section of this Initial Study and are included as mitigation measures.

Project Approvals Required

The project requires a Use Permit pursuant to Title 10, Chapter 10 of the Yolo County Code (the Habitat Mitigation Ordinance of Yolo County, adopted by the Yolo County Board of Supervisors on January 29, 2013). For such projects that are less than 160 acres, the Planning Commission is the deciding authority and may approve a Use Permit for proposed projects meeting certain criteria set forth in the ordinance. If a proposed project does not meet those criteria, the Planning Commission provides a recommendation to the Board of Supervisors, which shall make the final decision.

In addition, as noted above, the project also requires two additional County approvals: a Flood Hazard Development Permit required because the project involves development of structures (earthen berms) in a floodplain; and a Williamson Act Open Space Agreement (required because the land under contract is converting to an open space use). To approve an open space use, the Board of Supervisors must find that the project fits within one or more categories

set forth in Government Code Section 51201(o) (defining open space uses authorized under the Williamson Act). For this particular project, the Board is expected to primarily evaluate whether the proposed use qualifies as a "wildlife habitat area" under Section 51201(j), which requires consultation with the California Department of Fish and Wildlife regarding the importance of the property (taking the project into consideration) to the protection and enhancement of state wildlife resources.

Approvals by Federal Agencies:

- Nationwide Permit 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities) under Section 404 of the Clean Water Act and Section 10 permit under the Rivers and Harbors Act of 1899 from the U.S. Army Corps of Engineers

- Permission under Section 14 of the Rivers and Harbors Act ("Section 408") over a project that has potential to alter a Project Levee from the Corps

- Endangered Species Act, Section 7 consultation and authorization from the U.S. Fish and Wildlife Service

- Endangered Species Act, Section 7 consultation and authorization from the National Marine Fisheries Service

- National Historic Preservation Act, Section 106 compliance and concurrence by the State Historic Preservation Officer, if required

Approvals by State Agencies:

- An permit from the Central Valley Flood Protection Board

- California Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement from California Department of Fish and Wildlife

- Clean Water Act, Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board

- A National Pollution Discharge Elimination System General Permit for Discharges of Storm Water Discharges Associated with Construction Activity Construction and Land Disturbance Activities General Permit Order 2009-0009- DWQ from the State Water Resources Control Board for projects that disturb one or more acres of soil (stormwater pollution prevention plan)

Approvals by Local Agencies:

- Endorsement of the project by the Sacramento River West Side Levee District as required by the Central Valley Flood Protection Board

Technical Studies Completed

Several technical studies have been completed by the applicant and have been incorporated into this Initial Study. They include the following:

- Estep Environmental Consulting. *Biological Data Report for the Bullock Bend Mitigation Bank, Yolo County, California*. September 30, 2014.

- Hultgren-Tillis Engineers. *Bullock Bend Mitigation Bank Draft Geotechnical Engineering evaluation*; *Fill placement against levees*. December 5, 2014; and *Draft Borrow Site Investigation, Bullock Bend.* April 11, 2014.

- New Economics & Advisory, *Economic Effects of the Bullock Bend Mitigation Bank in Yolo County.* January 16, 2015.

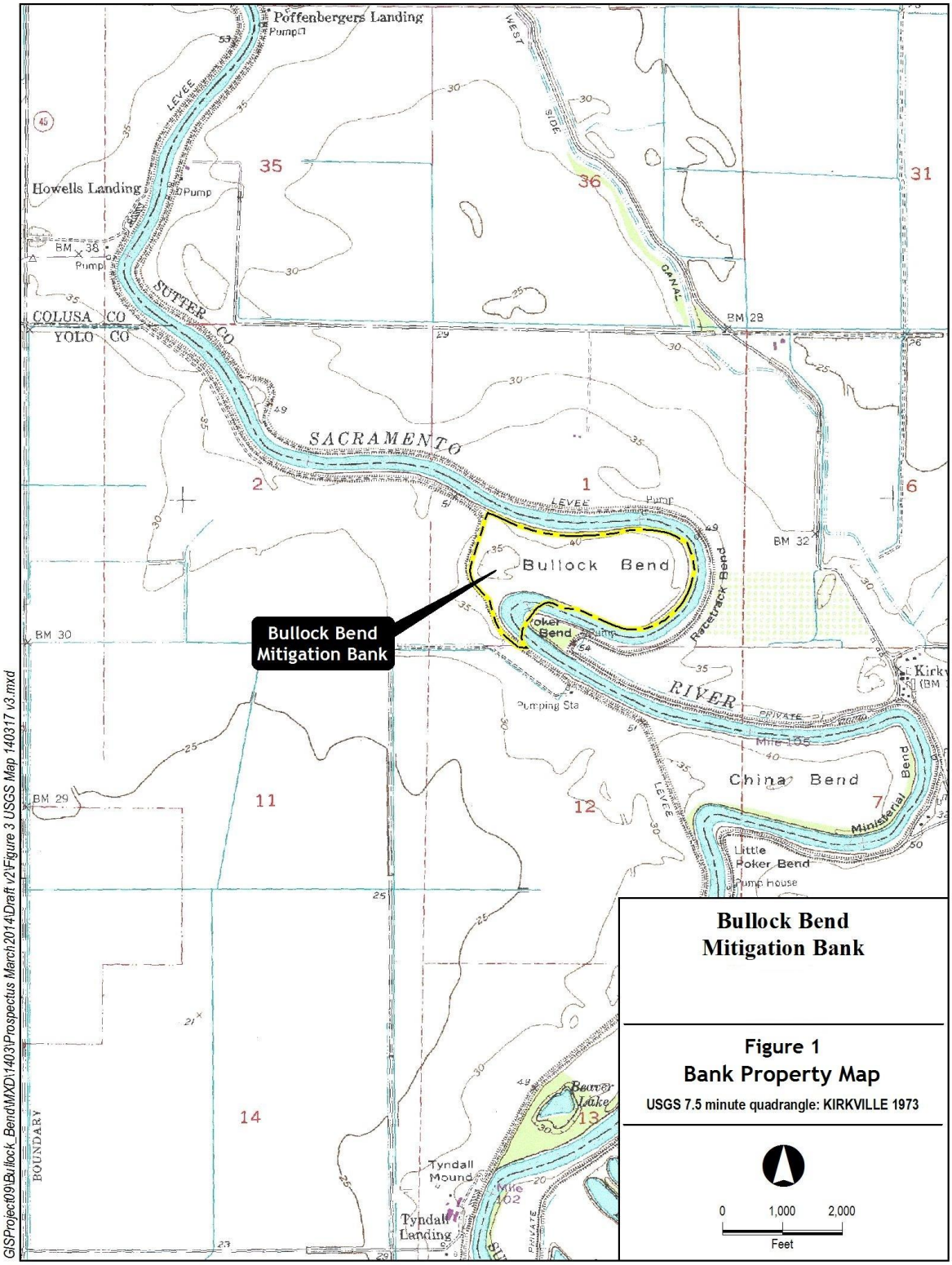
- Northwest Hydraulic Consultants. *Bullock Bend Hydrologic and Hydraulic Screening Analysis Memorandum*. March 13. 2014; *Analysis and Modeling of Hydraulic Impacts to Sacramento River Flood Stage at Bullock Bend* Memorandum. June 16, 2014; and *Summary of Analysis and Modeling of Hydraulic Impacts to Sacramento River Flood Stage at Bullock Bend* Memorandum. October 22, 2014. *Summary of Analysis and Modeling of Hydraulic Impacts to Sacramento River Flood Stage at Bullock Bend* Memorandum. May 19, 2015.

- Peak & Associates, Inc. *Determination of Eligibility and Effect for the Bullock Bend Mitigation Bank Project Area, Yolo County, California*. December 2, 2014.

- Robertson – Bryan, Inc. *Bullock Bend Mitigation Bank Fisheries Background Information and Initial Analysis,* technical memorandum. March 25, 2014.

- Wallace-Kuhl & Associates. *Phase I Environmental Site Assessment for the Bullock Bend Property, Yolo County, California*. July 22, 2013.

- Westervelt Ecological Services, LLC. *Preliminary Delineation of Wetlands and Other Waters of the United States of the Bullock Bend Mitigation Bank, Yolo County*. September 2013; *Bullock Bend Mitigation Bank Habitat Development Plan*. November 7, 2014; and *Bullock Bend Mitigation Bank Long-term Management Plan*.


Poffenbergers Landing
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Howells Landing
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BM 38
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COLUSA CO
YOLO CO
SUTTER CO
LEVEE
WEST SIDE CANAL
BM 28
SACRAMENTO RIVER
Bullock Bend
Poker Bend
Racetrack Bend
LEVEE
Pump
BM 32
Bullock Bend Mitigation Bank
BM 30
Pumping Sta
PRIVATE
Mile 105
China Bend
Ministerial Bend
LEVEE
Little Poker Bend
Pump house
BM 29
BOUNDARY
Beaver Lake
Tyndall Mound
Mile 102
Tyndall Landing
PRIVATE
35
36
31
1
2
6
11
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7
13
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Bullock Bend
Mitigation Bank
Figure 1
Bank Property Map
USGS 7.5 minute quadrangle: KIRKVILLE 1973
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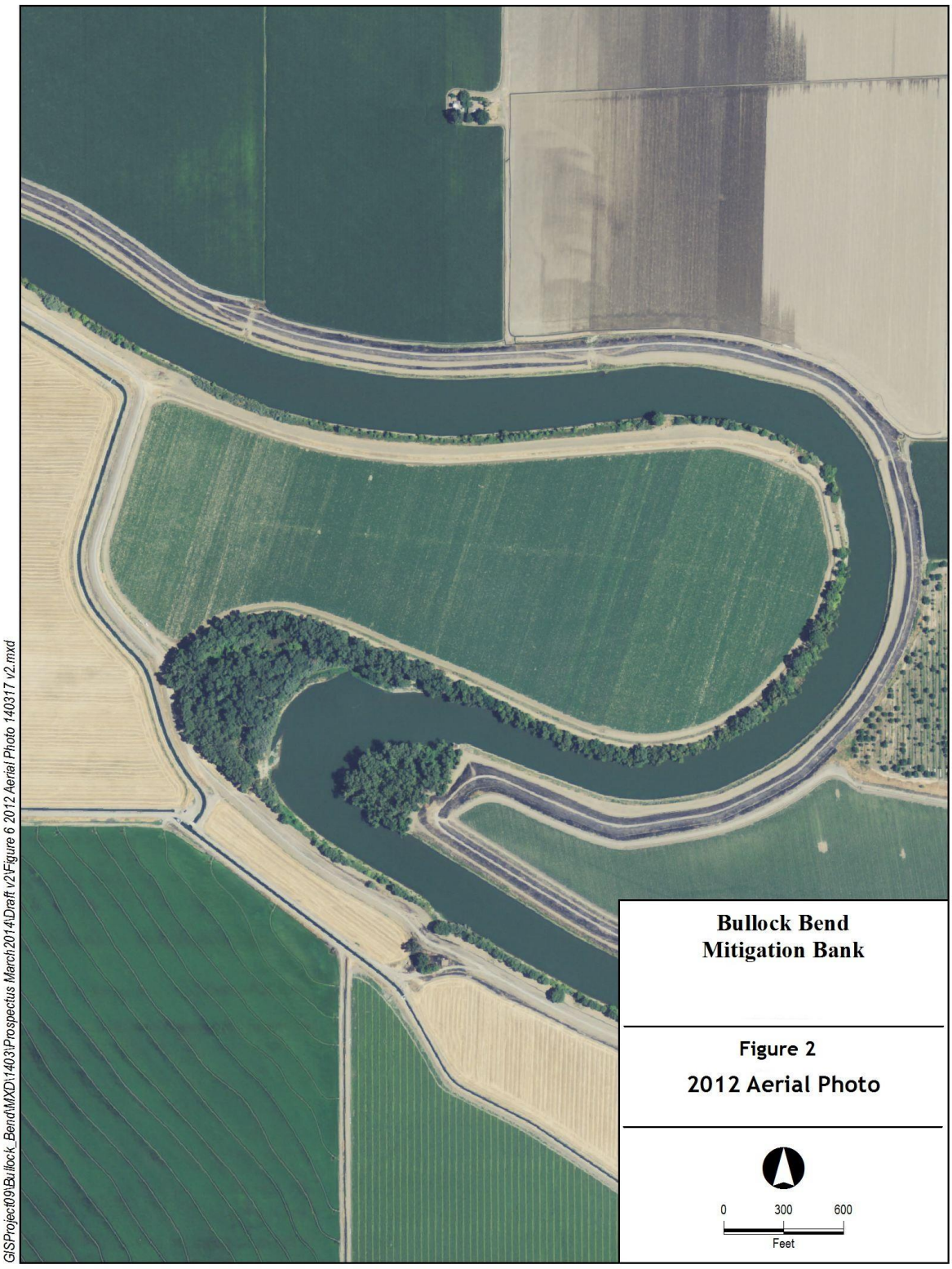
GISProject09\Bullock_Bend\MXD\1403\Prospectus March2014\Draft v2\Figure 3 USGS Map 140317 v3.mxd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Bullock Bend
Mitigation Bank
Figure 2
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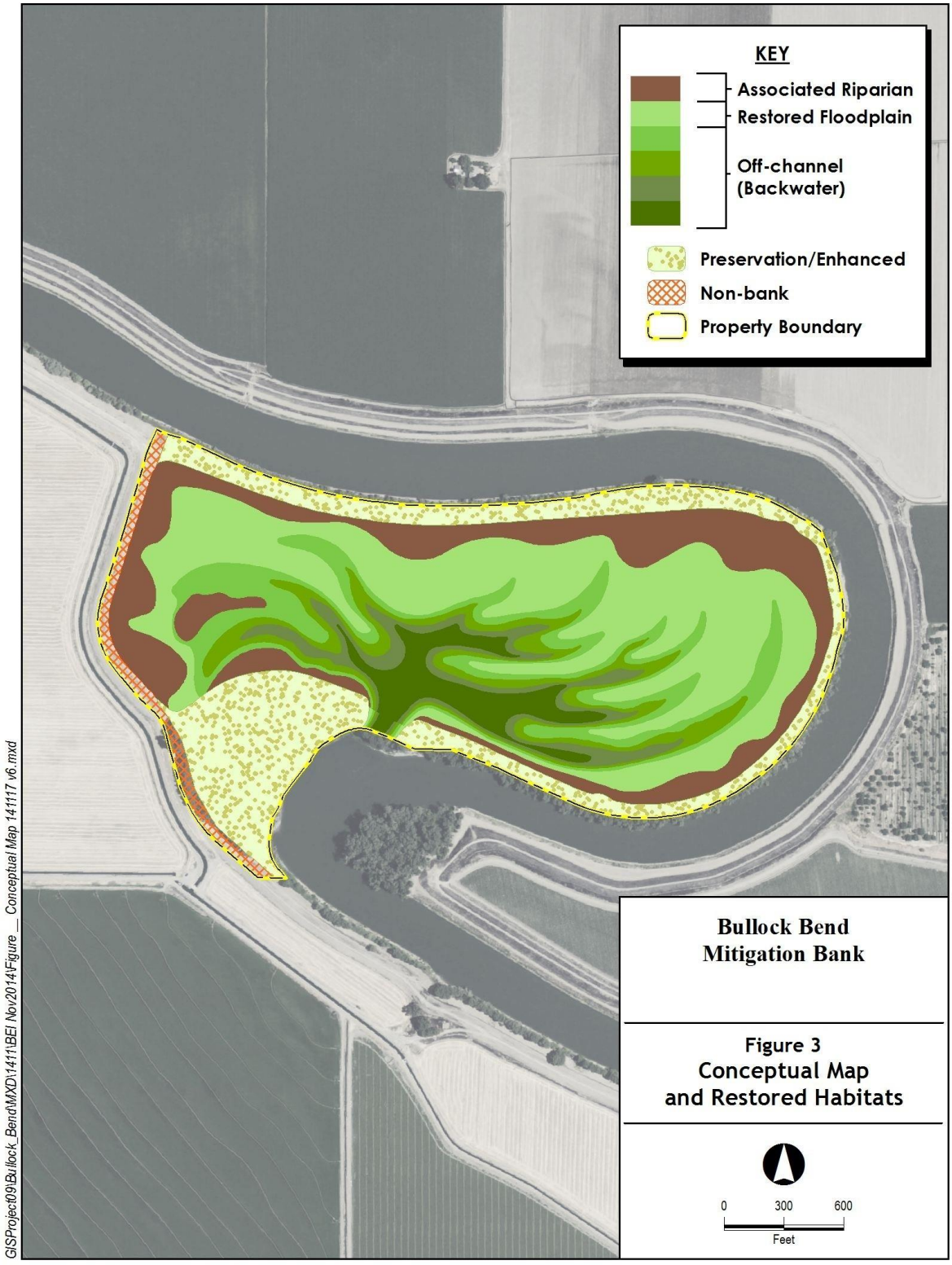
KEY
Associated Riparian
Restored Floodplain
Off-channel (Backwater)
Preservation/Enhanced
Non-bank
Property Boundary
Bullock Bend Mitigation Bank
Figure 3
Conceptual Map and Restored Habitats
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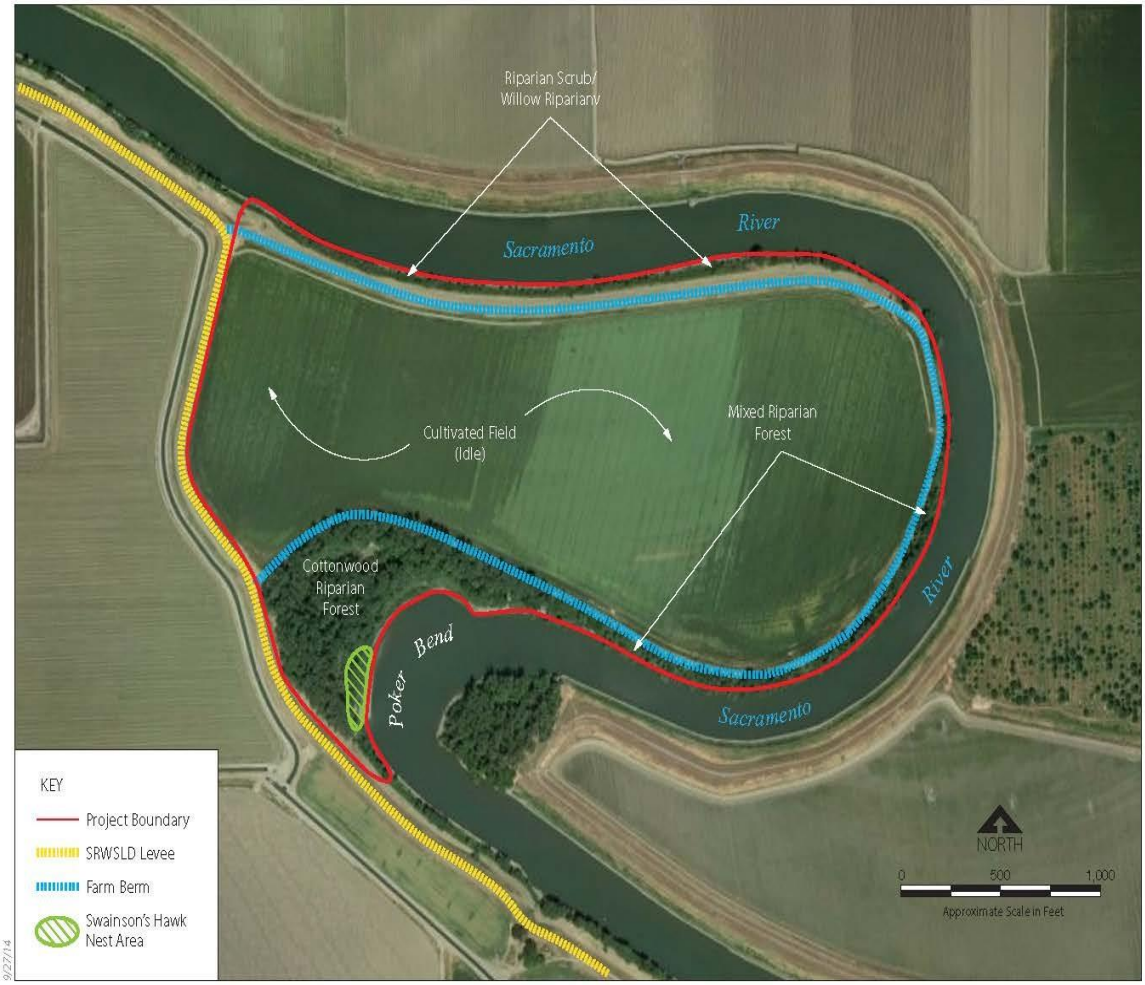

Figure 4
Bullock Bend Mitigation Bank Site Map

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a "Potentially Significant Impact" (before any proposed mitigation measures have been adopted) as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because the project is consistent with an adopted general plan and all potentially significant effects have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT, the project is exempt from further review under the California Environmental Quality Act under the requirements of Public Resources Code section 21083.3(b) and CEQA Guidelines Section 15183.

Planner's Signature Date Planner's Printed name

Purpose of this Initial Study

This Initial Study has been prepared consistent with CEQA Guideline Section 15063, to determine if the project as described herein may have a significant effect upon the environment.

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less than significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, "Earlier Analyses", may be cross-referenced.)
5. A determination that a "Less Than Significant Impact" would occur is appropriate when the project could create some identifiable impact, but the impact would be less than the threshold set by a performance standard or adopted policy. The initial study should describe the impact and state why it is found to be "less than significant."
6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D) of the CEQA Guidelines. Earlier analyses are discussed in Section XVII at the end of the checklist.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

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

Discussion of Impacts

a) No Impact. The mitigation bank project area is not located within view of any designated scenic highways or vistas. Lands are flat and distant views are of the Sierra Buttes to the north east and the coastal mountains to the west.

b) No Impact. The proposed mitigation bank project would not damage scenic resources. There are no scenic resources on or within view of the project site other than noted in (a), above. There are no buildings on the site.

c) No Impact. The proposed project would not degrade the existing visual character or the quality of the site and its surroundings.

d) No Impact. The project does not include any lighting.

II.	AGRICULTURAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:					
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☒	☐	☐
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒

II.	AGRICULTURAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	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 nonforest use?	☐	☐	☐	☒

Environmental Setting

The Yolo County General Plan designates land use on the project site as "Agriculture." The project site is zoned "Agricultural Intensive" (A-N) and the property is under a Williamson Act contract established in 1972.

The Soil Survey of Yolo County, published by the U.S. Department of Agriculture (USDA), indicates most of the parcel consists of Sycamore silt loam, flooded (map unit Sr, Class IV) and Tyndall very fine sandy loam, flooded (map unit Td, Class IV). The property is designated as "Unique Farmland" by the California Department of Conservation.

The land has historically been in agricultural production and has been since at least 1957. The approximately 88-acre field appears to have been farmed with the typical rotational and semi-perennial crops common to Yolo County, including tomatoes and wheat. If winter wheat is planted, seeding occurs in October–November and harvest is in the spring. If tomatoes are planted, bedding preparation occurs in the fall, starts are placed in the spring, and harvest runs August–September. Due to drought conditions the field was not planted in 2014 and dependent on water availability may not be planted in 2015 (WES, 2015).

According to Title 10, Chapter 10, of the Yolo County Code (the Habitat Mitigation Ordinance), a covered project may not be approved unless a number of findings are made, including the following findings related to agricultural resources:

(f) If the project site is subject to a Williamson Act contract, that the project is an "open space use" under Government Code Section 51201(o) or that it would not otherwise cause a material breach of the contract. Any project that is an "open space" use under Section 51201(o) shall also require approval of an amended Williamson Act contract or other appropriate action to authorize the open space use;

(g) That any conversion of farmland to habitat or other non-agricultural uses will be mitigated in accordance with Yolo County Code Section 8-2.2416 (notwithstanding anything to the contrary set forth therein regarding its application to habitat projects) or, subject to the approval of the Board of Supervisors, that the applicant will implement an alternative approach to addressing the conversion of farmland that provides an equal or greater level of mitigation.

Discussion of Impacts

a) Less than Significant Impact with Mitigation Incorporated. The conceptual site plan for the project would convert the existing agricultural field to a seasonally flooded project to create suitable habitat for salmonids.

Yolo County has an adopted Agricultural Conservation and Mitigation Program (Section 8-2.404 of the Yolo County Code) which requires mitigation for loss of agricultural lands at a ratio of one acre conserved through easement for every acre converted. As noted above, the County's Habitat Mitigation Ordinance (Chapter 10 of Title 10 of the Yolo County Code) requires a finding that habitat projects that involve any conversion of farmland to habitat or other non-agricultural uses will be mitigated in accordance with the Agricultural Mitigation Program or, subject to the approval of the Board of Supervisors, that the applicant will implement an "alternative approach" to addressing the conversion of farmland that provides an equal or greater level of mitigation.

The applicant is proposing an alternative approach that involves donating approximately 65,000 cubic yards of excavated materials from the property to the two reclamation districts in the area, plus a deed restriction of land. The dirt material would be used by the Sacramento River West Side Levee District (SRWLD) and Reclamation District (RD) 108 for the maintenance of existing canal roads and interior project levee roads within the Districts. The dirt could create over seven miles of flood control levee inspection tow toe roads, and building up to approximately six miles of water delivery canal berms. The proposal has been created in collaboration with RD 108 and the SRWLD.

In addition to the donation of dirt, the applicant is also proposing as part of the "alternative approach" the placing of a deed restriction on 88 acres of agricultural land in the area owned by RD 108.

> *Mitigation Measure AG-1:*
>
> *The applicant shall mitigate for the loss of agricultural land according to the proposed "alternative approach" (contribution of up to 65,000 cubic yards of excavated materials from the property to the two reclamation districts in the area), plus the deed restriction placed on subject to approval of the Board of Supervisors. The soil donation will provide material for the development of levee inspection toe roads and irrigation canal roads as reflected in the MOA between RD 108 and Westervelt. If the Board of Supervisors fails to approve this "alternative approach," the applicant shall mitigate according to the requirements of the Agricultural Conservation and Mitigation Program (Section 8-2.404 of the Yolo County Code), or a combination of an "alternative approach" and mitigation under Section 8-2.404.*

b) Less than Significant Impact. The project site is under a Williamson Act contract established in 1972. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space. The Williamson Act allows open space uses that include those proposed as part of the project. Specifically, Government Code Section 51201 defines "open space use" as including "a wildlife habitat area" or "a managed wetland area." As part of the project approval, the applicant will be issued a Williamson Act Successor Agreement that specifies the new habitat and open space uses.

There could be potential impacts to other agricultural properties in the area that are under Williamson Act contract. The proposed mitigation bank could encourage other farmers under Williamson Act contracts in the area to also convert their properties to conservation banks. However, the project site is an "oxbow" and is bordered on three sides by the Sacramento River, and its use as a mitigation bank for salmonids is dependent upon frequent flooding. Other properties would not be as physically suited for a salmonid mitigation bank, although they could be proposed as mitigation banks for Swainson's hawk or other species. This is considered a less than significant impact.

c) No Impact. The project would not conflict with existing zoning for, or cause rezoning of, any forest land.

d) No Impact. The project would not result in the loss of any forest land or conversion of forest land to non-forest use.

e) No Impact. The project is consistent with the General Plan and zoning designations and does not involve any other changes that could result in the conversion of additional farmland or forest land to non-agricultural or non-forest uses.

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

Environmental Setting

The project site is within the Yolo-Solano Air Quality Management District (YSAQMD), and the Sacramento Valley Air Basin regulates air quality conditions within Yolo County. Yolo County is classified as a "non-attainment" area for several air pollutants, including ozone (O_3) and particulate matter 10 microns or less in diameter (PM_{10}) for both federal and State standards, and is classified as a "moderate maintenance area" for carbon monoxide (CO) by the State. The County is also designated by the federal government as "partial non-attainment" for the particulate matter less than 2.5 microns in size ($PM_{2.5}$) standard.

Development projects are most likely to violate an air quality plan or standard, or contribute substantially to an existing or project air quality violation through generation of vehicle trips and/or construction activities such as grading which generate dust emissions.
Access to the project site for construction activities will be provided by the recorded road access easement from County Road 97. Large earth-moving equipment will be delivered to the site at the commencement of construction, and removed when construction is complete. A maximum of 10 employees will construct the Project. Fuel will be delivered to the site on an as-needed basis. Construction activities may occur from sunrise to sunset every day of the week, similar to adjacent agricultural activities. Construction activities will be conducted using heavy equipment, which may include scrapers, bulldozers, skip loaders, belly-dump trucks for dirt hauling and a water truck. The applicant will identify construction staging areas on the grading plans. Construction equipment, staging and employee parking will be restricted to these areas. The construction staging areas will be restored at the completion of construction.

Approximately 116 acres will be graded. The application proposes that the excavated soil from the project will be used by the local Sacramento River West Side Levee District (SRWSLD) to improve levee maintenance roads in the area, thereby helping protect thousands of acres of farmland in Yolo County. Approximately 260,000 cubic yards of material is planned to be excavated from the site and of this approximately 195,000 cubic yards will be balanced on site. Excavated soils will be placed against the existing project levee to act as a hydraulic buffer as non-structural fill to improve the integrity of the project levee that protects adjacent agricultural lands.

The remaining 65,000 cubic yards of excavated materials will be removed from the property. Exported material to be used by the Reclamation District is planned to be hauled on existing farm roads and project levee corridors. This material will be used by SRWSLD and Reclamation District 108 for the maintenance of existing canal roads and interior project levee roads within the Districts.

Construction of the project is anticipated to occur in one phase in 2016. The total construction period for grading would be approximately three to four months. Grading activities for the restored channels and floodplain benches will begin no later than the summer of 2016, and barring any weather delays, will be completed prior to the end of the fall of 2016.

The applicant estimates that a maximum of ten employees will be present on-site during construction, with five employees remaining after construction. The estimated number of daily truck trips will be three deliveries/loadings per day.

Thus, the combined air quality construction impacts would be from dust and particulate matter generated due to grading, planting and erosion control activities over a roughly four month period, plus other emissions generated over the same period by operation of the diesel-powered equipment and commuting to the site by up to ten workers.

The YSAQMD sets threshold levels for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources in the *Handbook for Assessing and Mitigating Air Quality Impacts* (YSAQMD 2007). The handbook identifies quantitative and qualitative long-term significance thresholds for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources. These thresholds include:

- Reactive Organic Gases (ROG) 10 tons per year (approx. 55 pounds per day)
- Oxides of Nitrogen (NOx) 10 tons per year (approx. 55 pounds per day)
- Particulate Matter (PM_{10}) 80 pounds per day
- Carbon Monoxide (CO) Violation of State ambient air quality standard

Discussion of Impacts

a) No Impact. A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan. The proposed project would not result in permanent population or employment growth, as it involves the short-term construction of wildlife habitat. No long-term operational air quality emissions are anticipated to occur with implementation of the proposed project.

b) Less than Significant with Mitigation Incorporated. Potential short-term impacts may occur from equipment exhaust emissions and particulate materials (dust) generated during excavation and grading. As noted above, the combined air quality construction impacts would be generated over a roughly a month, plus other emissions generated over the same period by operation of the diesel-powered equipment and commuting to the site by up to ten workers.

Approximately 260,000 cubic yards of material would be excavated from the site, with approximately 195,000 cubic yards balanced on site and the remaining 65,000 cubic yards of excavated materials to be removed from the property.

Air emissions generated by the grading and heavy equipment operation, and employee commuting for the project are expected to be below the thresholds set by the YSAQMD, and will not contribute significantly to local violations of regulatory standards.

As part of the project, the applicant has proposed to implement the following standard measures recommended by the YSAQMD to reduce emissions and control dust during construction activities:

1. Water all active construction areas at least twice daily.
2. Haul trucks shall maintain at least two feet of freeboard.
3. Cover all trucks hauling soil, sand, and other loose materials.
4. Plant vegetative ground cover in disturbed areas as soon as possible.
5. Cover inactive storage piles.
6. Restrict unnecessary vehicle idling to 10 minutes.

Mitigation Measure AQ-1:

Implement the standard dust control measures recommended by the YSAQMD.

Mitigation Measure AQ-2:

a. *Construction equipment exhaust emissions shall not exceed District Rule 2-11 Visible Emission limitations.*

b. *Construction equipment shall minimize idling time to 10 minutes or less.*

c. *The primary contractor shall submit to the District a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used an aggregate of 40 or more hours for the construction project. District personnel, with assistance from the California Air Resources Board, will conduct initial Visible Emission Evaluations of all heavy duty equipment on the inventory list.*

d. *An enforcement plan shall be established to weekly evaluate project-related on- and off-road heavy-duty vehicle engine emission opacities, using standards as defined in California Code of Regulations, Title 13, Sections 2180 - 2194. An Environmental Coordinator, CARB-certified to perform Visible Emissions Evaluations (VEE), shall routinely evaluate project related off-road and heavy duty on-road equipment emissions for compliance with this requirement. Operators of vehicles and equipment found to exceed opacity limits will be notified and the equipment must be repaired within 72 hours. Construction contracts shall stipulate that at least 20% of the heavy-duty off-road equipment included in the inventory be powered by CARB-certified off-road engines, as follows:*

175 hp - 750 hp 1996 and newer engines
100 hp - 174 hp 1997 and newer engines
50 hp - 99 hp 1998 and newer engines

In lieu of or in addition to this requirement, other measures may be used to reduce particulate matter and nitrogen oxide emissions from project construction through the use of emulsified diesel fuel and or particulate matter traps. These alternative measures, if proposed, shall be developed in consultation with District staff.

c) Less than Significant with Mitigation Incorporated. Development projects are considered cumulatively significant by the YSAQMD if: (1) the project requires a change in the existing land use designation (i.e., approval of a general plan amendment or a rezone); and (2) projected emissions (ROG, NOx, or PM10) of the project are greater than the emissions anticipated for the site if developed under the existing land use designation. The project does not require a general plan amendment or rezone. The proposed project would only result in temporary impacts to air quality during construction. Temporary construction emissions may contribute to levels that exceed air quality standards on a cumulative basis, contributing to existing nonattainment conditions, when considered along with other construction projects. By implementing the above-identified Mitigation Measures AQ-1 and AQ-2, construction-related emissions for the proposed project that would have had a potentially significant impact would be reduced to a less-than-significant level.

d) No Impact. The proposed project is located in a rural agricultural area and there are no sensitive receptors in the vicinity. (Sensitive receptors include residentially designated land uses; hospitals; nursing homes; hotels and lodging; schools and day care centers; and neighborhood parks.) The nearest individual rural homes are located 1,600 to the north; 3,700 feet to the east; 7,000 feet to the west; and 9,000 feet to the south. The proposed grading activities are not

expected to generate pollutant concentrations at a sufficient level to be noticed by any rural residences, particularly given the agricultural nature of the project area.

e) Less than Significant Impact. The proposed project would be constructed using diesel-powered heavy equipment. Diesel exhaust from construction activities may generate temporary odors while project construction is under way. However, there are no sensitive receptors of substantial numbers of people within the vicinity of the project.

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

Environmental Setting

The following information and analysis is summarized from two technical studies provided by the applicant: Estep Environmental Consulting, *Biological Data Report for the Bullock Bend Mitigation Bank, Yolo County, California*. September 30, 2014; and Robertson-Bryan, Inc. *Bullock Bend Mitigation Bank Fisheries Background Information and Initial Analysis,* March 25, 2014.

Bullock Bend is an oxbow of the Sacramento River. The interior of the oxbow is a cultivated field approximately 88 acres in size. The perimeter of the oxbow along the Sacramento River extends for nearly 8,000 feet. The SRWSLD flood control levee bypasses the Bullock Bend oxbow such that the oxbow remains within project levees on each side of the Sacramento River. A farm berm was constructed around the inside perimeter of the oxbow to serve as a levee to contain the Sacramento River, allowing the site to be cultivated and effectively removing it from the active flood plain of the river. The SRWSLD levee forms the western boundary of the Bank and connects with the farm berm on the upstream and downstream edges of the property. The farm berm defines the boundary of the river and separates the cultivated field from riparian vegetation that occurs along the inside (riverside) of the berm (**Figure 4**).

Riparian vegetation borders the entire length of the farm berm from the upstream to downstream connection with the SRWSLD levee. A large stand of cottonwood riparian forest occurs at the southwestern corner of the oxbow and extends eastward for approximately 1,500 feet along the river. Continuing eastward and then turning northward, the riparian corridor becomes narrower and the vegetation changes into more of a mixed riparian forest. As it turns westward along the northern edge, the riparian vegetation becomes a sparse riparian scrub community extending to the northwestern corner of the property. Other than annual grasses and ruderal vegetation, there is no vegetation along the SRWSLD levee.

Discussion of Impacts

a) Less than Significant with Mitigation Incorporated. An initial field survey to determine the presence of and evaluate habitat for Swainson's hawk (*Buteo swainsoni*) and other raptors was conducted on July 31, 2014 by Jim Estep. This survey was conducted by walking the SRWSLD levee and farm berm and searching for active or recently active raptor nests and documenting occurrences of each raptor species observed. A follow-up reconnaissance-level biological resources survey of the area was also conducted by Jim Estep on September 23, 2014. This survey was conducted to record land uses, natural communities and wildlife habitats, occurrences of special-status wildlife or their habitat, and general wildlife use of the area.

The majority of the site consists of the approximately 88-acre cultivated field (Figure 4). This field appears to have been active in the last several years. Aerial photos of the site indicate that it was recently an alfalfa field. However, the field, while idle, had been bedded as if it were planned for tomatoes or other row crop. Weedy vegetation, including curly dock (*Rumex crispus*), cocklebur (*Xanthium strumarium*), white horehound (*Marrubium vulgare*), flax-leaved fleabane (*Conyza bonariensis*), and redroot pigweed (*Amaranthus retroflexus*), was present throughout the field, the abundance, size, and maturity of the vegetation indicating the idle condition over at least the past two growing seasons (Figure 5).

Riparian vegetation extends around the perimeter of Bullock Bend on the south, east, and north along the Sacramento River. Three distinct, but overlapping riparian types were identified during the survey, great valley cottonwood riparian forest, great valley mixed riparian forest, and riparian scrub/willow riparian/herbaceous, as described by Holland (1986).

A large and dense stand of Great Valley Cottonwood Riparian Forest occurs at the southwest corner of the site at a narrow bend in the Sacramento River called Poker Bend (Figure 4). This remnant riparian patch is above the cut bank of Poker Bend and is periodically flooded during high river flows. This stand of mature riparian forest is over 800-feet-wide at its widest point and extends eastward along the southern edge of the cultivated field for approximately 1,500 feet.

FIGURE 4
BIOLOGICAL FEATURES

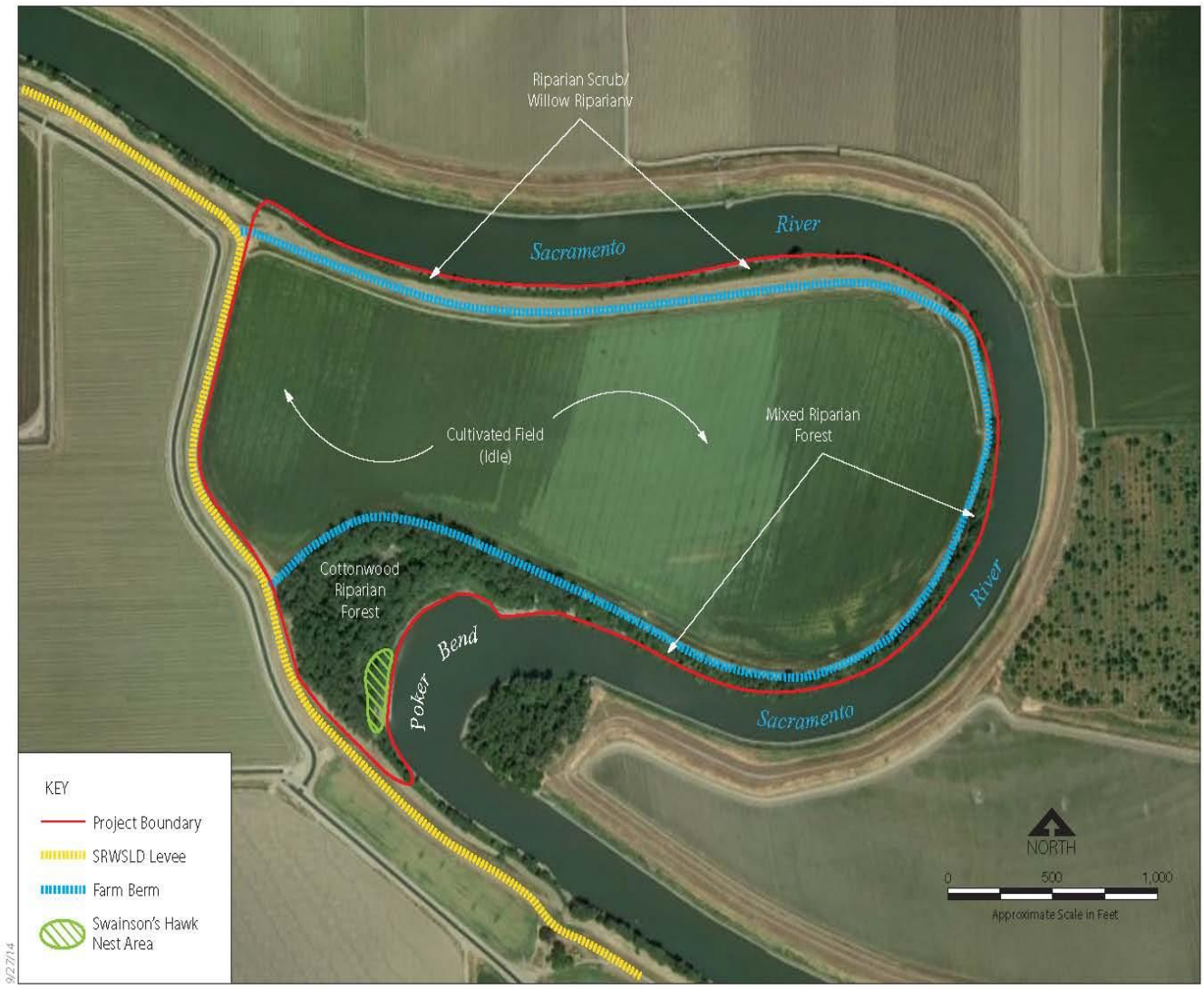

Figure 2
Bullock Bend Mitigation Bank Site Map

This riparian forest stand is dominated by mature cottonwood trees, with a mid-story consisting of willow (*Salix* spp.), Oregon ash (*Fraxinus latifolia*), box elder (*Acer negundo*), and occasional northern California black walnut (*Juglans hindsii*). The understory consists of poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), California wild grape (*Vitis californica*), and tree seedlings and saplings (Figure 5).

During the July 31, 2014 site visit, a variety of raptor species were detected in the riparian forest habitats, including Swainson's hawk, red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), American kestrel, and great-horned owl (*Bubo virginianas*). One Swainson's hawk nesting territory was confirmed based on the presence of adult and fledgling Swainson's hawks. The nest was not located, but is assumed to be near the southwestern corner of the property on the riverside of the large patch of cottonwood riparian forest. A red-tailed hawk nest was also confirmed along the Sacramento River near the eastern end of Bullock Bend. Based on their behavior, it is also likely that the American kestrel, red-shouldered hawk, and great-horned owl also nest within the riparian forest bordering Bullock Bend. Other raptor species likely to inhabit the riparian forest in the area include white-tailed kite and western screech owl (*Megascops kennicottii*).

During the September 23, 2014 field survey, many additional bird species were documented within the riparian forest, including western scrub jay, mourning dove, bushtit (*Psaltriparus minimus*), belted kingfisher (*Megaceryle alcyon*), red-tailed hawk, great-horned owl, common raven (*Corvus corax*), Nuttall's woodpecker (*Picoides nuttallii*), Anna's hummingbird (*Calypte anna*), tree swallow (*Tachycineta bicolor*), western kingbird (*Tyrannus verticalis*), and Wilson's warbler (*Wilsonia pusilla*). Blacktailed deer (*Odocoileus hemionus columbianus*) and western gray squirrel were also observed as well as sign of coyote and gray fox.

Special-status Wildlife

Valley Elderberry Longhorn Beetle. The Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*) is a federally-listed threatened species. VELB is a medium-sized wood-boring beetle, about 0.8 inches long.

Only one elderberry shrub was identified along the Sacramento River along the south side of Bullock Bend; however, others may be present but undetected within the dense cottonwood riparian forest. No elderberry shrubs are present within the cultivated field or along the adjacent berm or levee slopes.

Northern Harrier. The northern harrier is designated as a state species of special concern. It is a medium-sized hawk with a slight build and relatively long tail and wings (3.5 foot wingspan).

Northern harriers occur throughout the lowland areas of Yolo County, particularly in areas that support grassland, seasonal wetland habitats within the broader agricultural matrix (Yolo County Natural Heritage Program 2009). No northern harrier nests were detected during the July 31, 2014 field survey, but an adult northern harrier was observed hunting in the cultivated field during the September 24, 2014 field survey. The cultivated field provides marginally suitable nesting habitat and moderate value foraging habitat for this species.

White-tailed Kite. The white-tailed kite is designated a state fully protected species. The white-tailed kite is a highly specialized and distinctively marked bird of prey; smaller than most hawks with a wingspan of just over three feet, white underneath and light gray above, black shoulder patches, and white tail (Dunk 1995).

FIGURE 5

PHOTOGRAPHS

Idle cultivated field looking west from the east end of the site. Note the variety and maturity of the agricultural weed species.

FIGURE 5 (con.)

PHOTOGRAPHS

Looking eastward along the southern farm berm road as it turns northward. The riparian vegetation here is along a narrow corridor and consists mainly of cottonwood, valley oak, willow, and box elder trees.

FIGURE 5 (con.)

PHOTOGRAPHS

Looking into the patch of dense Great Valley Cottonwood Riparian Forest from the farm berm road on the southwestern corner of the Bullock Bend Mitigation Bank.

White-tailed kites nest uncommonly, but regularly throughout the lowlands and open grassland foothills of Yolo County (Yolo County Natural Heritage Program 2009). No white-tailed kites were detected during field surveys. However, the riparian forest and scrub provide suitable nesting habitat and the cultivated field provides suitable foraging habitat this species.

Swainson's Hawk. Swainson's hawk is a state-listed threatened species. It is a medium-sized hawk with long (3.5 to 4 feet) narrow wings, dark breast and head, and with several distinctive plumage variations on the underwing coverts and belly (England et al. 1997).

Yolo County is within the core breeding area for Swainson's hawks in the Central Valley. Supporting as many as 300 nesting pairs, the breeding density in Yolo County is the highest reported anywhere within the range of the species (Estep 2008). This species occurs throughout the lowland agricultural region of Yolo County and forages widely in irrigated cropland, pastures, and grassland landscapes.

A nesting pair of Swainson's hawks was detected during the July 31, 2014 survey. One fledgling was also observed. The nest location was not confirmed, but based on the location of the adults and fledging, is expected to be in the large patch of cottonwood riparian forest near the southwest corner of the Bank. The riparian forest types within the Bank are suitable nesting habitat and the cultivated field is suitable foraging habitat for this species.

Mountain Plover. The mountain plover (*Charadrius montanus*) is designated as a state species of special concern. The mountain plover is a small, plainly-plumaged, brown and white plover slightly larger than the snowy plover.

Mountain plovers are regular, but uncommon, winter visitors to Yolo County. Small flocks have been observed in recently-plowed agricultural fields near Woodland and Davis, especially along County Roads 16, 25, 27, and 102, and in unflooded portions of the Yolo Bypass (Yolo Natural Heritage Program 2009). No mountain plovers have been recorded from or in the immediate vicinity of the Bullock Bend Mitigation Bank; however, the cultivated field has provided suitable winter habitat for this species during periods following harvest and disking of the field.

Western Burrowing Owl. The western burrowing owl (*Athene cunicularia*) is designated as a state species of special concern. The burrowing owl is a small ground-dwelling owl with a round head, yellow eyes, and long legs (Haug et al. 1993).

In Yolo County, the largest concentrations of burrowing owls occur in the grassland and pasture habitats of the southern panhandle and in the Davis area. Additional occurrences have been reported from the Dunnigan Hills, the agricultural lands between Davis and Woodland, and the grasslands northwest of Winters (Yolo County Natural Heritage Program 2009). No burrowing owls were detected during field surveys and none have been reported from the vicinity of the Bullock Bend; however, the uncultivated field edges and the interior farm berm and levee slopes provide suitable nesting habitat for burrowing owls and portions of the cultivated field are suitable for foraging.

Tricolored Blackbird. The tricolored blackbird (*Agelaius tricolor*) is a state species of special concern. Tricolored blackbirds are small blackbirds, very similar in appearance to the closely related red-winged blackbird (*Agelaius phoeniceus*).

There are no reported tricolored blackbird nesting sites on or in the immediate vicinity of Bullock Bend. The nearest recently reported nesting colonies are large concentrations in the Yolo Bypass

and several smaller colonies reported from Sutter County, east of the Sacramento River (Kyle and Kelsey 2011). The Bank does not support suitable nesting habitat for this species; however, the cultivated field supports suitable foraging habitat that could be used by birds from nearby breeding colonies and during the winter nonbreeding season.

Loggerhead Shrike. The loggerhead shrike (*Lanius ludovicianus)* is designated as a state species of special concern. Loggerhead shrike is a permanent resident and winter visitor in foothills and lowlands throughout California, where it is considered a fairly common resident (Small 1994). It is a medium-sized (9 inches), stout, short-winged passerine that is often seen perched on barbed wire fences.

Small trees and shrubs along the top of the interior farm berm along the southern side of the Bank and trees and shrubs within the riparian scrub/willow riparian community on the northern side, support suitable nesting habitat for shrikes. The cultivated field is suitable foraging habitat for this species.

Special-status Bats. Three special status bats potentially occur in the project area, pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*) and Townsend's bigeared bat (*Corynorhinus townsendii townsendii*), all state species of special concern.

Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can occur in grasslands and agricultural areas (Pierson and Rainey 1998). Roosts have been found in several Yolo County locations, including Davis, Woodland, and the Capay Valley (Yolo Natural Heritage Program 2009). Western red bat roosts in broadleaf tree communities including riparian forests. Roost sites have been found in orchards in the Capay Valley (Constantine 1959) and more recently at sites near Davis, Woodland, Esparto, Zamora, and Knights Landing (Yolo Natural Heritage Program 2009).

Townsends's big-eared bat occurs in a variety of woodland and open habitats, including agricultural areas (Fellers and Pierson 2002). It species roost in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited.

The pallid bat and western red bat potentially roost in the cottonwood riparian forest within the site. All three species could potentially forage over the riparian forest and the cultivated field.

Special-status Plants

Woolly Rose Mallow. Rose mallow (*Hibiscus lasiocarpus*) is a CNPS List 2 species that occurs in freshwater marshes and swamps, and on floodplains and slough islands, and along the banks of rivers and creeks from 0 to 120 m (0 to 394 ft) (CNPS 2001). In riparian habitats, the species is often associated with cottonwood, willow, and California buttonwillow (*Cephalanthus occidentalis* var. *californicus*). Suitable habitat in Yolo County includes many of the wetland and riparian drainages of the Central Valley floor. There are two known populations in Yolo County, both in the Yolo Bypass area, and other populations occur immediately north, south, and east of the County line in Sutter, Sacramento, and Solano counties (CNDDB 2013, CalFlora 2007).

Surveys conducted in summer 2013 and 2014 failed to locate any wooly rose mallow at the site. Suitable habitat for the species is present within the more open canopied portions of the remnant cottonwood riparian forest on the site. This plant species has been documented at scattered localities both upstream and downstream of the site within the historic floodplain of the Sacramento River (California Natural Diversity Database 2013).

Northern California Black Walnut. Northern California Black Walnut (*Juglans hindsii*) is a CNPS List 1B species that occurs in riparian forests and woodlands with deep alluvial soils. Few extant native stands remains, but the species may occur as a component of mixed riparian forest along the Sacramento River and elsewhere in Yolo County such, including Cache Creek and Putah Creek. CNDDB (2013) lists only one occurrence for Yolo County along the Sacramento River near Walnut Grove.

Summary and Conclusions (Estep Biological Report)

The Bullock Bend Mitigation Bank focuses on floodplain restoration and preservation of existing riparian forests, which will benefit threatened salmonids by providing restored off-channel habitat and benefit the numerous species that rely on riparian habitats in the Central Valley. The restoration of the floodplain by converting the agricultural field to riparian and association wetland habitats may remove some foraging habitat for agriculture-associated raptors, such as red-tailed hawks and Swainson's hawks, but the conversion is extremely small compared with the availability of foraging habitat in the region. It will also benefit these and other raptors species, such as white-tailed kites, northern harriers, and red-shouldered hawks by creating additional nesting and foraging habitat, by increasing the diversity of habitats and expanding the distribution of wildlife species in the area, and by restoring native habitats and ecological function to previously modified areas. Preserving and enhancing riparian habitats within the Bank also provides benefit to riparian obligate species and those that use both riparian habitats and floodplain habitats. Maintaining and expanding the riparian habitats also preserves and promotes the wildlife movement and migratory use of the area.

Fisheries Impacts

The following assessment of the project's potential impacts to aquatic species was prepared for the applicant by Keith Whitener, fisheries biologist with the firm Robertson-Bryan, Inc. (Robertson-Bryan, 2014).

Salmon abundance in California's Central Valley has decreased by 75% since 1950 (Yoshiyama et al. 2000). One factor correlated with this steep decline in salmon abundance is the loss and degradation of habitat due to construction of barriers and levees and the associated modification of hydrological regimes (Lufkin 1996). This loss and degradation of habitat has affected all freshwater salmonid life stages, including those related to immigration, spawning, rearing, and emigration. One life history requirement of Central Valley Chinook salmon that has been the focus of much research and restoration is juvenile rearing and the associated benefits of floodplain and other off channel habitats.

Generally, floodplains have been shown to provide important spawning and rearing habitat conditions for a variety of fishes (Welcomme 1985; Bayley 1995; Sparks 1995). Floodplains that include flooded and overhanging vegetation, as well as structure in the form of downed trees and large woody debris, provide cover for fish to escape predations (Paller 1987), substrate for spawning fish (Bayley 1995), and habitat for aquatic invertebrates, a primary food source for many adult and juvenile fishes (Holland 1986).

Specific to juvenile Chinook salmon in the Central Valley, floodplains and other off channel habitats have been shown to provide refuge from high flows and sediment loads, reduce competition, lower the chance of encountering a predator, and provide greater prey densities than main channels, all of which are correlated to improved rearing conditions and increased growth and survival rates (Limm and Marchetti 2003, Sommer et al. 2001, Jeffres et al. 2008, Moyle et al. 2007).

Benefits of floodplain habitat to juvenile Chinook salmon specifically in the Sacramento River watershed are discussed in the Public Draft Recovery Plan for the Evolutionarily Significant Units of the Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of Central Valley Steelhead (NMFS, 2009), which identifies the restoration and maintenance of functioning floodplains of an appropriate, science-based width to maintain ecologically viable flood prone lands along both banks of the Sacramento River between Verona (River Mile 78) and Colusa (River Mile 144) as a Priority Recovery Action. The Recovery Plan goes on to state that in the corridor between Verona and Colusa actions that restore the habitat complexity within the river channel should be aggressively pursued. The Recovery Plan also lists loss of rearing habitat in the form of lost natural river morphology and function, and lost riparian habitat as very important stressors of Sacramento River winter-run Chinook salmon and loss of rearing habitat in the lower and middle sections of the Sacramento River as an important stressor of Central Valley spring-run Chinook salmon.

The Bullock Bend property currently provides some shaded riverine aquatic habitat on the waterside of the farm berm but no other aquatic habitat value. Restoration and enhancement of the property, which will include breaching of the farm berm, grading the interior lands, and supplemental planting of native vegetation, have the potential to create approximately 96 acres of high value rearing habitat for juvenile Chinook salmon in a reach of the Sacramento River that is deficient of such habitat.

In order to successfully create high value floodplain habitat several important considerations should be incorporated into the final design: (1) Design of the project must balance life history needs of juvenile Chinook salmon with flood conveyance requirements - but given the unique location and geography of the site, initial hydraulic modeling has shown that this balance can be achieved; (2) Additional analysis should be completed in the near future as an important step towards finalizing the design, including to what elevation the breach should be constructed to and how much grading of the internal lands can be completed, given various site constraints; and (3) Many of the design considerations discussed in this technical memo, including providing optimal flow velocities and depths and sufficient cover should be incorporated into the project. If constructed with these considerations in mind, the Bullock Bend Mitigation Bank has the potential to provide important juvenile rearing habitat that would be greatly beneficial to the Sacramento River Chinook salmon population.

Applicant Proposed Measures

As part of the project, the applicant has proposed to implement the following measures to avoid and minimize impacts to biological resources:

1. An applicant biologist or botanist shall prepare a re-vegetation plan for the breach location with quantifiable success criteria and include at least a one-year monitoring and adaptive management program.

2. An applicant ecologist or biologist will observe and manage habitat restoration on a daily basis. The representative will have authority to stop construction activities if situations arise that could be detrimental to the existing wetlands. Construction will be allowed to resume only after corrective actions have alleviated the potential for detrimental activities. A summary report will be prepared and submitted to U.S. Army Corps of Engineers (Corps), Environmental Protection Agency (EPA), National Marine Fisheries Services (NMFS), California Department of Fish and Wildlife (CDFW), and Yolo County following completion of project construction, including construction observations and any problems that arose during construction.

3. If needed, vehicle movement corridors and haul routes will be marked on construction drawings to minimize vehicle movement across the site.

4. All construction staging activities will occur within designated staging areas, to be identified by the restoration ecologist. This staging area will be located no closer than 200 feet from any existing threatened or endangered species habitat (e.g., Swainson's hawk nesting areas), and will be marked in the field and on the construction plans.

5. All refueling and maintenance activities will occur within the staging area. Any spill of hazardous materials will be cleaned up immediately, in accordance with all federal, state, and local regulations. Additional measures to minimize impacts to the site will be identified in the Stormwater Pollution Prevention Plan (SWPPP), which will be prepared and implemented prior to the initiation of construction.

6. Erosion-control best management practices will be implemented as needed, including but not limited to, grading during the dry season, compaction of berms and upland spoils, and seeding and mulching areas of exposed soil.

7. Employees and contractors performing construction activities will receive environmental sensitivity training. Training will include review of environmental laws and information about sensitive species that may be encountered during construction including valley elderberry longhorn beetle, Swainson's hawk and nesting migratory birds. Work crews will be instructed about the status of special-status species potentially occurring on site and the need to protect these species and habitats.

8. Prior to construction of the breach, project construction boundaries on the waterside of the farm berm will be flagged and temporarily fenced to reduce the potential for vehicles and equipment to stray outside of the construction area.

9. No stockpiling of material will be allowed within the riparian area on the waterside of the farm berm.

10. Significant earth moving activities will not be conducted in the riparian area within 24 hours of predicted storms or after major storms (defined as 1-inch of rain or more).

The following precautions will be implemented to avoid impacts to raptors and other migratory birds.

Swainson's Hawk

1. Biological Monitoring: There are suitable nesting trees within the project site. Nest surveys will be conducted by the biological monitor within one month of the start of ground disturbing activities during the nesting season (March 1–September 15). Surveys will be conducted according to the Swainson's Hawk Technical Advisory Committee's methodology (CDFG 2000) to determine if Swainson's hawks are nesting within 1,000 feet the project site.

2. Avoidance of Occupied Habitat: If construction, grading, or project related improvements are to occur between March 1 and September 15, a focused survey for Swainson's hawk and other raptor nests on the site and on nearby trees shall take place within ½ mile of the site, and shall be conducted by a qualified biologist within 14 days prior to the start of construction work (including clearing and grubbing). If no active nests are found during the focused survey, no further mitigation will be required. If active nests are found, the proponent shall do the following:

a. During the nesting season, project activities will be prohibited within 500 feet of occupied nests to prevent nest abandonment. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the applicant will coordinate with CDFW to determine the appropriate buffer size. A qualified biologist shall verify that setbacks and fencing are adequate and will determine when the nestlings are no longer dependent on the nesting habitat.

b. Consult with CDFW to determine if project activity will impact the nest. Provide Yolo County Planning & Public Works Department with written evidence of the consult or a contact name and number from CDFW. If the biological monitor observes fledging from on-site nests prior to September 15, construction may proceed.

Migratory Birds

1. Biological Monitoring: Surveys for migratory bird nests will be performed by a biological monitor familiar with migratory birds and their breeding habits within 48 hours prior to the start of construction activities. If no nests are identified within the project site, construction of the project may proceed as planned. If migratory bird nests are identified in locations that will be impacted by construction activities, the USFWS Migratory Bird Office will be contacted for further guidance.

2. Avoidance of Nests: To discourage the development of migratory bird nests within the project site during the construction season, practices may be implemented to discourage nesting activities. This may include, but are not limited to: (1) parking construction equipment near trees to discourage nesting; (2) reducing upland grass cover on the project site via grazing or mowing prior to the start of the peak breeding season (mid-April) and continuing these activities through the end of the breeding season (August 31); and (3) implementing construction activities 6 days every week to discourage birds from constructing nests within the project area.

NMFS Section 7 Consultation Environmental Commitments

The applicant will implement the following precautions to reduce impacts to state and federally listed fish species:

1. A qualified biologist will inspect the breach work area prior to the start of construction of the breach to confirm the absence of salmonids.

2. Activities conducted in the breach work area on the waterside of the farm berm will be limited to the low-flow period between July 1 and October 1.

3. If necessary, silt curtains will be used around in-water work to minimize turbidity and sedimentation.

4. Erosion control will be applied to disturbed soil areas prior to October 15.

Mitigation Measure BIO-1:

(a) The applicant shall implement all of the "Applicant Proposed Measures" and "Environmental Commitments" described above. In addition, the applicant shall comply with all Conditions of Approval, avoidance measures, and terms and condition as set forth in the required federal and State permits issued for the project including the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), Environmental Protection Agency (EPA), National Marine

Fisheries Services (NMFS), and California Department of Fish and Wildlife (CDFW).

(b) Prior, during, and after grading and construction activities for the project, qualified biologist(s) or restoration ecologist(s) shall monitor construction activities in areas where wetlands and Special Status wildlife and plant species could be affected. The biologist(s) shall assist the construction crew, as needed, to comply with all project implementation restrictions and guidelines. The biologist(s) shall attend pre-construction meetings and conduct environmental trainings regarding the location of wetlands or other water features, as well as other sensitive resources. In addition, the biologist(s) shall be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. The biologist(s) shall be on site during all construction activity with the authority to temporarily stop all construction, if violations of any of the measures or conditions are observed. If construction is stopped, representatives of the appropriate agencies, including Yolo County Planning, Public Works and Environmental Services, shall be immediately notified.

(c) The applicant shall provide periodic progress reports to the Planning, Public Works and Environmental Services Department during construction to document compliance with these mitigation measures and conditions required by other agencies. The applicant shall also provide documentation of the constructed project to the Planning, Public Works and Environmental Services Department within thirty days of project completion. Documentation included in the progress reports and the completion notice may include, but shall not be limited to, on-site reports from supervisors, biologists, and other applicant representatives, surveyed elevations, photographs, or other materials sufficient to provide a record of condition compliance and constructed as-built conditions.

Mitigation Measure BIO-2:

Prior to any site grading or construction activity in both the breeding and non-breeding season, the applicant shall conduct burrowing owl surveys in conformance with CDFW burrowing owl recommendations (CDFG, 1995). If burrowing owls are detected during preconstruction surveys, the applicant shall implement the following mitigation measures, consistent with CDFW recommendations:

(a) Avoid occupied burrows during the burrowing owl breeding season, February 1 through August 31.

(b) Prior to this breeding season, September 1 through January 31, occupied burrows should be avoided. If avoidance is not possible, owls may be evicted, and the applicant must provide compensation for loss of burrows per CDFG standards.

b) and c) Less than Significant Impact with Mitigation Incorporated. The applicant prepared a Delineation of Waters of the United States for the project site and submitted it in March, 2014 to the U.S. Corps of Engineers for verification (Westervelt, 2014). The delineation identified approximately 8.6 acres of potential wetlands in or near the riparian forest in the southern portion of the site between the agricultural berm and the Sacramento River.

In a letter dated September 25, 2014, the USACE states: “Based on available information, we concur with the amount and location of wetlands and/or other water bodies on the site as depicted on the enclosed June 18, 2014 map prepared by Westervelt Ecological Services, Inc. The approximately 8.574 acres of wetlands present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.”

Applicant Proposed Measures

The applicant will apply for and receive a nationwide permit under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers (Corps) prior to conducting proposed work in waters of the United States. Nationwide permits for habitat restoration work are typically conditioned with requirements similar to those listed below. The applicant will implement the following measures including any additional requirements contained within the actual Corps permit for the project.

1. At least 14 days prior to initiation of construction activities within waters of the U.S., the applicant will submit to the Corps pre-construction site photographs which have been taken no more than 60 days prior to initiation of construction activities. Within 30 days following construction activities, the applicant will submit post-construction site photographs showing the work conducted to the Corps. The camera positions and view angles or post-construction photographs will be identified on a map, aerial photo, or project drawing. Construction locations will include all major project features and waters of the U.S.

2. Prior to initiation of any construction activities within waters of the U.S., the applicant will employ construction best management practices (BMPs) on-site to prevent degradation to on-site and off-site waters of the U.S. Methods will include the use of appropriate measures to intercept and capture sediment prior to entering waters of the U.S., as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs will be in place prior to the initiation of each phase of the project and will remain until construction activities are completed. The applicant will maintain erosion control methods until all on-site soils are stabilized.

CDFW Streambed Alteration Agreement Environmental Commitments

The applicant will apply for and receive a Section 1602 agreement from the California Department of Fish and Wildlife (CDFW) prior to construction. The 1602 agreements for habitat restoration work are typically conditioned with requirements similar to those listed below. The applicant will implement all of the following measures including any additional requirements contained within the actual 1602 agreement for the project:

1. Work Period. Work will be timed during the driest time of year. If water is present within the work area at the time of construction, silt curtains will be used to minimize turbidity and sedimentation. The time period for completing the work will be confined to the period of May 1 to October 1. Work will be timed with awareness of precipitation forecasts and likely increases in stream flow and river flood stages. Construction activities on the waterside of the farm berm will cease until all reasonable erosion control measures, have been implemented prior to all storm events. Construction equipment and material will be removed from the waterside of the farm berm if inundation is likely. Revegetation, restoration and erosion control work is not confined to this time period.

2. Vegetation Removal. Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations.

3. Cover Excavations and Open Pipes. Unattended, open excavations will be properly covered to prevent wildlife entrapment. Open ends of pipes, conduits and similar materials will be covered to exclude wildlife. Such materials will be checked for signs of wildlife prior to disturbance.

4. Restoration of Work Site/Excavated Soil Removal or Distribution. After completion of construction activities, temporary fill and construction debris will be removed and disturbed areas will be restored to pre-project conditions. Excavated soil will either be removed from work site, backfilled into excavations, or distributed over the existing work area.

5. Removal of Debris, Materials and Rubbish. Permittee will remove all project-generated debris, building materials and rubbish from the river and from areas within one hundred and fifty (150) feet of the high water mark, where such materials could be washed into the river following completion of Project activities. Organic material (downed trees, leaf litter, etc.) will be used on site as needed to add complexity to the habitat.

Mitigation Measure BIO-3:

Implement all of the "Applicant Proposed Measures" and "Environmental Commitments" described above.

d) Less than Significant Impact. Construction of the project could temporarily disrupt use of the project site by local wildlife; however, any disruption would be temporary. The project would not impact migratory patterns of any species.

e) No Impact. The proposed project is a wildlife refuge. The proposed project would not conflict with any local policies or ordinances protecting biological resources.

f) No Impact. The Yolo County Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP) is in draft with an anticipated adoption sometime in 2016. The proposed project would not conflict with this HCP/NCCP or any conservation plan protecting biological resources, but would help to reach conservation goals for salmonids and other species.

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

Discussion of Impacts

a) and b) **Less than Significant Impact.** The proposed project area was given a complete, intensive inspection on June 4, 2014 (Peak & Associates, 2014). No evidence of cultural resources was discovered.

Applicant Proposed Measures

As part of the project, the applicant has proposed to implement the following measures to reduce potential impacts to cultural resources:

1. If cultural artifacts are unexpectedly discovered during construction, work in the immediate vicinity (100 feet) of the find will be halted and an assessment will be made by a qualified archaeologist. Cultural artifacts include archaeological (pre-history) and historical objects. Objects may include, but are not limited to, pottery shards, rock implements or flakes, projectile points (e.g., arrowheads), mortar and pestles, adobe foundations and/or walls, pioneer metal work (e.g., square nails). Additional features indicting archaeological significance include dark friable soils containing shells, animal bones and other refuse deposits.

2. If human remains are discovered during construction, work in the immediate vicinity (100 feet) of the find will be halted and the Yolo County Coroner will be notified immediately. A qualified archaeologist will be brought in for an assessment. If the County Coroner determines that the human remains are of Native American origin, then the County Coroner will notify the California Native American Heritage Commission within 24 hours from the initial determination.

3. If cultural artifacts or human remains are discovered during construction, the Corps and Yolo County Planning, Public Works, and Environmental Services Department will be notified within 48 hours.

c) Less than Significant Impact. No paleontological resources are known or suspected and no unique geologic features exist on the project site.

d) Less than Significant Impact. No human remains are known or predicted to exist in the project area. However, the potential exists during construction to uncover previously unidentified resources. Any development that uncovers cultural resources is required to follow procedures and recommendations as set forth in the CEQA Guidelines, Section 15064.5. Section 7050.5 of the California Health and Safety Code states that, when human remains are discovered, no further site disturbance shall occur until the County coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law. The applicant has proposed to implement the measure 2, above, to reduce potential impacts if human remains are discovered.

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

Environmental Setting

A geotechnical report prepared by the applicant (Hultgren-Tillis Engineers, 2014a) evaluated the proposed fill placement against the existing Sacramento River Westside Levee District levee on the west side of the Bullock Bend property. The report reviewed logs of shallow test pits performed within the Bullock Bend property. The test pits encountered moderately expansive lean to fat clays over lower plasticity lean clays and silts, which are in turn underlain predominantly by silty sand. The report
concluded that these materials are suitable for disposal/placement against the existing levee.

Discussion of Impacts

a) No Impact. There are no known faults located in the immediate vicinity of the project area (California Department of Conservation, 2010), and the seismic ground-shaking hazard in the project area is low. The project does not propose to construct any structures. The project site has

gentle topography and no potential for major landslides. Furthermore, the proposed project does not include the construction of any structures and would not increase use by people.

b) Less than Significant Impact. The Soil Survey of Yolo County, California (Soil Conservation Service 1972) indicates that the primary soil on the project site is Sycamore silt loam, flooded (map unit Sr, Class IV) and Tyndall very fine sandy loam, flooded (map unit Td, Class IV). These non-prime Class IV soils are characterized by an erosion hazard of "none to slight." Grading disturbance caused by the project has a less than significant potential to increase erosion and sedimentation above preconstruction levels.

As a standard condition of project approval, the applicant will be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall address erosion, stormwater runoff, sedimentation, and other construction-related pollutants during project construction and shall ensure all areas disturbed during construction are permanently stabilized. Implementation of a SWPPP would substantially minimize the potential for project-related erosion and associated adverse effects on water quality. In addition, all disturbed areas will be seeded and/or planted following construction to prevent soil erosion.

c) and d) No Impact. The proposed project does not include the construction of structures or increased use by people and would not be subject to significant hazards associated with landslides, lateral spreading, or collapse.

(e) No Impact. The project would not generate wastewater.

VII. GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒
c. Be affected by climate change impacts, e.g., sea level rise, increased wildfire dangers, diminishing snow pack and water supplies, etc.?	☐	☐	☒	☐

Environmental Setting

The issue of combating climate change and reducing greenhouse gas emissions (GHG) has been the subject of State legislation (AB 32 and SB 375). The Governor's Office of Planning and Research has recommended changes to the California Environmental Quality Act (CEQA) Guidelines, and the environmental checklist which is used for Initial Studies such as this one. The changes to the checklist are incorporated above in the two questions related to a project's GHG

impacts. A third question has been added by Yolo County to consider potential impacts related to climate change's effect on individual projects, such as sea level rise and increased wildfire dangers.

To date, specific thresholds of significance to evaluate impacts pertaining to GHG emissions have not been established by local decision-making agencies, the Yolo Solano Air Quality Management District, the State, or the federal government. However, this absence of thresholds does not negate CEQA's mandate to evaluate all potentially significant impacts associated with the proposed project. Yolo County has adopted a Climate Action Plan (CAP) which addresses these issues.

The following discussion of GHG/climate change impact relies upon the CAP and "tiers off" the analysis, conclusions, and measures included in the Final Environmental Impact Report (FEIR) of the 2030 Yolo Countywide General Plan (Yolo County, 2009b). While the FEIR analysis concluded that the severity of impacts related to planned urban growth and GHG/climate change could be reduced by some policies and some available mitigation measures, the overall impact could not be reduced to a less than significant level. The impacts of countywide cumulative growth on GHG emissions, and the impacts of climate change on cumulative growth, are considered significant and unavoidable at this time.

The adopted 2030 Yolo Countywide General Plan (Yolo County, 2009a) contains several policies and implementation programs that require proposed development projects to reduce GHG emissions and conserve energy. The policies that are relevant to the proposed wildlife habitat project include the following:

Policy CO-8.2: Use the development review process to achieve measurable reductions in greenhouse gas emissions.

Action CO-A117: Pursuant to the adopted Climate Action Plan (CAP), the County shall take all feasible measures to reduce its total carbon dioxide equivalent (CO2e) emissions within the unincorporated area (excluding those of other jurisdictions, e.g., UC-Davis, Yocha Dehe Wintun Nation, DQ University, school districts, special districts, reclamation districts, etc.), from 648,252 metric tons (MT) of CO2e in 2008 to 613,651 MT of CO2e by 2020. In addition, the County shall strive to further reduce total CO2e emissions within the unincorporated area to 447,965 MT by 2030. These reductions shall be achieved through the measures and actions provided for in the adopted CAP, including those measures that address the need to adapt to climate change. (implements Policy CO-8.1)

Action CO-A118: Pursuant to and based on the CAP, the following thresholds shall be used for determining the significance of GHG emissions and climate change impacts associated with future projects:

1) Impacts associated with GHG emissions from projects that are consistent with the General Plan and otherwise exempt from CEQA are determined to be less than significant and further CEQA analysis for this area of impact is not required.

2) Impacts associated with GHG emissions from projects that are consistent with the General Plan, fall within the assumptions of the General Plan EIR, consistent with the CAP, and not exempt from CEQA are determined to be less than significant or mitigated to a less-than-significant level, and further CEQA analysis for this area of impact is generally not required.

To be determined consistent with the CAP, a project must demonstrate that it is included in the growth projections upon which the CAP modeling is based, and that it incorporates applicable strategies and measures from the CAP as binding and enforceable components of the project.

3) Impacts associated with GHG emissions from projects that are not consistent with the General Plan, do not fall within the assumptions of the General Plan EIR, and/or are not consistent with the CAP, and are subject to CEQA review are rebuttably presumed to be significant and further CEQA analysis is required. The applicant must demonstrate to the County's satisfaction how the project will achieve its fair share of the established targets including:

- Use of alternative design components and/or operational protocols to achieve the required GHG reductions;

- Use of real, additional, permanent, verifiable and enforceable offsets to achieve required GHG reductions. To the greatest feasible extent, offsets shall be: locally based, project relevant, and consistent with other long term goals of the County;

The project must also be able to demonstrate that it would not substantially interfere with implementation of CAP strategies, measures, or actions. (implements Policy CO-8.5)

Discussion of Impacts

a) Less than Significant Impact. The project could affect GHG emissions through equipment used during grading activities and vehicle trips generated by employees, as well as physical changes in the vegetation of the land and the reduction in agricultural activities. However, as noted above in the Air Quality section, short-term air quality and GHG impacts will be generated by a relatively brief period (three or four months) of grading activity and a small number of employee commute trips (approximately ten employees generating 20 trips per day over the construction period).

The conversion of the project site from the current agricultural field to salmonid habitat could affect greenhouse gas emissions, however the estimates of GHG emissions from habitat and wetlands vary so widely that it is difficult to determine whether there would be a net increase or decrease due to the conversion. Broadly speaking, freshwater wetlands may contribute net GHG emissions of 1.3 to 7.5 metric tons per acre per year of CO2e. (Although the applicant is not technically proposing to construct wetlands or a marsh.) This is comparable to emission rates for field crops such as hay, oats, barley, and pasture. However, freshwater marshes can also sequester up to 25 tons of carbon per acre per year. Although wetlands are estimated to account for less than 1% of all GHG emissions nationwide, they are an expanding part of the landscape that deserves more detailed study and consideration in the future (Yolo County, 2011).

b) No impact. The project would not conflict with any applicable plan, policy or regulation adopted to reduce GHG emissions, including the numerous policies of the 2030 Yolo Countywide General Plan, or the regulations of the Climate Action Plan.

c) Less than Significant Impact. The project could be affected by climate change impacts, specifically sea level rise. The project is located along the Sacramento River and portions of the project site are currently flooded on a periodic basis. Projections of the sea level rise caused by global warming and climate change have been prepared by the USGS, and are included in the Final EIR of the 2030 Yolo Countywide General Plan (Yolo County, 2009b). The USGS

projections show that areas within the one meter average daily tidal range will be inundated by sea level rise by 2100. These inundated areas include large portions of Yolo County including the project site.

A one meter rise in sea level by 2100 would have no effect on the project. Assuming the project is approved and goes to construction in 2016, conditions on the project site would naturally respond to changes in sea level over time. The project lagoons and levees have been designed to accommodate the periodic flooding, which is greater (higher) than the projected one meter rise in sea levels.

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

Discussion of Impacts

a) Less than Significant Impact. The proposed project will require the short-term use of construction equipment for grading, and the storage of fuel and oil for the equipment. Construction equipment used on the site would include excavators, backhoes, scrapers, dump trucks, and water trucks.

The construction equipment associated with this project typically uses only a minor amount of hazardous materials, primarily motor vehicle fuels and oils. There is a danger that these materials may be released in accidental spills and result in harm to the environment. As a standard condition of approval, the construction contractor will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), as described below, to ensure that the risk of accidental spills and releases into the environment would be minimal.

As part of the project, the applicant has proposed to implement the following measures to reduce potential impacts to cultural resources:

1. The applicant will prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP will include information on hazardous material storage and handling measures. The SWPPP also will include a list of possible hazardous materials that will be used on the site (such as diesel fuel), requiring spill prevention kits in equipment, creation of containment areas if hazardous materials are stored on site, and procedures to follow in the unlikely event of a spill.

2. All refueling and maintenance activities will occur within the staging areas.

3. Any spill of hazardous materials will be cleaned up immediately, in accordance with all federal, state and local regulations.

4. Spark arresters will be required on all construction equipment.

5. All vehicles and construction equipment will carry fire extinguishers.

In addition, the Storm Water Pollution Prevention Plan (SWPPP) is required to include the following measures, as described below, to ensure that the risk of accidental spills and releases into the environment would be minimal.

a. All construction staging activities will occur within a designated staging area. The staging area will be marked in the field and on the construction plans. All refueling and maintenance activities will occur within the staging area.

b. Any hazardous materials spill will be cleaned up immediately, in accordance with all federal, state, and local regulations. The contractor will be required to develop and implement a toxic materials control and spill response plan to regulate the use of hazardous materials associated with construction. The contractor will be required to:

    (1) prevent oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses;

(2) establish a spill-prevention and countermeasure plan before construction that includes strict on-site handling rules to keep construction and maintenance materials out of drainages and waterways;

(3) clean up all spills immediately according to the spill prevention and countermeasure plan, and notify DFG immediately of any spills and cleanup activities;

(4) develop a spill prevention plan that includes the following information:

i. A list of immediate containment response actions and extended response actions if necessary;
ii. A list of responsible agencies to contact in the event of a spill emergency within 24 hours;
iii. A list of spill containment equipment held on site as well as the location of the equipment on site;
iv. Identify a contact and location of a professional clean up company; and
v. Designate an onsite incident commander in the event of an emergency. This person will immediately inform DFG-OSPR in the event of an emergency. The incident commander will have complete control of construction and cleanup activities throughout the emergency and the eventual containment.

c. Provide areas located outside the sensitive wetland areas and ditches for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants; and

d. Remove vehicles from near sensitive wetland areas and ditches before refueling and lubricating.

b) Less Than Significant Impact. The routine use of construction equipment and vehicles to and from the site would not create a significant hazard to the public.

c) No Impact. No schools exist or are proposed within 0.25 mile of the proposed project area.

d) Less Than Significant Impact. A Phase I Environmental Site Assessment has been conducted for the project site (Wallace-Kuhl & Associates, 2013). The report noted that the evidence of environmental impairment of the property from off-site sources is a stained soil area observed under a platform housing a diesel pump and an aboveground fuel storage tank.

e) No Impact. The proposed project is located more than two miles from a public airport. The project would not result in a safety hazard for people residing or working in the project area.

f) No Impact. The project is located more than two miles from any private airstrips. The project would not result in a safety hazard for people residing or working in the project area.

g) No Impact. Emergency response plans will not be affected by the proposed project during or upon completion of construction because the proposed project does not involve the development of infrastructure or population of the area.

h) No Impact. The project site is not populated; therefore, the project would not expose people or structures to wildland fires.

i) Less than Significant Impact. The proposed project will result in the creation of salmonid habitat that has the potential to result in increased mosquito populations. In order to minimize potential health hazards related to mosquito breeding, the project proponent will be required to coordinate the design and ongoing management of the project with the Sacramento-Yolo Mosquito & Vector Control District.

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

Discussion of Impacts

a) Less than Significant Impact. Construction activities have the potential to result in temporary impacts to water quality. Ground-disturbing activities could result in a slight increase in the potential for erosion and sedimentation. However, the construction contractor will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), as described below, to control stormwater runoff, erosion, sedimentation, and other construction-related pollutants during excavation and until construction is complete and all disturbed areas would be permanently stabilized. This would substantially minimize the potential for project-related erosion and sedimentation and the violation of applicable water quality standards.

Small volumes of petroleum products (fuel, engine oil, and hydraulic line oil) would be temporarily used and handled to operate construction equipment. There is potential for these materials to be released in accidental spills and result in harm to people or the environment. The implementation of a SWPPP would include methods to protect water quality in response to emergency spills, and would minimize potential effects.

As part of the project, the applicant has proposed to implement the following measures to reduce potential impacts to water resources:

1. The applicant will prepare a Storm Water Pollution Prevention Plan (SWPPP) that will describe best management practices to be used during construction and through site revegetation to minimize erosion and protect water quality.

2. Erosion control best management practices (BMPs) will be implemented as needed, including but not limited to: grading during the dry season, compaction of berms and upland spoils, and seeding and mulching areas of exposed soil.

The preparation and implementation of the SWPPP is necessary to comply with the requirements of Yolo County's erosion control ordinance and the state's National Pollutant Discharge Elimination System (NPDES) general construction activity stormwater permit. The specific "best management practices" (BMPs) that would be incorporated into the SWPPP would be determined during the final design phase and would be prepared in accordance with the Regional Water Quality Control Board field manual and with County staff. The plan should include, but not be limited to, the following standard erosion and sediment control BMPs:

a. The construction contractor would conduct all construction activities during the dry season to avoid ground disturbance during the rainy season.

b. To the extent possible, equipment and materials would be staged in areas that have already been disturbed.

c. The construction contractor would minimize ground disturbance and the disturbance/destruction of existing vegetation. This would be accomplished in part through the establishment of designated equipment staging areas, ingress and egress corridors, and equipment exclusion zones prior to the commencement of any grading operations. All construction staging activities will occur within a designated staging area. The staging area will be marked in the field and on the construction plans. All refueling and maintenance activities will occur within the staging area.

d. The construction contractor may install silt fences, fiber rolls, or similar devices to prevent sediment-laden runoff from leaving the construction area.

e. The construction contractor would install structural and vegetative methods to permanently stabilize all graded or otherwise disturbed areas once construction is complete. Structural methods may include the installation of biodegradable fiber rolls and erosion control blankets. Vegetative methods may involve the application of organic mulch and tackifier and/or the application of an erosion control seed mix.

In addition, these specific BMPs shall be included in the SWPPP:

f. Erosion control best management practices (BMPs) will be implemented during excavation of the upland habitat to ensure that substances, such as run-off generated by dust control activities, do not enter other aquatic resources during or following construction. BMPs include, but are not limited to, compaction of berms and upland spoils, and seeding and mulching areas of disturbed/exposed soil.

g. When feasible, soil stockpiles will be located more than 50 feet from existing aquatic resources, and will be surrounded with erosion control (i.e., silt fencing or sterile straw wattles). Stockpiles and other exposed soil will be watered for dust control and soil compaction, where necessary. The amount of water applied to the site will be monitored to prevent erosion and surface runoff due to excessive watering. The water will be applied to exposed soil by using a water truck. The water will be pumped from existing onsite drainage features. Water application will be directed away from other aquatic resources.

b) No Impact. The proposed project does not involve the withdrawal of groundwater and would not interfere with groundwater recharge.

c) and d) Less than Significant Impact. The project requires the issuance of a flood permit by Yolo County. According to Section 8-4.401 of the Yolo County Code, a Flood Hazard Development Permit shall be obtained before any construction or other development begins within any area of special flood hazards. According to Section 8-4.403(a) of the County Code, the Floodplain Administrator shall review all Flood Hazard Development Permits to determine that:

(1) the permit requirements of the chapter have been satisfied;
(2) all other required state and federal permits have been obtained;
(3) the site is reasonably safe from flooding; and
(4) the proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point.

In addition, Section 8-3.404(c) of the County Code requires the Floodplain Administrator, whenever a watercourse is to be altered or relocated, to "assure that the flood carrying capacity of the altered or relocated portion of said watercourse is maintained."

An engineering firm has prepared a series of hydraulic analyses for the proposed project (Northwest Hydraulic Consultants, 2014a, b, and c). The reports concluded that:

> The proposed grading of the project site will only connect to the river in a single location on the downstream thereby adding flood storage within the project levee corridor without changing the effective flow area through the site. Site grading will take place within the

region modeled as ineffective flow area, thereby not affecting the effective channel area and conveyance through the site when the agricultural berm is not overtopped. The additional storage of the project area reduced water levels through the Bullock Bend project reach by about 0.005 ft for the 1997 [flood] event. Results of the two-dimensional modeling of high flows which overtop the agricultural berm showed the project will not increase water surface elevations upstream or through the project site.

Yolo County Planning and Public Works Department retained a third party engineering consultant to peer review the hydraulics analysis. The County consultant, Pacific Hydrologic Incorporated (PHI), reviewed the applicant's study and prepared a brief report documenting the conclusion that the methodology and modeling results of the applicant hydrology study were adequate to ensure that the project grading will not significantly increase flood risks and will maintain the flood carrying capacity of the Sacramento River (PHI, 2015).

The findings for issuance of the Flood Hazard Development Permit by Yolo County can be met by the conclusion of the reports that an increase in water surface elevations in the Sacramento River would not be caused by the project.

e) and f) Less than Significant Impact. The proposed project would likely not introduce additional sources of polluted runoff or generate other impairments of water quality. Implementation of the SWPPP and BMPs, as described in (b), above, would ensure that the proposed project does not contribute additional sources of polluted runoff.

g) No Impact. The proposed project would not result in the placement of housing within the 100-year floodplain.

h) Less than Significant Impact. The project includes the construction of salmonid habitat that could affect floodflows in the Sacramento River. However, as noted above in the discussion in Section (d), the hydrology reports, and the County's peer review of it, concluded that no local changes in the water surface elevation or water velocities during the most probable 100-year flood would occur due to the project.

i) No Impact. The proposed project does not include housing or structures and the project site is not populated; therefore, the proposed project will not expose people or structures to a significant risk of loss, injury or death involving flooding.

j) No Impact. Seiche and tsunami hazards occur only in areas adjacent to a large body of water. The project site is not located in such an area. The landslide potential of the project site is minimal and the mudflow hazard is minimal.

IX.	**LAND USE AND PLANNING.**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Physically divide an established community?	☐	☐	☐	☒

IX.	LAND USE AND PLANNING.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion of Impacts

a) No Impact. The project site is located in a rural agricultural area, well outside any established community, and there would be no change in land use; therefore, there would be no impact.

b) No Impact. The proposed project would not conflict with the Yolo County General Plan or any other applicable plan.

The proposed salmonid habitat mitigation bank project, in conjunction with other current habitat projects and probable future projects that mitigate for out of county impacts, have the potential to result in impacts that are individually limited but cumulatively considerable, in terms of loss of agricultural lands or habitat due to widespread conversion of lands in the county to wetlands and/or habitat mitigation banks. On January 29, 2013, to address these issues, the Yolo County Board of Supervisors enacted a Habitat Mitigation Ordinance which regulates habitat and wetland conversion projects. The project has been found consistent with that ordinance.

c) No Impact. The County does not have an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), although a draft plan is now being reviewed by the Yolo County Joint Powers Agency (Yolo County JPA, 2015)). The proposed project would not conflict with any of the mitigation requirements or policies of the Yolo County draft HCP/NCCP.

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

Discussion of Impacts

a) and b) No impact. The project area has not been identified as an area of significant aggregate deposits.

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

Discussion of Impacts

a) Less than Significant Impact. Construction of the proposed project would temporarily increase noise in the vicinity of the project area. Noise increases would result from on-site grading and construction activities. Typical noise levels for grading and construction equipment could range from 50 to 85 dBA fifty feet from the source. Temporary construction noise associated with the grading activities would be similar to existing noise associated with ongoing agricultural activities in the adjacent areas. No construction will occur during the night. After construction is complete, noise levels will drop to existing levels.

b) No Impact. The proposed project will not generate groundborne vibration.

c) No Impact. No new project features of the project would create noise.

d) Less than Significant Impact. As described above, temporary construction would not result in substantial increases in ambient noise levels and no new noise would be generated upon completion of the proposed project. The proposed project is located in a rural agricultural area and there are no sensitive receptors in the vicinity. (Sensitive receptors include residentially

designated land uses; hospitals; nursing homes; hotels and lodging; schools and day care centers; and neighborhood parks.) The nearest individual rural homes are located 1,600 to the north; 3,700 feet to the east; 7,000 feet to the west; and 9,000 feet to the south. The proposed grading activities are not expected to generate noise levels at a sufficient level to be noticed by any rural residences, particularly given the agricultural nature of the project area.

e) No Impact. The proposed project is located more than two miles from a public airport. The project would not expose people residing or working in the project area to excessive noise levels.

f) No Impact. The proposed project is located more than two miles from a private airstrip. The project would not expose people residing or working in the project area to excessive noise levels.

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

Discussion of Impacts

a) No Impact. The proposed project would not induce any population growth either directly or indirectly.

b) No Impact. The proposed project would not displace any existing housing units.

c) No Impact. There are no housing units on the project site, and implementation of the proposed project would not displace any housing units or people.

XIII.	**PUBLIC SERVICES.**	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					

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

Discussion of Impacts

a) No Impact. The proposed project is a salmonid/ riverine riparian restoration project. The project would not result in an increased demand for any public services.

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

Discussion of Impacts

a) No Impact. The proposed project would not increase the use of any existing parks.

b) No Impact. The proposed project does not include recreational facilities or require the construction or expansion of existing recreational facilities.

XV.	TRANSPORTATION/TRAFFIC.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	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?	☐	☐	☒	☐
b.	Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e.	Result in inadequate emergency access?	☐	☐	☐	☒
f.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion of Impacts

(a) and (b) Less than Significant Impact. During construction, the movement of crews, and equipment would result in temporary increases in traffic on the surrounding roadways. The equipment needed for the construction would make one trip to the property and one trip leaving the site once construction is complete. Up to ten construction employees and three delivery/loading trucks would need to access the site daily during construction, over approximately four months. These trips would generate a temporary increase in traffic during construction, equal to a small number of employee commute trips (approximately ten employees generating 20 trips per day over the construction period).The project would not significantly increase traffic in the area because the amount of traffic anticipated to be generated by the proposed project is relatively minor and the increase in truck traffic is not expected to be great enough to reduce levels of service on local roadways.

(c) No Impact. The proposed project would not affect air traffic patterns; therefore, there would be no impact.

(d) No Impact. The proposed project does not have any design features that would result in hazardous traffic conditions.

(e) No Impact. There would be no change in emergency access as a result of the project.

(f) No Impact. Estimates of the number of pieces of equipment that would be required suggest that up to ten workers would be needed for construction. Adequate parking is available on the project site.

(g) No Impact. Construction of the proposed project would be temporary and would not conflict with any adopted policies, plans, or programs supporting alternative transportation.

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

Discussion of Impacts

(a) through (g) No Impact. The proposed project would not create any new demand for utilities or public service systems. It would not exceed wastewater requirements, nor would it necessitate expansion of any wastewater treatment facilities or water supply entitlements. The project would comply with federal, State, and local regulations related to solid waste.

VII.	MANDATORY FINDINGS OF SIGNIFICANCE.	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, substantially 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?	☐	☒	☐	☐
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.)	☐	☒	☐	☐
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Discussion of Impacts

a) Less than Significant Impact with Mitigation. As discussed in the Air Quality and Biological Resources sections of the Initial Study, the proposed project could result in potentially significant temporary impacts as a result of construction. These impacts have the potential to degrade the quality of the environment and impact Special Status Species. However, implementation of mitigation measures described in this Initial Study would reduce these individual impacts to less-than-significant levels.

b) Less than Significant Impact with Mitigation. The proposed project has temporary construction impacts and long-term impacts. Temporary impacts are short-term impacts associated with construction activities. Temporary impacts include air emissions during construction, decreased water quality as a result of construction activities, noise impacts during construction and similar impacts. These temporary impacts, in combination with other construction projects in Yolo County, will be reduced to a less-than-significant level through implementation of the mitigation measures described in this Initial Study.

The proposed project in conjunction with other current projects and probable future projects have the potential to result in impacts that are individually limited but cumulatively considerable, in terms of loss of agricultural lands or habitat due to widespread conversion of lands in the county to wetlands and/or habitat mitigation banks. The applicant will be required to mitigate for the loss of agricultural land according to the County's Agricultural Conservation and Mitigation Program and Habitat Mitigation Ordinance.

c) No Impact. There are no identified impacts of the proposed project that would cause adverse effects on human beings, either directly or indirectly.

References Consulted and Cited

NOTE: For citations referenced in Section IV. Biological Resources, see the references that are included in the two biological reports (Estep, 2014 and Robertson – Bryan, 2014).

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