

# ENVIRONMENTAL INITIAL STUDY

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## INITIAL STUDY CHECKLIST REFERENCES AND DOCUMENTATION

### USE PERMIT UP-2-06 AND GRADING PERMIT GP-39-06 MIDDLE REACH SULPHUR CREEK ENHANCEMENT PROJECT



Prepared by  
CITY OF REDDING  
DEVELOPMENT SERVICES DEPARTMENT  
777 Cypress Avenue  
Redding, California 96001

## ENVIRONMENTAL CHECKLIST FORM

This document has been prepared by the City of Redding acting as  
Lead Agency in accordance with the California Environmental Quality Act, "CEQA"  
(Public Resource Code, § 21000 *et seq.*).

1. **Project Title:** Middle Reach Sulphur Creek Enhancement Project
2. **Lead Agency Name and Address:** City of Redding Development Services Department, 777 Cypress Avenue, Redding, CA 96001
3. **Contact Person and Phone Number:** Ron Adams, Associate Planner, 530-245-7112
4. **Project Location:** The project involves the Middle Fork Sulphur Creek from the west side of Market Street/State Route 273 (SR 273) upstream to the Union Pacific Railroad tracks and the East Fork Sulphur Creek from its confluence with the Middle Fork upstream to the Union Pacific Railroad tracks. Generally located in the NE 1/4 of the NW 1/4, Sec 25 T32N R5W, MDBM
5. **Project Sponsor's Name and Address:** Mr. John McCullah, Sacramento Watersheds Action Group, 225 Locust Street, Suite 203, Redding, CA 96001
6. **General Plan Designation:** "Greenway"
7. **Zoning:** "RS-2-FP" Residential Single Family District with Floodplain Overlay District; "OS" Open Space District
8. **Description of Project:** Sulphur Creek is an intermittent urban stream that drains 4.42 square miles in Shasta County and the City of Redding. The creek has been impacted by historic mining activities; surrounding urbanization; and various utility, roadway, and railroad crossings. With this disturbance, the stream channel has become degraded, producing large volumes of sediment and inhibiting fish passage and spawning (salmonid). Fish passage into the upper reaches of Sulphur Creek beyond the project area is restricted by the presence of culverts at two locations beneath the Union Pacific Railroad tracks.

The project involves restoration and fishery enhancement activities for the middle reach of Sulphur Creek by the Sacramento Watersheds Action Group (SWAG), including over 4,000 feet of anadromous fisheries habitat. With restoration, the creek has great potential for improved spawning and non-natal rearing of juvenile salmonids, including steelhead trout and Chinook salmon. The proposed restoration work is subject to a City floodplain development use permit and a grading permit. The overall project objectives include:

- Restoration of the natural stream channel's morphology and function
- Enhancing wildlife habitat by maximizing fish passage, spawning, rearing, and escapement and by improving the riparian condition.
- Increasing recreation and educational opportunities in the watershed
- Decreasing flooding potential of existing access roads
- Improving water quality
- Protecting an existing sanitary sewer line that crosses the Middle Fork Sulphur Creek

Proposed actions consist of laying back stream banks (primarily the left descending bank); reshaping stream banks to allow for increased channel capacity and to allow the stream to access the floodplain during periods of high flow; realigning 100 feet of the stream channel to eliminate a sharp turn the channel has developed, and using Environmentally-Sensitive Channel and Bank Protection Measures (E-SCBPM) (Transportation Research Board 2005<sup>1</sup>) to stabilize banks and create fish habitat. Invasive, non-native vegetation would be removed from the floodplain and replaced with native grasses. Native riparian vegetation would be planted on the restored channel banks. Maintenance access roads would be elevated and out-sloped to dissipate stormwater run-off and surfaced with road base, thereby decreasing erosion and sedimentation potential. Culverts or low-water crossings would be installed where subbasin drainages cross the enhanced access roads to allow maintenance crews access to sanitary sewer lines and manholes.

Additional project actions include:

- Removing large tailing piles from the floodplain.
- Constructing structures for fisheries habitat enhancement.
- Constructing a Newbury Rock Riffle (as per E-SCBPM) to protect an existing sewer line.
- Constructing a Rock Riffle (roughened channel per California Department of Fish and Game [CDFG] guidelines) at the base of a concrete apron at the Union Pacific Railroad culvert outlet in anticipation of a proposed future fish passage project.

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<sup>1</sup> Transportation Research Board. 2005. *Environmentally sensitive channel- and bank-protection measures*. National Cooperative Highway Research Program Report 544.

Minimal revisions to the floodway and floodplain of Sulphur Creek would occur from the project; base flood elevations (BFE) would not be increased. However, the project is still subject to a Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA) following completion of the work and the permission of the affected property owners, the latter having already been obtained.

Project Phases. To ensure that the project can be completed in a timely manner, the bioengineering aspects of the project can be implemented in the most optimal season; and to anticipate possible delays due to weather or unforeseen delays, SWAG will break the work into phases (stages) as follows:

- Phase 1. The East Fork work will start in late September 2006, or as soon as possible after permits are approved.
- Phase 2. The second phase could start simultaneously, or shortly thereafter Phase 1. This phase will involve moving the tailing piles in the floodplain area and removing and disposing of the non-native vegetation.
- Phase 3. This phase will include the near stream components and bioengineering structures in the main stem. During this phase, the in-stream and near-stream habitat structures will be built.

Each phase could take approximately 8 days to complete.

9. **Surrounding Land Uses and Settings:** Surrounding lands, for the most part, are undeveloped, with the exception of a City of Redding power substation located immediately adjacent to the west side of North Market Street. There is one single-family residence located near the northern end of the East Fork portion of the project area.

Sulphur Creek is a seasonal stream, with its major flow occurring between the months of December and April. The creek empties into the Sacramento River less than one mile southeast of where the creek passes beneath North Market Street. The entire length of Sulphur Creek is approximately five miles from headwaters to the Sacramento River confluence.

10. **Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).** Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers (Corps), the Central Valley Regional Water Quality Control Board (CVRWQCB), the California Department of Fish and Game (CDFG), and the State Reclamation Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Land Use and Planning       | <input type="checkbox"/> Biological Resources                 | <input type="checkbox"/> Aesthetics  |
| <input type="checkbox"/> Population and Housing      | <input type="checkbox"/> Mineral Resources                    | <input type="checkbox"/> Cultural Resources  |
| <input type="checkbox"/> Geology and Soils           | <input type="checkbox"/> Hazards (Fire) & Hazardous Materials | <input type="checkbox"/> Recreation  |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Noise                                | <input type="checkbox"/> Agricultural Resources  |
| <input type="checkbox"/> Air Quality                 | <input type="checkbox"/> Public Services                      | <input type="checkbox"/> Mandatory Findings of Significance                            |
| <input type="checkbox"/> Transportation/Circulation  | <input type="checkbox"/> Utilities and Service Systems        | <input checked="" type="checkbox"/> <b>None After Mitigation Measures Incorporated</b> |

DETERMINATION. (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." 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, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

\_\_\_\_\_  
Signature

August 22, 2006  
\_\_\_\_\_  
Date

Ron Adams  
\_\_\_\_\_  
(Name)

Associate Planner  
\_\_\_\_\_  
(Title)

## EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Land Use and Planning
- Population and Housing
- Geology and Soils
- Hydrology and Water Quality
- Air Quality
- Transportation/Circulation
- Biological Resources
- Mineral Resources
- Hazards and Hazardous Materials
- Noise
- Public Services
- Utilities & Service Systems
- Aesthetics
- Cultural Resources
- Recreation

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines and used by the City of Redding in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- **Potentially Significant Impact Unless Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact.** The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

### *List of attachments:*

- A. Location map
- B. Hydrology Report prepared for Middle Reach Sulphur Creek Enhancement Project by Schlumpberger Consulting Engineers Inc., dated March 2006 (on file in the Planning Division)
- C. Biological Resources Assessment for Middle Reach Sulphur Creek Enhancement Project prepared by North State Resources dated May 2, 2006 (on file in the Planning Division)
- D. Wetland Delineation Report for Middle Reach Sulphur Creek Enhancement Project prepared by North State Resources dated April 26, 2006 (on file in the Planning Division)
- E. Archaeological Survey for Middle Reach Sulphur Creek Enhancement Project prepared by North State Resources dated May 2006 (on file in the Planning Division)
- F. Middle Reach Sulphur Creek Restoration Plan Exhibits

### *Prior Environmental Evaluations applicable to all or part of the project site:*

1. City of Redding General Plan Final Environmental Impact Report, 2000, SCH#1998072103

## SUMMARY OF MITIGATION MEASURES

### *Geology and Soils*

**Mitigation Measure 1. *Erosion and Sedimentation Control.*** The following erosion- and sedimentation-control measures shall be incorporated into the project:

- a. Work in or adjacent to the stream channel shall be restricted to the relatively dry summer and fall period (June 15 through October 15), when the potential to encounter flowing water in the stream channel is low. In the event that dry conditions prevail, construction earlier or later than this period may occur with written authorization of the Department of Fish and Game (DFG) and with implementation of any special measures required by DFG and the City Engineer.
- b. Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas necessary to specifically meet project objectives. Existing native trees and shrubs shall be preserved to the maximum extent possible.
- c. A Certified Professional Soil Erosion and Sediment Control (CPESC) Specialist shall oversee the project to ensure that appropriate erosion- and sediment-control BMPs are timely implemented.
- d. Final soil-stabilization and erosion-control measures (e.g., certified weed-free mulch, erosion-control blankets, and hydromulch) shall be applied to disturbed areas within 14 days of the completion of earth work for each phase. During construction, when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service over the next 24 hours, an appropriate combination of surface stabilization and/or sediment control shall also be installed as determined by the on-site CPESC Specialist.

### *Biological Resources*

**Mitigation Measure 2. *Protection of Jurisdictional Waters***

- a. Prior to any discharge of dredged or fill material into "waters of the U.S.," authorization and any required permits shall first be obtained from the Corps. For fill requiring a Corps permit, water quality certification shall also be obtained from the RWQCB.
- b. Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of Sulphur Creek and related ephemeral drainages, notification of streambed alteration shall be submitted to the CDFG, and if required, a Streambed Alteration Agreement shall be obtained.
- c. All measures contained in permits or other resource agency approvals shall be implemented.

**Mitigation Measure 3. *Valley Elderberry Longhorn Beetle***

- a. Prior to construction, a qualified biologist shall locate all blue elderberry shrubs with basal stem diameters larger than 1 inch within the project phase pending construction. A non-disturbance buffer area, as required pursuant to consultation with the U.S. Fish and Wildlife Service, shall be delineated on the ground around the perimeter of the plant with snow fencing or equivalent temporary fencing. The buffer area and fence shall be maintained throughout the course of the restoration work.
- b. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant may be used within the required buffer area of any protected elderberry plant.

**Mitigation Measure 4. *Special-Status Birds.*** Preconstruction surveys for nesting raptors, yellow warbler, and yellow-breasted chat shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during project implementation. These surveys should be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees and shrubs immediately adjacent to the impact areas for nests. If an active nest is found, the biologist, in consultation with the CDFG, shall determine the extent of a construction-free buffer zone around the nest.

**Mitigation Measure 5. *Worker Training.*** An Environmental Awareness Program for construction workers shall be conducted by a qualified biologist prior to the Start of Construction. The program shall provide all workers with information on their responsibilities with regard to sensitive biological resources.

***Hazards (Fire)***

**Mitigation Measure 6. *Fire Safety Measures.***

- a. Restoration activities utilizing motorized mechanical equipment shall be suspended when climatic conditions promote severe fire danger, such as a Red Flag Warning, as determined by the Fire Marshal.
- b. Appropriate precautionary fire prevention and control measures applicable to wildland construction work, as required by State and local laws, shall be strictly followed during project implementation. This shall include, but not be limited to, provisions for fire-suppression equipment (water tender and pump with hose lines) to be available at the job site when construction occurs during the fire season.
- c. All waste vegetation shall either be chipped and spread on-site for erosion control or hauled away for lawful disposal off-site. No piles of slash vegetation shall be kept during the fire season or remain following the completion of each restoration phase.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**I. LAND USE AND PLANNING.** Would the proposal:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Physically divide an established community?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Conflict with any applicable habitat conservation plan or natural community conservation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Have social or economic impacts resulting in a physical deterioration of the environment (economic blight)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion**

**a, b.** The project involves creek-restoration activities intended to correct the middle reach portions of Sulphur Creek’s fluvial instability and to promote fish passage and spawning. The project is consistent with the "Greenway" designation of the City’s General Plan, since it is an activity intended to enhance a tributary creek to the Sacramento River, and it would not adversely impact the 100-year floodplain of the creek. The project is also consistent with several of the listed goals of the Natural Resources Element of the Redding General Plan, including those intended to preserve and protect creek corridors and riparian areas; recognize and protect habitat linkages; and promote and facilitate habitat preservation, restoration, and enhancement.

**c.** There are no conflicts identified concerning land use. The proposed project does not fall within any habitat conservation plan or natural community conservation plan area.

**d.** As a creek restoration project, there are no social or economic impact concerns.

**Documentation**

- City of Redding General Plan Community Development and Design, Housing, and Natural Resources Elements
- City of Redding General Plan Final Environmental Impact Report
- City of Redding Zoning Ordinance (RMC Title 18)
- City of Redding Grading Ordinance (RMC Chapter 16.12)

**Mitigation**

No mitigation is required under this topic.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**II. POPULATION AND HOUSING.** Would the proposal:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion**

**a, b, c.** The proposed creek-restoration activities would not induce substantial new population growth. There is one existing homesite within the project area boundary along the East Fork Sulphur Creek; however, project actions in this area would not result in the displacement of residents or have any direct or indirect effect on the home’s residents

**Documentation**

- City of Redding General Plan
- City of Redding Zoning Ordinance (RMC Title18)

**Mitigation**

No mitigation is required under this topic.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**III. GEOLOGY AND SOILS.** Would the proposal:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Strong seismic ground-shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

a. There are no Alquist-Priolo Earthquake Faults designated in the Redding area of Shasta County. There are no other documented earthquake faults in the vicinity that pose a significant risk. The site is located within an area designated in the Health and Safety Element of the General Plan as having an increased potential for liquefaction. However, because the project does not include construction of any buildings, infrastructure, or water-retention devices (e.g., dams), and is instead limited to stream rehabilitation actions, there would be no project-related impacts associated with potential ground failure.

b. Soils defined within the proposed project area include:

- Newtown gravelly loam, 30-50 percent slope, eroded (NeE2): This soil is well-drained and has slow permeability. The Newtown gravelly loam is non-hydric.
- Tailings and placer diggings (TaD): This soil type is non-hydric with unnamed hydric inclusions consisting of floodplain. The (TaD) classification includes areas with a high cobblestone and gravel content and is representative of past placer mining or dredging with cobblestones and gravel. These areas are well-drained to excessively drained with rapid permeability, rapid runoff, and high erosion potential.

The proposed restoration work has been designed utilizing standard engineering design and best management practices (BMPs) to minimize potential for significant erosion. BMPs include such measures as trackwalking/surface roughening, seeding and mulching, biotechnical soil-stabilization techniques, straw wattles, and washing fines, as needed. The project is also subject to certain erosion-control requirements mandated by existing City and State regulations. These requirements include:

- City of Redding Grading Ordinance. This ordinance requires the application of “Best Management Practices” (BMPs) in accordance with the City Erosion and Sediment Control Standards Design Manual (Redding Municipal Code Section 16.12.060, Subsections C, D, and E). In practice, specific erosion-control measures are determined upon review of the final grading plan and are tailored to project-specific grading impacts.
- California Regional Water Quality Control Board “Clean Water Act Section 401 Water Quality Certification.” This permit will require that water quality is not degraded and that appropriate BMPs are used to prevent erosion and sedimentation.
- California Department of Fish and Game (DFG) “Section 1602 Streambed Alteration Agreement.” This notification is required for any work within a streambed.

In addition to standard engineering design and best management practices (BMPs), project-specific mitigation is provided below to ensure affective erosion and sedimentation control.

**c, d.** The project is not located on or near any documented landslide hazard areas or expansive soil, and there is no evidence of ground slippage or subsidence occurring naturally on the site.

**e.** The project does not involve the use of septic tanks or alternative wastewater disposal.

**Documentation**

- City of Redding Health and Safety Element, Figures 4-1 (Ground Shaking Potential) and 4.2 (Liquefaction Potential)
- City of Redding General Plan Final Environmental Impact Report
- City of Redding General Plan Background Report
- City of Redding Grading Ordinance (RMC Chapter 16.12)
- City of Redding Standard Specifications, Grading Practices
- City of Redding Standard Development Conditions for Discretionary Approvals (subdivisions, use permits, site development permits, etc.)
- Soil Survey of Shasta County Area, United States Department of Agriculture, Soil Conservation Service and Forest Service, August 1974
- Division of Mines and Geology Special Publication 42, Titled: Fault-Rupture Hazard Zones in California; Figure 4G, Official Maps of Earthquake Fault Zones
- State Regional Water Quality Control Board, Central Valley Region, Regulations related to Construction Activity Storm Water Permits and Storm Water Pollution Prevention Plans

**Mitigation**

Mitigation Measure 1. The following erosion- and sedimentation-control measures shall be incorporated into the project:

- a. Work in or adjacent to the stream channel shall be restricted to the relatively dry summer and fall period (June 15 through October 15), when the potential to encounter flowing water in the stream channel is low. In the event that dry conditions prevail, construction earlier or later than this period may occur with written authorization of the Department of Fish and Game (DFG) and with implementation of any special measures required by DFG and the City Engineer.
- b. Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas necessary to specifically meet project objectives. Existing native trees and shrubs shall be preserved to the maximum extent possible.
- c. A Certified Professional Soil Erosion and Sediment Control (CPESC) Specialist shall oversee the project to ensure that appropriate erosion- and sediment-control BMPs are timely implemented.
- d. Final soil-stabilization and erosion-control measures (e.g., certified weed-free mulch, erosion-control blankets, and hydromulch) shall be applied to disturbed areas within 14 days of the completion of earth work for each phase. During construction, when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service over the next 24 hours, an appropriate combination of surface stabilization and/or sediment control shall also be installed as determined by the on-site CPESC Specialist.

<b>Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Impact</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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**IV. HYDROLOGY AND WATER QUALITY.** Would the proposal:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Violate any water quality standards or waste-discharge requirements?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

**a, c, f.** With the soils/erosion mitigation measures (Mitigation Measure #1) identified under Section III above, the project would not result in any significant discharges of sediment into ground or surface waters. The intent of the project is to stabilize existing sources of sedimentation and erosion. The project is also intended to improve water quality by restoring the natural floodplain.

**b.** The project has no potential to impact groundwater supplies.

**d, e, h, i.** The proposed creek restoration work falls within the regulatory floodway and floodplain of Sulphur Creek. To evaluate potential impacts to the floodplain resulting from the project, a Floodplain and Hydraulics Report was prepared by Schlumpberger Consulting Engineers Inc. The report concludes that the project would not increase the existing Base Flood Elevation (BFE) of Sulphur Creek or redirect the creek in a potentially damaging way. In fact, Table 1 below shows that when the project model is compared to the baseline (existing conditions) model, the overall flooding potential in the restored reach of the creek is decreased. The new floodplain boundary and elevations would not affect any existing structures. Because hydraulic modeling indicates that the BFE would not be increased by the project, a FEMA-approved Conditional Letter of Map Revision (CLOMR) is not needed. A Letter of Map Revision (LOMR) will be filed with FEMA upon project completion to formally document the final modified floodplain condition.

Construction of riparian and wildlife habitat-enhancement structures within the 100-year floodplain will be approved by California Department of Fish and Game (CDFG). Stream-bank stabilization structures include longitudinal stone toe protection (LPSTP) installed in conjunction with live willow branches (Live Siltation). Stone and log toe slope protection would also be used as needed. Newbury Rock Riffles would be used to protect the existing sewer line that crosses the creek. A series (3) of Newbury Rock Riffles would be installed at the downstream outlet of the Union Pacific Railroad middle reach culvert to raise the channel grade for fish bypass and dissipate the erosive energy (hydraulic jump) at the culvert outlet. These rock riffles would enhance fish habitat by creating a sequence of riffles and pools. Rootwads, longitudinal rock toe, and live willow branches would be used as an environmentally sensitive bank-protection method just downstream of the railroad culvert, along the right descending bank. In-channel boulder clusters would be installed for fish habitat enhancement. The maintenance road crossing of the East Fork Sulphur Creek would be a low-water crossing, accessible during periods of low water, while minimizing impacts to the stream. The crossing would be constructed of either reinforced concrete or clean angular rock placed in a cellular confinement system. Potential impacts to the floodplain from these features were considered in the Hydraulics Report prepared for the project and would not significantly change the base floodplain.

**g.** The proposed project does not involve housing construction within a 100-year floodplain.

**j.** The threat of a tsunami wave is not applicable to inland, central valley communities such as Redding. Seiches have the potential to be generated in either Shasta or Whiskeytown lakes during an earthquake. However, neither lake has been identified in the Health and Safety Element of the General Plan as posing any risk to the project site under such circumstances. There is no documented threat of mudflows affecting the project site.

Table 1. Base Flood Elevation Comparison Summary, Baseline and Project Models

FEMA Station	Model River Station <sup>1</sup>	Q (cfs)	BFE <sup>2</sup> FEMA Model (ft)	BFE <sup>3</sup> Mont-Watson Model (ft)	BFE <sup>4</sup> Baseline Model (ft)	BFE <sup>5</sup> Project Model (ft)	BFE Change <sup>6</sup> FEMA-Baseline (ft)	BFE <sup>7</sup> Mont-Baseline (ft)	BFE Change <sup>8</sup> Project-Baseline (ft)	BFE Change <sup>9</sup> Project-FEMA (ft)
A	206	2115	522	523.3	524.2	524.2	-2.2	-0.9	0	2.2
B	207	2115	522.8	524.2	524.6	524.4	-1.8	-0.4	-0.2	1.6
C	208	2115	526.5	525.1	525.4	524.5	1.1	-0.3	-0.9	-2
D	209	2115	532.3	526.3	531.8	530.9	0.5	-5.1	-0.9	-1.4
E	210	2115	534.1	532.8	533.2	533	0.9	-0.4	-0.2	-1.1
F	211	2115	538.6	538.8	538.8	538.7	-0.2	0.6	-0.1	0.1
G	212	1940	543.9	544.2	546.2	544.4	-2.3	-1.2	-1.8	0.5
H	213	1940	548.4	549	548.4	547.4	0	0.7	-1	-1
I	214	1940	552.2	554.1	552.1	551.6	0.1	2.4	-0.5	-0.6
J	215	1940	561.5	568.3	564.9	564.9	-3.4	3.4	0	3.4
<b>Average Total</b>		<b>2045</b>	<b>538.23</b>	<b>538.61</b>	<b>538.96</b>	<b>538.4</b>	<b>-3.65</b>	<b>-0.12</b>	<b>-0.56</b>	<b>0.17</b>

1 Model Stations used in the HEC- RAS Model  
 2 Elevations taken from Community Panel Number 060360 0005C Dated September 29, 1989. Effective model not obtained.  
 3 Elevation taken from the COR LOMA, LOMR, ELC, and CLOMR locations map, prepared by Montgomery-Watson for City-Wide Storm Drain Plan 2002. Model not obtained.  
 4 Baseline model results. Base Flood elevation in feet, NGVD 1929 from topographic survey performed by Foresight Surveying 10/05.  
 5 Project model results. Base Flood Elevation in feet, NGVD 1929 for the proposed design condition  
 6 Difference in Base Flood Elevation between FEMA model – Baseline model results.  
 7. Difference in Base Flood Elevation between COR (Montgomery-Watson) model – Baseline model results.  
 8 Difference in Base Flood Elevation between Project model– Baseline model results  
 9 Difference in Base Flood Elevation between Project model – FEMA model

**Documentation**

Federal Emergency Management Agency Floodplain regulations, FIRM map 0603602585E, dated 6/16/06  
 City of Redding Storm Drain Master Plan, Montgomery-Watson Engineers 1993  
 Project Hyrdology Report prepared by Schlumpberger Consulting Engineers Inc., dated March 2006  
 Base Flood Elevation Comparison Summary Table, Baseline and Project Models prepared by Schlumpberger Consulting Engineers Inc., dated March 2006

**Mitigation**

No mitigation is required under this topic.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**V. AIR QUALITY.** Would the proposal:

- a. Conflict with or obstruct implementation of the applicable air quality plan?  Potentially Significant Impact  Potentially Significant Unless Mitigation Incorporated  Less Than Significant Impact  No Impact
- b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  Potentially Significant Impact  Potentially Significant Unless Mitigation Incorporated  Less Than Significant Impact  No Impact
- c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?  Potentially Significant Impact  Potentially Significant Unless Mitigation Incorporated  Less Than Significant Impact  No Impact
- d. Expose sensitive receptors to substantial pollutant concentrations?  Potentially Significant Impact  Potentially Significant Unless Mitigation Incorporated  Less Than Significant Impact  No Impact
- e. Create objectionable odors affecting a substantial number of people?  Potentially Significant Impact  Potentially Significant Unless Mitigation Incorporated  Less Than Significant Impact  No Impact

**Discussion**

**a, b, c.** The project is for creek restoration and riparian enhancement and would have no permanent effect on existing air quality. Some fugitive dust (particulate/PM10) emissions are possible with the restoration work (excavation and grading). Standard Mitigation Measures (SMMs) as identified in the Air Quality Element of the General Plan are incorporated into the project as standard construction requirements to minimize potential effects to air quality. Thus, special construction-related mitigation is not required in this case. SMMs include the following:

1. Nontoxic soil stabilizers shall be applied according to manufacturer's specification to all inactive construction areas (previously graded areas inactive for ten days or more).
  2. All grading operations shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour.
  3. Active construction areas shall be watered at least twice daily or more as needed to limit dust.
  4. Exposed stockpiles of soil and other backfill material shall either be covered, watered, or have soil binders added to inhibit dust and wind erosion.
  5. All public roadways used by the project contractor shall be maintained free from dust, dirt, and debris caused by construction activities. Streets shall be swept at the end of the day if visible soil materials are carried onto adjacent public paved roads.
  6. Open burning of cleared vegetation shall be prohibited. Cleared vegetation shall be treated by legal means other than open burning, such as chipping, shredding, or grinding.
- d.** Potential impacts to neighboring properties (sensitive receptors, such the Gipson homesite) from fugitive dust caused during construction are addressed by application of the measures discussed above.
- e.** The project does not involve a land use that could generate objectionable odors affecting a substantial number of people.

**Documentation**

Shasta County APCD Air Quality Maintenance Plan and Implementing Measures  
 City of Redding General Plan Air Quality Element  
 City of Redding General Plan Final Environmental Impact Report, Chapter 8.6, Air Quality  
 CEQA Findings of Fact and Statement of Overriding Considerations for the City of Redding General Plan Final Environmental Impact Report, as adopted by the Redding City Council on October 3, 2000, by Resolution 2000-166  
 City of Redding General Plan Background Report, Chapter 9.7, Natural Resources and Air Quality

**Mitigation**

No mitigation is required under this topic.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**VI. TRANSPORTATION/CIRCULATION.** Would the proposal:

a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

**a, b, d.** As a creek-enhancement project, there would be no significant traffic generation. Existing maintenance roads within the project area would be improved by outsloping at a 2 percent angle, installation of rolling dips, and surfacing with road base. A low-water crossing would be created through the East Fork Sulphur Creek. These gated roads would continue to be used for periodic utility-line-maintenance access, as well as for non-motorized recreation (i.e., walking, bicycling). The project would not adversely affect roadways under State jurisdiction. There are no significant impacts to circulation or street safety risks associated with the proposed project.

- c. The project site is located outside the overflight zones for both the Redding Municipal Airport and Benton Field and has no potential to interfere with airport operations.
- e. The completed project would ultimately help improve emergency access into this portion of Sulphur Creek.
- f. The project does not involve the need for provision of parking spaces.
- g. The project does not conflict with adopted plans, programs, or policies concerning alternative transportation.

**Documentation**

City of Redding General Plan Transportation and Health and Safety Elements  
 City of Redding General Plan Final Environmental Impact Report, Chapter 4, Transportation and Circulation  
 City of Redding Parks, Trails, and Open Space Master Plan 2004  
 City of Redding Capital Improvement Plan, September 2004  
 Redding Municipal Airport Specific Plan Area  
 City of Redding Zoning Ordinance (RMC Title 18)

**Mitigation**

No mitigation is required under this topic.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**VII. BIOLOGICAL RESOURCES.** Would the proposal:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

**a, b.** The General Plan identifies four habitat types as potentially sensitive and requiring special consideration or protection. These include: riparian, vernal pools, aquatic, and wetlands. Most special status species common to the region are associated with these habitat types. The proposed restoration work has the potential to impact riparian, aquatic (creek), and other types of jurisdictional wetlands, although for the purpose of ultimately improving creek-related habitats. Thus, the main focus in this case is to minimize disturbance of sensitive habitat and any related special-status species, while at the same time achieving creek-restoration goals.

A Biological Resources Assessment was prepared for the project by North State Resources. Main species of concern that could be directly affected include the Valley elderberry longhorn beetle and related Blue elderberry shrub plant, Central Valley steelhead, various runs of Chinook salmon, Cooper's Hawk, Yellow Warbler, and Yellow-breasted Chat. There are no State or Federally listed threatened or endangered plant species occurring within the project area.

One elderberry shrub was observed at the project site adjacent to Sulphur Creek. The elderberry shrub will be avoided during construction use with a non-disturbance buffer area as established under consultation with the U.S. Fish and Wildlife Service. The noted fish species have the potential to be impacted, since Sulphur Creek is known to provide seasonal non-natal rearing habitat for juvenile salmonids. The creek is also defined as Critical Habitat by NOAA Fisheries. Chinook salmon and Steelhead are commonly observed in the creek, at times of sufficient flows, as far upstream as the Union Pacific Railroad crossing. The noted bird species could be impacted if active nests are present in the vicinity of construction.

Considering the presence of sensitive habitats and related special status species discussed here, mitigation is necessary as described below to minimize impacts. The measures listed under Mitigation 1, related to protection of water quality and limiting soil erosion, also serve to reduce impacts to the Chinook salmon and Steelhead.

c. Approximately 7.13 acres of jurisdictional waters exist within the project area, including riparian wetland (4.48 ac), fresh emergent wetland (0.07 ac), intermittent stream (2.53 ac), and ephemeral drainage (0.05 ac). Permanent impacts to jurisdictional waters are estimated at approximately 1.29 acres; area of temporary impacts is 0.73 acre. While the proposed restoration work would result in direct impacts to jurisdictional waters, the project qualifies for a Nationwide 29 Permit (NWP) by the Corps. Compensatory mitigation is not required for activities authorized by this NWP. However, proper notification, consultation, and permit confirmation is still necessary. Thus, mitigation is identified below to ensure that impacts to jurisdictional waters are properly authorized in accordance with law.

d. Wildlife travel and migratory routes through the Sulphur Creek corridor would not be significantly impacted by implementation of the project. The proposed restoration work would be localized, occurring only at specific points within the Sulphur Creek corridor, and the width of the corridor allows for unobstructed passage of wildlife during the construction period. Restriction of the in-stream work period to the dry summer months in accordance with Mitigation 1 (June 15 through October 15) will result in a less-than-significant effect on the migration of aquatic species.

e. The project includes revegetation of restored creek and riparian areas with native plant species (willow, oak, cottonwood, and native grasses). Existing riparian vegetation will also be preserved where possible. However, some trees near the bank and those growing on or about the nearby dredger tailing piles may need to be removed to achieve overall restoration goals. A tree survey was conducted to identify trees that may require removal or major trimming. The number and species of trees potentially affected are: 5 grey pine, 14 cottonwood, 3 live oak, and 8 willow. The City has a Tree Management Ordinance (RMC Chapter 18.45) that promotes the preservation of mature and healthy trees with new development. Considering that the proposed restoration work promotes improved riparian forest growth and tree replanting is included with the work, the anticipated tree loss is not inconsistent with the intent of the Tree Management Ordinance.

f. There are no habitat conservation or natural community conservation plans adopted in this area.

#### **Documentation**

City of Redding General Plan Natural Resources Element

City of Redding General Plan Final Environmental Impact Report, Chapter 7.3 (Wildlife Habitat)

City of Redding General Plan Background Report, Chapter 9.5 (Biological Resources)

City of Redding Tree Management Ordinance (RMC Chapter 18.45)

Biological Resources Assessment for Middle Reach Sulphur Creek Enhancement Project prepared by North State Resources dated May 2, 2006

Wetland Delineation Report for Middle Reach Sulphur Creek Enhancement Project prepared by North State Resources dated April 26, 2006

Sulphur Creek Watershed Analysis and Action Plan, prepared for the Cantara Trustee Council (Sacramento Watersheds Action Group, 1998)

Intermittent Streams as Rearing Habitat for Sacramento River Chinook Salmon (*Oncorhynchus tshawytscha*): 1997 update (P. Maslin, J. Kindopp, M. Lennox, and C. Storm; August 10, 1997)

Intermittent Streams as Rearing Habitat for Sacramento River Chinook Salmon (*Oncorhynchus tshawytscha*): 1999 update (P. Maslin, J. Kindopp, M. Lennox, and C. Storm; December 23, 1999)

Working Paper on Restoration Needs: Habitat Restoration Actions to Double Natural Production of Anadromous Fish in the Central Valley of California (U.S. Fish and Wildlife Service 1995)

#### **Mitigation**

Mitigation Measure 2 – *Protection of Jurisdictional Waters*

a. Prior to any discharge of dredged or fill material into "waters of the U.S.," authorization and any required permits shall first be obtained from the Corps. For fill requiring a Corps permit, water quality certification shall also be obtained from the RWQCB.

b. Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of Sulphur Creek and related ephemeral drainages, notification of streambed alteration shall be submitted to the CDFG, and if required, a Streambed Alteration Agreement shall be obtained.

c. All measures contained in permits or other resource agency approvals shall be implemented.

Mitigation Measure 3 – *Valley Elderberry Longhorn Beetle*

a. Prior to construction, a qualified biologist shall locate all blue elderberry shrubs with basal stem diameters larger than 1 inch within the project phase pending construction. A non-disturbance buffer area, as required pursuant to consultation with the U.S. Fish and Wildlife Service, shall be delineated on the ground around the perimeter of the plant with snow fencing or equivalent temporary fencing. The buffer area and fence shall be maintained throughout the course of the restoration work.

b. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant may be used within the required buffer area of any protected elderberry plant.

Mitigation Measure 4 – *Special-Status Birds*. Preconstruction surveys for nesting raptors, yellow warbler, and yellow-breasted chat shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during project implementation. These surveys should be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees and shrubs immediately adjacent to the impact areas for nests. If an active nest is found, the biologist, in consultation with the CDFG, shall determine the extent of a construction-free buffer zone around the nest.

Mitigation Measure 5 – *Worker Training*. An Environmental Awareness Program for construction workers shall be conducted by a qualified biologist prior to the Start of Construction. The program shall provide all workers with information on their responsibilities with regard to sensitive biological resources.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**VIII. MINERAL RESOURCES.** Would the proposal:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion**

a, b. The project site is not identified in the General Plan as having significant mineral resource value or as being located within any "Critical Mineral Resource Overlay" area.

**Documentation**

- City of Redding Natural Resources Element
- City of Redding General Plan EIR
- City of Redding Zoning Map

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**IX. HAZARDS AND HAZARDOUS MATERIALS.** Would the proposal:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

**a, b, c, d.** The nature of the project does not present a significant risk related to hazardous materials or emissions. There are no documented hazardous material sites located on or near the project.

**e, f.** The project is located well outside the established safety zones for Redding Municipal Airport and Benton Field. The proposed creek-restoration work has no potential to conflict with operations of the airport. There are no private airstrips in the project vicinity.

**g.** The project does not involve a use or activity that could interfere with emergency-response or emergency-evacuation plans for the area.

**h.** The proposed restoration work would be conducted in a heavily vegetated natural area surrounded by urban uses. Single-family subdivisions exist along the adjacent ridge tops. This presents a potentially significant wildland-urban interface fire hazard. One spark could result in a serious fire scenario if climactic conditions are right. For this reason, mitigation is noted below to reduce the fire-hazard potential during the creek-restoration construction work.

**Documentation**

- City of Redding General Plan Health and Safety Element and Transportation Element
- City of Redding General Plan Final Environmental Impact Report, Chapter 8 (Health and Safety)
- City of Redding General Plan Background Report, Chapter 10 (Health and Safety)

**Mitigation**

Mitigation Measure 6 – *Fire Safety Measures.*

**a.** Restoration activities utilizing motorized mechanical equipment shall be suspended when climatic conditions promote severe fire danger, such as a Red Flag Warning, as determined by the Fire Marshal.

**b.** Appropriate precautionary fire prevention and control measures applicable to wildland construction work, as required by State and local laws, shall be strictly followed during project implementation. This shall include, but not be limited to, provisions for fire-suppression equipment (water tender and pump with hose lines) to be available at the job site when construction occurs during the fire season.

**c.** All waste vegetation shall either be chipped and spread on-site for erosion control or hauled away for lawful disposal off-site. No piles of slash vegetation shall be kept during the fire season or remain following the completion of each restoration phase.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**X. NOISE.** Would the proposal result in:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Discussion**

**a, b, c.** The proposed creek-restoration project (temporary activity) does not have the potential to be a permanent significant source of noise.

**d.** During project implementation, there would be a temporary increase in noise in the general vicinity of the work above existing ambient sound levels. The most noticeable noise would be related to grading and excavation work. The City’s Grading Ordinance (RMC Chapter 16.12.120.H) limits grading permit-authorized activities to between the hours of 7 a.m. and 7 p.m., Monday through Saturday. No operations are allowed on Sunday. Since the heavy construction work associated with the project is limited in scope and by existing regulation, the anticipated construction noise impact is considered less than significant.

**e, f.** The project does not involve a noise-sensitive land use and is not affected by any airport operations.

**Documentation**

- City of Redding General Plan Noise Element
- City of Redding General Plan Final Environmental Impact Report, Chapter 8.7 (Noise)& Appendix C (Noise)
- City of Redding General Plan Background Report, Chapter 11 (Noise)
- Redding Municipal Code Chapter 18.40.100 (Noise Standards)
- Redding Municipal Code Chapter 16.12.120.H (Grading Construction Standards)

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XI. PUBLIC SERVICES.**

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:<br><br>(1) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
(2) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

a (1) & a (2). The project involves creek restoration work that would not result in the need for any permanent additional police or fire protection services.

a (3). The project would not impact school services.

a (4). The project would not generate a need for community or regional parks.

a (5). The project is not anticipated to adversely affect any other public facilities

**Documentation**

- City of Redding General Plan Public Facilities and Recreation Elements
- City of Redding General Plan Final Environmental Impact Report, Chapter 6 (Other Public Facilities and Services)
- City of Redding General Plan Background Report, Chapter 7 (Public Facilities and Services)
- Chapter 16.20 of the Redding Municipal Code (Development Impact Fee Ordinance)

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XII. UTILITIES AND SERVICE SYSTEMS.** Would the proposal:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

a, b. The proposed creek restoration project does not generate ongoing wastewater demands and does not generate the need for the construction of any new water- or wastewater-treatment facilities.

- c. No need for additional storm-drainage facilities is anticipated by the implementation of this project.
- d, e. The proposed project does not generate the need for water supplies and would not generate the need for sewer service.
- f, g. The project would not generate the need for ongoing solid waste-disposal service.

**Documentation**

City of Redding General Plan Public Facilities Element  
 City of Redding General Plan Final Environmental Impact Report, Chapter 5, Public Facilities and Services  
 City of Redding General Plan Background Report, Chapter 7, Public Facilities and Services, 1998

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XIII. AESTHETICS.** Would the proposal:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Have a substantial adverse effect on a scenic vista?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Substantially degrade the existing visual character or quality of the site and its surroundings?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion**

- a, c. Most of the proposed restoration work would not be readily seen by the public or any nearby residential area, and would not obstruct any documented scenic vistas. The project would not cause a significant change to the overall long-term natural scenic quality of the area, but it may improve it.
- b. The project site is not located adjacent to a State-designated scenic highway.
- d. There is no lighting proposed with this project. There would not be an adverse effect on daytime or nighttime views in the area.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XIV. CULTURAL RESOURCES.** Would the proposal:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d. Disturb any human remains, including those interred outside of formal cemeteries?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Discussion**

a, b. The 2006 archaeological reconnaissance report (North State Resources Inc.) prepared for the project located one recorded archaeological resource, 45-003295 (Vaughan and Tickner 2002) within the project area. A qualified archaeologist reviewed the site and determined that there are no features of cultural significance that meet CEQA (CEQA Guidelines Section 15064.7) and/or National Historic Preservation Act (NHPA) (36 CFR 800.4(c)) significance criteria (Vaughan 2002); therefore, special mitigation is not required. The City's standard development conditions include a requirement that if any cultural materials are discovered by chance during construction, all work must stop in the area of the find, and the City must be notified. A qualified archaeological

professional must then be retained by the developer to review the discovered item(s) and to determine its significance and any appropriate measures.

c. The project corridor is not known to support any unique paleontological resources or unique geologic features.

d. The project site is not known to support any human remains.

**Documentation**

- City of Redding General Plan Natural Resources Element
- City of Redding General Plan Final Environmental Impact Report, Chapter 7.5, Historic and Cultural Resources Archaeological Reconnaissance for the Proposed Old Highway 99 Road-To-Trail and Stream Restoration Project, Redding, Shasta County, California (Vaughan 2002)
- City of Redding 2000–2020 General Plan Natural Resources Element
- City of Redding 2000–2020 General Plan Final Environmental Impact Report, SCH#1998072103; Chapter 7.5 Historic and Cultural Resources
- Primary and Linear Resource Record for Old Highway 99. Record #45-003295-H on file at California Historical Resources Information Service, CSU Chico, California (Vaughn and Tickner 2002)
- Middle Fork Sulphur Creek Realignment and Riparian Enhancement Project Archaeological Reconnaissance Report (North State Resources, Inc., 2006)

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XV. RECREATION.** Would the proposal:

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

**Discussion**

a. The project would not result in the increase of use of existing neighborhood or regional parks. The project does not require the construction or expansion of recreational facilities.

b. Existing utility maintenance roads would be improved by the project and made available to nonmotorized recreation, such as walking and bicycling. Lost Lane ties into the Old Highway 99 trail, which links to a bicycle path that extends to Shasta College. The portion of trail that extends through the project area will be posted with resource-awareness signs.

**Documentation**

- City of Redding General Plan Natural Resources, Recreation, and Public Facilities Elements
- City of Redding General Plan Final Environmental Impact Report, Chapter 6.4, Parks and Recreation
- Chapter 16.20 of the Redding Municipal Code (Development Impact Fee Ordinance)

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XVI. AGRICULTURAL RESOURCES.** Would the proposal:

- 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 a Williamson act contract?
- c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

**Discussion**

a, b, c. The project site, which is largely within the floodplain of Sulphur Creek, has not been used historically for agricultural purposes nor does it possess soils that are prime for agricultural production. Nearby lands have been used in the past for dryland pasture. The site is not located within an area of Prime Farmland as identified by the California Department of Conservation's Important Farmland Series Mapping and Monitoring Program. The tailings and placer diggings soil classification has no potential for agricultural production. Because of frequent flooding in the stream corridor-realignment portion of the proposed project, the project area's soils classification status, and the absence of a history of agricultural use, the proposed project would have no impact on agricultural resources.

**Documentation**

City of Redding General Plan Natural Resources Element; Figure 3-4, Prime Farmland  
 City of Redding General Plan Final Environmental Impact Report, Chapter 7.2, Agricultural Resources  
 CEQA Findings of Fact and Statement of Overriding Considerations for the City of Redding General Plan Final Environmental Impact Report, as adopted by the Redding City Council on October 3, 2000, by Resolution 2000-166  
 Soil Survey of Shasta County Area, United States Department of Agriculture, Soil Conservation Service and Forest Service, August 1974

**Mitigation**

No mitigation is required under this subject.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XVII. MANDATORY FINDINGS OF SIGNIFICANCE.**

<p>a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>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)?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

a. The project has the potential to directly impact sensitive riparian and wetland habitat and related special status species. However, mitigation measures have been identified and will be followed by the project to minimize potential impacts to acceptable levels (discussion under Item 3, *Geology and Soils*, and Item 7, *Biological Resources*). No potential impacts to cultural resources have been identified.

b. The project could have temporary air quality impacts related to dust and other particulate emissions from earth-moving activities. However, under policy of the General Plan, application of Standard Mitigation Measures (SMMs) will reduce potential impacts to a level less than significant (discussion under Item 5, *Air Quality*).

c. As discussed herein, the project does not have characteristics which could cause substantial adverse effects on human beings, either directly or indirectly