

**Initial Study  
and  
Mitigated Negative Declaration**

Painter's Riffle Anadromous Fish Habitat  
Enhancement Project



**LEAD AGENCY:**  
**GLENN-COLUSA IRRIGATION DISTRICT**  
Willows Office  
P.O. Box 150  
Willows, CA  
95988

**September 2014**

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# MITIGATED NEGATIVE DECLARATION

## PAINTER'S RIFFLE ANADROMOUS FISH HABITAT ENHANCEMENT PROJECT

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### LEAD AGENCY

Glenn-Colusa Irrigation District (GCID)

Willows Office  
P.O. Box 150  
Willows, CA 95988

### AVAILABILITY OF DOCUMENT

The Initial Study for this proposed Mitigated Negative Declaration was available for review at the following location:

- Glenn-Colusa Irrigation District, Willows Office, 344 East Laurel Street, Willows, CA 95988

Questions or comments regarding the proposed Mitigated Negative Declaration and the Initial Study were accepted until September 10, 2014. On August 12, 2014, the GCID filed the Proposed MND and Draft IS with the State Clearinghouse, posted the document for 30 day public review at <http://www.gcid.net/Painter%20Riffle.php>, and issued a press release notifying the public of the documents release and start of the public review period which can be accessed at <http://www.gcid.net>. The press release was also distributed to residents and landowners around the Project site. A total of four comment letters were received before the close of the public comment period on September 10, 2014 and are addressed in Appendix A.

### PROJECT DESCRIPTION

#### *Background*

The Golden Gate Salmon Association (GGSA), in cooperation with Glenn-Colusa Irrigation District (GCID) and the Northern California Water Association, has been developing a list of potential Projects to support salmon production in the Central Valley and coordinating with the Federal and State agencies responsible for fisheries and water management. GGSA met with the Federal and State agencies and proposed Project B.10 – Painter's Riffle Anadromous Fish Habitat Enhancement Project (Project) within their eight priority Projects for implementation in 2013 and 2014. GCID evaluated the proposed Project and agreed to accomplish the objectives by acting as the Lead Agency pursuant to the California Environmental Quality Act, as well as funding all costs of the project.

In 1986, a California Department of Fish and Wildlife (CDFW; formerly known as Department of Fish and Game) biologist, Dick Painter, designed and constructed a side channel to support

salmon spawning in the Upper Sacramento River in the City of Redding, California. This site is referred to as Painter's Riffle and is located on the east bank near river mile 296.2, approximately 200 yards downstream of the Highway 44 bridge (see Figure 1).

GGSA estimates that Painter's Riffle was successful for a number of years in producing 100 to 200 additional redds in this attractive spawning area below Keswick Dam. Approximately 11,000 yd<sup>3</sup> of gravel was placed as a work pad beneath the Highway 44 Bridge in 2008 during construction activities and the majority of it washed downstream during a large storm event in 2011 and deposited within the side channel. At flows below 10,000 cubic-feet per second (cfs), the deposited gravel blocks the entrance and creates a potential redd dewatering situation. The U.S. Fish and Wildlife Service and CDFW perform annual monitoring of salmon redds in the area and recent estimates of gravel movements and conditions anticipate that removal of the blockage and redistribution of the existing material would restore the fisheries benefits of the site.

Many areas in the Upper Sacramento River that host abundant spawning habitats for winter-run are largely attributable to successful gravel replenishment Projects over the past few decades. GCID would construct the Project with local funding and the Project is targeted for implementation in November 2014.

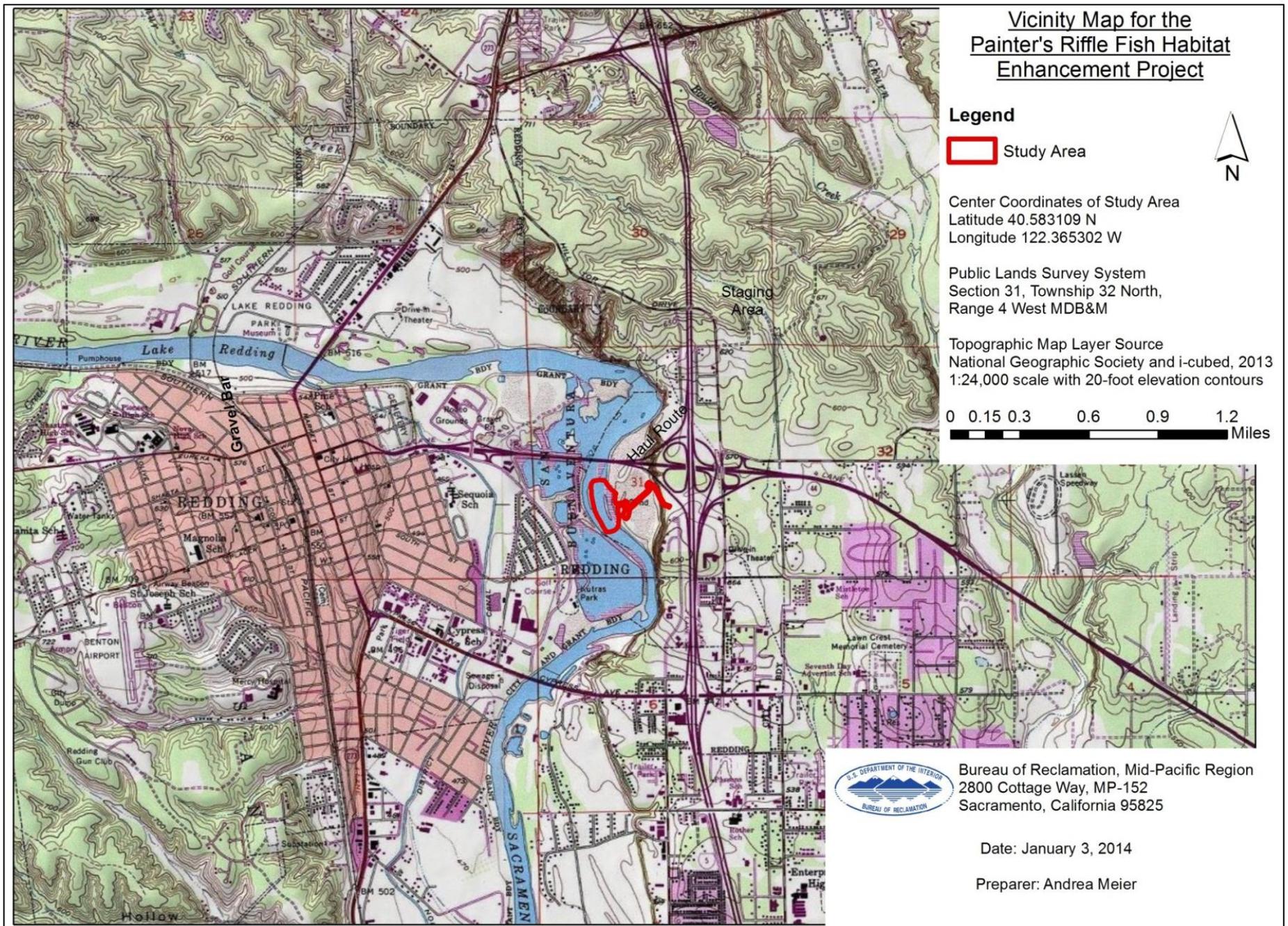


Figure 1. Painter's Riffle Anadromous Fish Habitat Enhancement Project Vicinity Map

### ***Side Channel Layer Material Investigation***

Once permits are obtained, and prior to full mobilization of equipment and gravel, GCID would investigate the subsurface of the site by potholing in three locations within the side channel to verify assumptions of the site's geologic composition. The investigation would provide more details on the depth and volume of gravel material and potential location of an intact layer of hard stratum. Three 12-feet by 12-feet potholes would be dug into the gravel material with a backhoe either 6 feet deep or until an intact layer of hard stratum is encountered. The locations of the potholes and related activities will remain in the dry side channel isolated from the Sacramento River flows. Each hole will be immediately backfilled and restored to its pre-construction elevation upon completion of work. These activities are anticipated to take one day.

### ***Side Channel Design***

Topographic surveys and hydraulic modeling (HEC-RAS) of the site performed by the Bureau of Reclamation (Reclamation) and its Technical Service Center were used to develop and evaluate a design that would provide for salmon and steelhead spawning and rearing and avoid future blockage (Reclamation 2014a).

Since Chinook salmon utilize a range of near-bed water velocities for spawning, the side channel would be designed to have a range of depths and velocities to provide salmon with the ability to select preferred conditions over a broad area and range of flows. The entrance elevation to Painter's Riffle would be configured to allow the side channel to remain inundated at all flows, including the minimum Keswick Dam release of 3,250 cfs to avoid Chinook redd dewatering that can occur with the existing channel configuration. The side channel would also be designed to provide one to three feet of depth during peak fall-run spawning (October to early November), when average flows are approximately 6,000 cfs. The Technical Service Center simulated these two flows in HEC-RAS to determine the minimum entrance elevation of 463 feet to provide approximately ½ foot of depth at 3,250 cfs.

Plan and profile view engineer drawings and cross sections illustrating the existing and proposed topography are shown in Attachment B. The existing side channel would be excavated to maintain a channel approximately 800 ft-long by 100 ft-wide. No excavation of or shaping of the side channel banks, or vegetation removal is anticipated. The proposed profile of the side channel is approximately 0.00125, with an upstream elevation of 463 feet (at station 100 feet) and an elevation of 462.25 feet at station 700 feet shown in Figure 1 of Attachment B. Reclamation's Technical Service Center estimates that GCID would need to remove between 6,600 and 8,000 yd<sup>3</sup> of gravel; however, due to uncertainties in the survey data and longitudinal extent of the deposits, the estimated quantities could range up to 10,000 yd<sup>3</sup>.

The Project will require a combination of front end loaders, paddle wheel scrapers, bulldozers, dump trucks, and excavators (referred to as "equipment") to operate for an approximate span of two to three weeks in November 2014 to redistribute the gravel within the side channel and river bed. The exact combination of equipment will be determined as river water levels decrease and the site can be better surveyed and inspected. Larger boulders and rocks found during gravel redistribution would be placed in the bend of the east bank on the upstream side of the side channel.

The gravel blocking the mouth originated from the gravel work pad placed during the Highway 44 Bridge construction. This gravel is uncrushed, rounded natural river rock between one and four inches in diameter, and prior to its placement had a cleanliness value of no less than 85 percent to minimize the introduction of fine sediments into the river (CDFW 2007). The downstream portion of the side channel will be isolated from the main channel after determination that no juvenile salmonids are present. First a visual (snorkel or walking) survey will be performed. Then, if during the visual survey juvenile salmonids are suspected to be present, either a CDFW biologist would assist in relocating the isolated or stranded fish to the river, or 2-3 biologists will walk abreast downstream at least three times with a block net the length of the side channel, in order to encourage any juveniles to move out of the channel to adjacent habitat. Once the relocation of the fish and visual survey are complete, and it has been determined that no juveniles are present, the downstream connection to the Sacramento River will be immediately blocked off.

### ***Excess Gravel and Lateral Berm Placement***

A gravel berm would be left at the mouth of Painter's Riffle and a gravel berm would be built at the downstream extent of excavation in the side channel to isolate the Project area from the main channel. Approximately one-third of the gravel pile is expected to be in excess of what would be needed to return the side channel to its original design, and would be placed within 200 feet downstream of the side channel bar, in lateral berms (across the channel) along the steep bank of the east bend of the main river where velocities are highest and the potential for downstream transport within the short-term is greatest. This activity would proceed by building a gravel pad from the side channel outlet and at the downstream confluence with the main stem Sacramento to allow equipment to reach the area designated for lateral berm placement. Once placement of gravel is complete, the gravel pad would be incorporated into a final lateral berm. See Attachment C for a map of the Project area and location of gravel movement.

In-river work would be performed with equipment to remove and redistribute no more than 10,000 yd<sup>3</sup> of the gravel blockage. The gravel will be placed to allow mobilization during high flows and in accordance with Clean Water Act and Endangered Species Act permits. All work will be performed in a manner that meets the established Best Management Practices (BMPs). GCID will stage equipment above the high water mark in the adjacent Turtle East Bay Regional Park, outside of wetlands and the flow paths of natural swales. GCID will coordinate with the City of Redding to ensure that there is not Project interference with landscaping planned for the Turtle East Bay Regional Park. Upon completion of excavation of the side channel, the gravel berms isolating the side channel from the main stem will be removed starting with the downstream end, followed by the upstream inlet. The gravel from these berms will be placed in the lateral berms in the main stem or the gravel will be incorporated into the side channel.

After completion of the Painter's Riffle project, it is unlikely that rain events in the future will cause remnants of the gravel pad, approximately 1,000 yds<sup>3</sup>, underneath the Highway 44 Bridge to accumulate in the side channel and create conditions insufficient for spawning habitat. The majority of the gravel pad was mobilized downstream during the large 2011 storm event. However, if signs of concerning accumulation are noticed, the Fisheries Core Team of the CVPIA may consider additional activities at the Painter's Riffle site in the Upper Sacramento River.

## **MITIGATION MEASURES**

### ***Mitigation Measure #1 – Air Quality/Fugitive Dust Control***

- Fugitive dust shall be controlled by using reasonably available control measures provided in Rule 3:16 “Fugitive, Indirect, or Nontraditional Sources” of the SCAQMD.

### ***Mitigation Measure #2 – Wildlife***

- Additional mitigation terms developed in coordination with CDFW, USFWS and NMFS shall also be implemented.
- Due to very limited habitat in the Project area, prior to commencing with site-specific gravel augmentation work, the Project area shall be surveyed by a qualified biologist using CDFW-approved protocols for survey and relocation activities for northwestern pond turtle. If individual northwestern pond turtles are observed in the Project area, they will be relocated to the main channel downstream of the side channel by a qualified biologist using CDFW-protocols.

### ***Mitigation Measure #3–Migratory Songbirds and Raptors***

- Mitigation terms associated with the obtained permits shall be applied.
- To avoid impacts on nesting songbirds and raptors, vegetation removal activities shall occur outside of the nesting season (nesting season is approximately March 1–August 31).
- If other Project implementation activities that have a potential to disturb nesting birds (e.g., noise from equipment) are to occur from March 1–August 31, pre-construction surveys for active raptor and migratory bird nests will be conducted by a qualified biologist. The preconstruction surveys shall be conducted a maximum of 15 days before the start of construction activities. The survey area for raptor nests will include all accessible areas within 250 feet of the Project area; the survey area for migratory birds will include all accessible areas within 50 feet of the Project area. If any active raptor or migratory bird nests are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. These measures may include, but are not limited to establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

### ***Mitigation Measure #4 – Valley Elderberry Longhorn Beetle***

- Mitigation terms associated with the obtained permits shall be applied.
- Elderberry shrubs within 100 feet of high construction activity shall be buffered by placing orange fencing at a 20-foot radius around the shrub.
- Contractors shall be briefed on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements. Work crews shall be briefed about the status of the beetle and the need to protect its elderberry host plant.
- Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the

Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet, and be maintained for the duration of construction.

#### ***Mitigation Measure #5–Erosion and Sediment Control***

- Mitigation terms associated with the obtained permits shall be applied.
- Equipment shall not operate in an active stream channel except as may be necessary to place spawning gravel. When in-channel work is unavoidable, such as to place the leftover gravel in lateral berms downstream once the side channel is redesigned, clean spawning gravel shall be used to create a pad in the channel from which equipment will operate. Instream construction shall proceed in a manner that minimizes sediment discharge.
- GCID shall minimize effects of increased turbidity and sedimentation by meeting the Central Valley Regional Water Quality Control Board (CVRWQCB) water quality objectives for the Sacramento River Basin:
  - Monitoring and Reporting Program under Waste Discharge Requirements;
  - Water sampling and reporting to CVRWQCB;
  - During in-river work, turbidity shall be monitored to remain within criteria established by the CVRWQCB in its Clean Water Act §401 Water Quality Certification. Activities shall not cause turbidity increases in surface water to exceed the CVRWQCB water quality objectives for Sacramento River Basin and all Water Quality Certification requirements shall be implemented; and
  - If the turbidity criteria are exceeded during the 12-hour averaging period, all construction activities shall be halted until turbidity levels drop back down to criteria levels.
- Construction in the side-channel will be isolated from the mainstem Sacramento River until complete. This will minimize potential impacts of sediment releases increasing turbidity downstream.
- Prior to commencing with site-specific gravel augmentation work the Project area will be surveyed for spring-run Chinook redds as part of on-going monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.

#### ***Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants***

- Mitigation terms associated with the obtained permits shall be applied.
- All equipment working within the stream channel shall be inspected daily for fuel, lubrication, and coolant leaks; and for leak potentials (e.g. cracked hoses, loose filling caps, stripped drain plugs); and all equipment shall be free of fuel, lubrication, and coolant leaks. External oil, grease, and mud shall be hand-removed and vehicles or equipment shall be washed/cleaned only at designated areas away from the river channel.

- All construction equipment staging, storage, refueling and maintenance shall be restricted to designated staging areas located away from streams and sensitive habitats on the upper floodplain.
- There shall be temporary spill containment under all equipment receiving fuel.
- Equipment mobilized in the active channel near the water shall use biodegradable vegetable oil instead of typical hydraulic fluid in the hydraulic systems.
- All equipment shall be steam-cleaned prior to arriving on-site to remove contaminants and to minimize the chance of introducing New Zealand mud snails to the river and adjacent lands.
- There shall be no overnight fuel storage on-site.
- Spill prevention kits shall be in close proximity to construction areas, and workers shall be trained in their use.

***Mitigation Measure #7 – Riparian and Sensitive Plant Communities***

- Mitigation terms associated with the obtained permits shall be applied.
- Impacts on existing vegetation shall be avoided to the extent practical.
- Some riparian vegetation has grown on the accumulated gravel pile in the side channel, including two large willow clumps. Removal of the willows shall be done with a method that allows for use of the plants to supply cuttings for any accidental impacts to riparian vegetation. If the willow cuttings are not needed for accidental impacts to riparian vegetation, they may be planted within the Project vicinity in coordination with the City of Redding.

***Mitigation Measure #8 – Anadromous Fish***

- Mitigation terms associated with the obtained permits shall be applied.
- Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work.
- Prior to commencing with site-specific gravel augmentation work the project area will be surveyed for spring-run Chinook redds as part of on-going monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.
- A visual (snorkel or walking) survey will be performed. Then, if during the visual survey juvenile salmonids are suspected to be present within Painter’s Riffle, either a CDFW biologist would assist in relocating the isolated or stranded fish to the river, or 2-3 biologists will walk abreast downstream at least three times with a block net the length of the side channel, in order to encourage any juveniles to move out of the channel to adjacent habitat. Once the relocation of the fish and visual survey are complete, and it has been determined that no juveniles are present, the downstream connection to the Sacramento River will be immediately blocked off.
- Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work. A gravel berm would be left at the mouth of Painter’s Riffle and a gravel berm would be built at the downstream extent of excavation in the side channel to isolate the Project area from the main channel. The downstream portion of the side

channel will be isolated from the main channel after three block net passes through the side channel are completed to encourage any remaining fish to move out of the side channel. Once the block net passes are complete the downstream connection to the Sacramento River will be immediately blocked off.

- To avoid or minimize potential injury and mortality of fish during riverine activities (e.g. addition and grading of spawning gravel in gravel pads or lateral berms), equipment shall be operated slowly and deliberately, or a person shall wade ahead of equipment to alert and cause any adult and juvenile salmonids to shift away from the work area. Before submerging a front end loader bucket or laying gravel below the water surface, the bucket shall be operated to slightly contact the surface of the water, or a person will wade ahead of the fill placement equipment to cause any fish to withdraw from the work area. The first layers of clean gravel that are being placed into the wetted channel shall be added slowly and deliberately to allow fish to move from the work area. These mitigation measures shall occur in the morning prior to the commencement of construction activities, after breaks, and after extended periods of inactivity.

#### ***Mitigation Measure #9 – Cultural Resources***

- In the unlikely event that buried archaeological deposits are encountered during construction, excavation, grading or leveling or development related activities, work in the immediate vicinity of the discovery shall cease until the finds have been evaluated by a qualified archaeologist. Should human remains and associated materials be encountered during construction on non-Federal lands, work in that area shall be halted and the Shasta County Coroner's Office shall be immediately contacted pursuant to Health and Human Safety Code Section 7050.5 and 14 CCR § 15064.5(e). If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of determination, as required by PRC Section 5097. Work at the location of the discovery may not proceed until all requirements of PRC Section 5097 are met through the NAHC.
- The title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. GCID will consult with Assistant Chief Counsel Pam Griggs should any cultural resources on State lands be discovered during construction of the proposed Project.

#### ***Mitigation Measure #10 – Noise***

- Mitigation terms associated with the obtained permits shall be applied.
- Construction equipment shall be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc.); including shrouding or shielding all impact tools, and muffling or shielding all intake and exhaust ports on power equipment.
- Construction equipment usage shall be arranged to minimize travel adjacent to occupied residences and turned off during prolonged periods of non-use.
- Stationary construction equipment and staging areas shall be located as far as possible from sensitive receptors.

- The Project applicant shall designate a disturbance coordinator. That person's telephone number shall be conspicuously posted around the Project site and supplied to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem (e.g., revised construction hours and use of alternative equipment).
- In advance of noise-generating construction operations, the disturbance coordinator shall advise nearby noise-sensitive receptors of the construction schedule at least 72 hours prior to construction activities by posting signage in high-visibility locations.

### ***Mitigation Measure #11 – Land Use***

- Mitigation terms associated with the obtained permits shall be applied.
- Interpretive signs shall be placed at the entrance of any roads or trails in Turtle Bay East Regional Park warning of equipment use in the area. The interpretive signs shall include a summary of the side channel restoration activities. As appropriate, entrances to the side channel shall be gated or closed to vehicle, bicycle, or pedestrian traffic when not in use by placing boulders, logs, dirt piles or other barriers.

## **FINDINGS**

The Initial Study has been prepared to determine if the proposed Project could have a significant effect on the environment. Based on the Initial Study, it has been determined that the proposed Project would not have any significant effects on the environment after implementation of mitigation measures. The mitigation measures identified in the Initial Study will be adopted to ensure compliance with the required mitigation measures. The conclusion is supported by the following findings:

- The proposed Project would have no effects related to Agriculture and Forestry Services, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Utilities and Service Systems, Transportation/Traffic.
- The proposed Project would have a less-than-significant impact on Aesthetics, Air Quality, and Geology and Soils.
- With the implementation of mitigation measures, the proposed Project would have less-than-significant impacts on Biological Resources, Hazards & Hazardous Materials, Cultural Resources, Hydrology and Water Quality, Noise, Recreation, and Mandatory Findings of Significance.

## **DETERMINATION**

In accordance with Section 21082.1 of CEQA, the GCID has independently reviewed and analyzed the Initial Study and proposed Mitigated Negative Declaration for the proposed Project. The Initial Study and proposed Mitigated Negative Declaration reflect the independent judgment of GCID. GCID has determined that adoption of a Mitigated Negative Declaration is appropriate and that the preparation of an EIR will not be required. GCID will adopt a Mitigation

Monitoring and Reporting Plan (Appendix B) to ensure compliance with the required mitigation measures for the proposed Project.



Thaddeus L. Bettner  
General Manager  
Glenn-Colusa Irrigation District

9-18-2014  
Date

**INITIAL STUDY**  
**PAINTER'S RIFFLE ANADROMOUS FISH HABITAT  
ENHANCEMENT PROJECT**

---

**1. Project Title:**

Painter's Riffle Anadromous Fish Habitat Enhancement Project

**2. Lead agency name and address:**

Glenn-Colusa Irrigation District  
P.O. Box 150  
Willows, CA 95988

**3. Contact person and phone number:**

Zac Dickens (530) 934-8881

**4. Project location:**

Township 32 N, Range 4 W, Section 31  
Latitude: 40°35'01.49 N; Longitude: 122°22'03.15 W  
River mile 296.2 on the east bank of the Upper Sacramento River, downstream of Highway  
44 Bridge, in the City of Redding, Shasta County, California.  
See Attachment A for a vicinity map.

**5. Project sponsor's name and address:**

Glenn-Colusa Irrigation District  
P.O. Box 150  
Willows, CA 95988

**6. General plan designation:**

In California, the proposed Project occurs within the general plan areas of the following jurisdictions:

- City of Redding
- Shasta County

**7. Zoning:**

The proposed Project would be constructed in an open space zone (OS-SP). The land use of the property directly adjacent to the proposed site is designated as open space (OS-SP). Lands directly adjacent to the OS-SP are designated multiple family mixed housing (RM-10-SP; RM-15-PD; and RM-12), and residential single family housing (RS-3).

8. **Description of Project: (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary).**

**Background**

The Golden Gate Salmon Association (GGSA), in cooperation with Glenn-Colusa Irrigation District (GCID) and the Northern California Water Association (NCWA), has been developing a list of potential Projects to support salmon production in the Central Valley and coordinating with the Federal and State agencies responsible for fisheries and water management. GGSA met with the Federal and State agencies and proposed Project B.10 – Painter’s Riffle Anadromous Fish Habitat Enhancement Project (Project) within their eight priority Projects for implementation in 2013 and 2014. GCID evaluated the proposed Project and agreed to accomplish the objectives by acting as the Lead Agency pursuant to the California Environmental Quality Act, as well as funding all costs of the project.

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**Side Channel Layer Material Investigation**

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### **Excess Gravel and Lateral Berm Placement**

A gravel berm would be left at the mouth of Painter's Riffle and a gravel berm would be built at the downstream extent of excavation in the side channel to isolate the Project area from the main channel. Approximately one-third of the gravel pile is expected to be in excess of what would be needed to return the side channel to its original design, and would be placed within 200 feet downstream of the side channel bar, in lateral berms (across the channel) along the steep bank of the east bend of the main river where velocities are highest and the potential for downstream transport within the short-term is greatest. This activity would proceed by building a gravel pad from the side channel outlet and at the downstream confluence with the main stem Sacramento to allow equipment to reach the area designated for lateral berm placement. Once placement of gravel is complete, the gravel pad would be incorporated into a final lateral berm. See Attachment C for a map of the Project area and location of gravel movement.

In-river work would be performed with equipment to remove and redistribute no more than 10,000 yd<sup>3</sup> of the gravel blockage. The gravel will be placed to allow mobilization during high flows and in accordance with Clean Water Act and Endangered Species Act permits. All work will be performed in a manner that meets the established Best Management Practices (BMPs). GCID will stage equipment above the high water mark in the adjacent Turtle East Bay Regional Park, outside of wetlands and the flow paths of natural swales. GCID will coordinate with the City of Redding to ensure that there is not Project interference with landscaping planned for the Turtle East Bay Regional Park. Upon completion of excavation of the side channel, the gravel berms isolating the side channel from the main stem will be removed starting with the downstream end, followed by the upstream inlet. The gravel from these berms will be placed in the lateral berms in the main stem or the gravel will be incorporated into the side channel.

After completion of the Painter's Riffle project, it is unlikely that rain events in the future will cause remnants of the gravel pad, approximately 1,000 yds<sup>3</sup>, underneath the Highway 44 Bridge to accumulate in the side channel and create conditions insufficient for spawning habitat. The majority of the gravel pad was mobilized downstream during the large 2011 storm event. However, if signs of concerning accumulation are noticed, the Fisheries Core Team of the CVPIA may consider additional activities at the Painter's Riffle site in the Upper Sacramento River.

## **9. Surrounding land uses and setting: Briefly describe the Project's surroundings:**

The Painter's Riffle site is along the east bank of the Upper Sacramento River, directly adjacent to the Turtle Bay East Regional Park. Turtle East Bay Regional Park is publicly owned and operated by the City of Redding, and is open to the public. Approximately 200 yards upstream of the site is the Highway 44 Bridge, and the Cypress Bridge approximately

1,700 yards downstream of the site. Directly across from the site on the bluffs of the west bank of the Upper Sacramento River are residential areas.

A wetlands and waters of the U.S. field survey was performed on December 20, 2013 for the Project site. There are approximately 11.92 acres of the Sacramento River identified within the 14.71-acre study area. There were no wetlands identified above the ordinary high water mark of the Sacramento River in the study area. Five vegetation communities in the study area were identified: 1) Vegetative community overlapping with the access route: *Quercus douglasii* (Blue oak woodland) alliance with a *Quercus douglasii* (blue oak) – *Quercus wislizeni* (interior live oak) – *Pinus sabiniana* (gray pine) association; 2) Non-native annual grasses near trails where trees are absent; 3) At the transition zone to the ordinary high water mark: *Quercus lobata* (Valley oak) woodland alliance; 4) At the ordinary high water mark: *Salix gooddingii* (Black willow thickets) alliance with a *Salix gooddingii* – *Populus fremontii* (cottonwood association; and 5) Below the ordinary high water mark: *Salix lasiolepis* (Arroyo willow thickets) alliance with a *Salix lasiolepis/Rubus* spp. (blackberry) association.

**10. Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreement):**

- U.S. Army Corps of Engineers: Clean Water Act Section 404/Rivers and Harbors Act Section 10 Nationwide Permit;
- U.S. Fish & Wildlife Service and National Marine Fisheries Service for Endangered Species Act Section 7 compliance (for authorization of Clean Water Action Section 404 Nationwide Permit);
- Department of Fish and Wildlife: If needed, perform analysis and draft application for an Incidental Take Permit in compliance with California Endangered Species Act. Fish and Game Code 1600: Streambed Alteration Agreement Notification;
- Regional Water Quality Control Board: Clean Water Act Section 401 Water Quality Certification;
- California State Lands Commission: State Lands Lease;
- Memorandum of Understanding with the Bureau of Reclamation for technical assistance;
- City of Redding: Encroachment Permit to access and stage equipment for the Project site which is located on City-owned property; and
- Central Valley Flood Protection Board Encroachment Permit.

## ENVIRONMENTAL CHECKLIST FORM

### ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist on the following pages.

- |                                                                      |                                                                |                                                                           |
|----------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Aesthetics                       | <input type="checkbox"/> Agriculture/Forestry Resources        | <input checked="" type="checkbox"/> Air Quality                           |
| <input checked="" type="checkbox"/> Biological Resources             | <input checked="" type="checkbox"/> Cultural Resources         | <input checked="" type="checkbox"/> Geology/Soils                         |
| <input checked="" type="checkbox"/> Hazards &<br>Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water<br>Quality | <input type="checkbox"/> Land Use/Planning                                |
| <input type="checkbox"/> Mineral Resources                           | <input checked="" type="checkbox"/> Noise                      | <input type="checkbox"/> Population/Housing                               |
| <input type="checkbox"/> Public Services                             | <input checked="" type="checkbox"/> Recreation                 | <input checked="" type="checkbox"/> Transportation/Traffic                |
| <input type="checkbox"/> Greenhouse Gas<br>Emissions                 | <input type="checkbox"/> Utilities/Service<br>Systems          | <input checked="" type="checkbox"/> Mandatory Findings of<br>Significance |

### DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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



Signature

9-18-14

Date

Thaddeus L. Bettner, General Manager  
Glenn-Colusa Irrigation District

## INITIAL STUDY/ENVIRONMENTAL CHECKLIST

### EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a. Earlier Analysis Used. Identify and state where they are available for review.
  - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a. The significance criteria or threshold, if any, used to evaluate each question; and
  - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

**RESOURCES ANALYZED:**

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
--	-----------------------------------------------	---------------------------------------------------------------------------	---------------------------------------------	----------------------

**I. AESTHETICS. Would the Project:**

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

**Response:**

- a) *Have a substantial adverse effect on a scenic vista? **No impact.***

A large gravel pile currently clogs the mouth of Painter's Riffle, leaving a dry bed of gravel throughout the rest of the side channel until it rejoins the main stem Sacramento River. The proposed Project would reopen this side channel so that water may flow through, even at the minimum flow of 3,250 cfs and return the site's purpose of providing salmonid spawning habitat. There would be no impact.

- b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? **No impact.***

Minor riparian vegetation has grown on the gravel pile. It is planned for removal, but the two clumps of willow cuttings will be replanted to compensate for unanticipated vegetation impacts and as the opportunity presents itself (see *Mitigation Measure #7 – Riparian and Sensitive Plant Communities*). The bar between the side channel and main stem Sacramento River would not be impacted. There are no rock outcroppings or historic buildings within a state scenic highway in or near the Project area. There would be no impact.

- c) *Substantially degrade the existing visual character or quality of the site and its surroundings? **Less than Significant Impact.***

Equipment will be used to haul gravel material around the site. This equipment may temporarily block a scenic vista of the Sacramento River from the Turtle Bay East Regional Park, but would not result in a permanent adverse impact to the existing landscape. Therefore, there would be a less than significant impact.

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? **No Impact.***

No new sources of temporary or permanent light or glare would be introduced to the site as a result of the Project. There would be no impact.

	<b>Less Than Significant</b>			
<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>	

**II. AGRICULTURE AND FORESTRY RESOURCES.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. 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?                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 non-forest use?

**Response:**

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? **No Impact.***

The Farmland Mapping and Monitoring Program of the California Resources Agency's California Important Farmland Finder shows no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the Project area. There would be no impact.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract? **No Impact.***

The Project area is located in the Sacramento River adjacent to the Turtle Bay East Regional Park of the City of Redding, California and is not located in existing zoning for agricultural use or a Williamson Act contract. There would be no impact.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? **No Impact.***

The Project area is not located in an existing zone of forest land, thus the Project will not cause rezoning of forest land, timberland, or timberland zoned Timberland Production. There would be no impact.

d) *Result in the loss of forest land or conversion of forest land to non-forest use? **No Impact.***

As discussed in II-c, the proposed Project area is not located in forest land and activities would not involve removal of trees or vegetation. There would be no impact.

- 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 non-forest use? **No Impact.***

As discussed in II-a and II-c, the proposed Project area is not located on agricultural or forest land. There would be no impact.

	<b>Less Than Significant</b>			
<b>Potentially Significant</b>	<b>with</b>	<b>Less Than</b>		
<b>Impact</b>	<b>Mitigation Incorporated</b>	<b>Significant</b>	<b>No Impact</b>	<b>Impact</b>

III. AIR QUALITY. Where available, 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?                                                                                                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?                                                                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?                                                                                                                                                                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Response:**

- a) *Conflict with or obstruct implementation of the applicable air quality plan?*
- b) *Violate any air quality standard or contribute 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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? **For a-c), Less Than Significant Impact.***

The Project area is located in the Sacramento Valley Air Basin (SVAB), in Shasta County which is regulated by the Shasta County Air Quality Management District (SCAQMD). The SCAQMD is in attainment for all National Ambient Air Quality Standards (NAAQS) for criteria pollutants of concern. The SCAMQD is in attainment for all California Ambient Air Quality Standards (CAAQS) for criteria pollutants of concern except for ozone (O<sub>3</sub>) (moderate nonattainment) and inhalable particulate matter between 2.5 and 10 microns in diameter (PM<sub>10</sub>). As a result, the emissions of most concern are O<sub>3</sub> (which includes precursors such as volatile organic compounds [VOC] and nitrogen oxides [NO<sub>x</sub>]), and PM<sub>10</sub>. The proposed Project would involve temporary minor emissions from worker trips made to the site and back to GCID's office, and equipment during the construction of the Project for approximately two to three weeks. Calculated emissions from the proposed Project were estimated using the 2013 CalEEMOD software (version 2013.2.1), which incorporates emission factors for VOCs, NO<sub>x</sub>, CO, SO<sub>2</sub>, and both fugitive and exhaust PM<sub>10</sub>, and PM<sub>2.5</sub>. The proposed Project would emit the following:

- O<sub>3</sub>: .4459 tons/year (VOC: .0396 t/year + NO<sub>x</sub>: .4063 t/year)
- PM<sub>10</sub>: .0874 t/year
- PM<sub>2.5</sub>: .0497 t/year

Total emissions of VOC, PM<sub>10</sub>, and PM<sub>2.5</sub> will be temporary, will not exceed the federal general conformity or state *de minimis*/thresholds, and would not result in a cumulatively considerable net increase. Implementation of *Mitigation Measure #1 – Air Quality/Fugitive Dust Control* will further reduce this impact to a less than significant level. There would be a less than significant impact.

- d) *Expose sensitive receptors to substantial pollutant concentrations? **Less Than Significant Impact.***

Proposed Project activities would remain within the side channel of the Sacramento River, which is 550 feet from the nearest residential complex across the river and 950 feet away from the nearest residence on the bluff along the park. Access to the Project site would be blocked off to the public from the park. Construction activities would involve equipment mobilizing between 7 am and 7 pm, Monday through Friday, for approximately two to three weeks in November of 2014. The equipment emissions would not emit pollutants in substantial concentrations, and as discussed in III-a-c,

implementation of *Mitigation Measure #1 – Air Quality/Fugitive Dust Control* will reduce PM<sub>10</sub> emissions. There would be a less than significant impact.

- e) *Create objectionable odors affecting a substantial number of people? **Less Than Significant Impact.***

As discussed in III-d, proposed Project activities would remain within the side channel of the Sacramento River, which is 950 feet away from the nearest residence and would be blocked off to the public from the park. Given the distance of the Project from residences the only likely odor effect would be to recreational users, hikers and fishermen, using the areas adjacent to the Project site. Emissions from equipment do contain an objectionable odor to some people. Hikers and fishermen, who utilize the open space areas adjacent to the Project site, would only smell these odors during the week days, a period of limited recreational use at the park. Therefore considering that people would not have access to the Project site, the Project site is an open area subject to air flow that discourages odor concentration, construction emissions would be temporary and minor, and odors from operation of equipment would affect a minor number of hikers and fishermen, there would be a less than significant impact.

## **Mitigation Measures**

### *Mitigation Measure #1 – Air Quality/Fugitive Dust Control*

- Fugitive dust shall be controlled by using reasonably available control measures provided in Rule 3:16 “Fugitive, Indirect, or Nontraditional Sources” of the SCAQMD.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

**IV. BIOLOGICAL RESOURCES:**

Would the Project:

- |                                                                                                                                                                                                                                                                                                                                                          |                          |                                     |                          |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries 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 Wildlife or U.S. Fish and Wildlife Service?                                                                                                   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" 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 checked="" type="checkbox"/> | <input 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 type="checkbox"/> | <input checked="" 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"/> |

**Response:** 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 Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service? **Less Than Significant Impact with Mitigation Incorporated.***

A California Natural Diversity Database (CNDDDB) query (within a 10-mile radius of the site), U.S. Fish & Wildlife Service (USFWS) Federal Endangered and Threatened Species List produced for the Enterprise, Redding, Igo, Whiskeytown, Shasta Dam, Project City, Bella Vista, Palo Cedro, Balls Ferry, Cottonwood, and Olinda USGS 7.5-Minute Quadrangles, and biological literature for the Project region were referenced to create a list of species within the vicinity of the Project site. That query was further refined by coordination with the USFWS, National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW). Habitat and special-status species presence information was excerpted from:

- Biological Opinion for the State Route 299 (also known as Highway 44) Bridge Replacement Project (NMFS 2002);
- State Route 299 Bridge Replacement Project Letter of Concurrence on Not Likely to Adversely Affect the Southern Distinct Population Segment of North American Green Sturgeon (NMFS 2007);
- Cypress Avenue Bridge Widening Project Environmental Assessment/Environmental Impact Report (U.S. Department of Transportation and City of Redding 2005);
- Biological Assessment for Anadromous Fish for the Lake California Water Intake Fish Screen Project (Reclamation 2009);
- South Fork Cottonwood Creek Nonnative Plant Management and Control Project Initial Study and Mitigated Negative Declaration (CDFW 2012); and
- Proposed Mitigated Negative Declaration for the Lower Clear Creek Anadromous Fish Habitat Restoration and Management Project (California Regional Water Quality Control Board 2014)

The following list of federally- and state-listed species for the Project area resulted from that exercise:

### **1. Species Not Present:**

- Dubious pea (*Lathyrus sulpjureus* var. *argillaceus*) – California Rare Plant Rank 3 (review list)

- Vernal pool fairy shrimp (*Branchinecta lynchii*) – Federally Threatened

- Vernal pool tadpole shrimp (*Lepidurus packardii*) – Federally Endangered
- California linderiella (*Linderiella occidentalis*) – Federal & State Species of Concern
- California red-legged frog (*Rana aurora draytonii*) – Federally Threatened; State Species of Concern
- Foothill yellow-legged frog (*Rana boylei*) – Federal & State Species of Concern
- Western spadefoot toad (*Spea hammondi*) – Federal & State Species of Concern
- Bank swallow (*Riparia riparia*) – State Threatened
- Ringtail cat (*Bassariscus astutus*) – State Species of Concern
- Shasta crayfish (*Pacifastacus fortis*) – Federally Endangered; State Endangered
- Northern spotted owl (*Strix occidentalis caurina*) – Federally Threatened/Critical Habitat; State Candidate
- Western U.S. Distinct Population Segment (DPS) of yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – Federally Proposed Threatened/Proposed Critical Habitat; State Endangered

*Dubious Pea*

Dubious pea is found in cismontane woodlands dominated by broad-leaved trees forming nearly closed forests on moist, fine-textured soils. All of the Project's impact areas will be located on existing pathways and trails in Turtle Bay East Regional Park and within the Sacramento River. Few fine grained soils are found with the Project area and this species is not expected to occur in the Project area.

*Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and California Linderiella*  
During a wetlands and waters of the U.S. site visit in December 2013, no vernal pools or characteristics thereof were observed within the Project vicinity; therefore, vernal pool fairy shrimp, vernal pool tadpole shrimp, and California linderiella are not present.

*California Red-Legged Frog*

California red-legged frog habitat consists of stock ponds, pools, and slow-moving streams with fairly dense bank cover. Although a portion of the downstream end of the side channel has some backwater, within the Project area the Sacramento River itself essentially does not provide suitable habitat for egg laying or embryonic development due to chronic high flows, and lack of depth of pools within the immediate Project area itself. California red-legged frog is not present.

*Foothill Yellow-Legged Frog*

Foothill yellow-legged frog inhabits cooler, fast-moving streams and rivers in chaparral, forests, and woodlands. The Project area provides suitable habitat for the species;

however, the only known occurrences are from Red Bluff south. This species is not present.

#### Western Spadefoot Toad

The side channel is directly adjacent to the actively landscaped Turtle Bay East Regional Park. Due to the lack of vernal pools or seasonal wetlands for breeding and lack of grasslands habitat, western spadefoot toad is not present.

#### Shasta Crayfish

Shasta crayfish inhabit cool, clear, spring-fed lakes, rivers and streams, usually at or near a spring inflow source, where waters show little annual fluctuation in temperature and remain cool during the summer. Most are found in still and slowly to moderately flowing waters. The most important habitat requirement appears to be the presence of adequate volcanic rock rubble to provide escape cover from predators (NatureServe 2014). The Project area lacks the specific habitat requirements of Shasta crayfish and they are only known to occur in California in tributaries (Fall River and Hat Creek subdrainages and a spring tributary of the Pit River at Pit Power House III) of the Pit River in Shasta County (NatureServe 2014). This species is not present.

#### Northern Spotted Owl

Northern spotted owl inhabit structurally complex mature and old-growth forests from southwestern British Columbia, through Washington and Oregon to northern California. The Project area is not within the species' designated critical habitat nor does it contain structurally complex old-growth forests. The Project area is more than 20 miles away, which is the maximum average dispersal range, from the closest critical habitat designation, therefore Northern spotted owl is not present.

#### Western DPS of Yellow-Billed Cuckoo

Western yellow-billed cuckoo inhabits a variety of estuarine, palustrine and terrestrial habitat consisting of scrub-shrub wetland, riparian, and mixed forest or shrubland/chaparral (NatureServe 2014). This species ranges as far north as the Project area; however, the USFWS's proposal to designate critical habitat does not include Shasta County. Western yellow-billed cuckoo is not present.

#### Bank Swallow

Bank swallows are restricted to isolated places where fine-textured or sandy, vertical bluffs or riverbanks are available in which to dig burrows in nesting colonies. The Project area does not provide such habitat and there are no known colonies of bank swallow for at least three miles from the Project area, thus bank swallow is not present.

#### Ringtail Cat

Ringtail cat live in rocky habitat associated with water, including riparian canyons, caves, and mineshafts. Although the Project area contains riparian habitat, it lacks large rocky areas and there have been no records of occurrences of ringtail cat in the Project area according to the CNDDDB program.

## 2. Species May be Present:

- Northwestern pond turtle (*Clemmys marmorata marmorata*) – Federal & State Species of Concern
- Cooper’s hawk (*Accipter cooperi*) – State Species of Concern
- Golden eagle (*Aquila chrysaetos*) – State Species of Concern
- Yellow warbler (*Dendroica petechial*) – State Species of Concern
- Yellow-breasted chat (*Icteria virens*) – State Species of Concern
- Southern Distinct Population Segment (DPS) of North America green sturgeon (*Acipenser medirostris*) – Federally Threatened/Critical Habitat

### Northwestern Pond Turtle

The northwestern pond turtle inhabits ponds, lakes, and slow-moving streams. The species needs basking sites and suitable upland habitat, consisting of sandy banks and grassy open fields, for egg laying. Within the Project area, the Sacramento River is a moderately confined channel dominated by fast-moving run and riffle habitats, with mainly boulder, cobble, and large gravel substrates. Marginal habitat for the northwestern pond turtle exists in a backwater area of the downstream portion of the side channel along the east bank of the Sacramento River. This area is inundated during high releases from Shasta Dam, and the presence of northwestern pond turtles within the Project area is, therefore, unlikely. No pond turtles were observed in the Project area during the December 20, 2013 survey. Instream construction activities associated with gravel augmentation in Painter’s Riffle could harm or kill northwestern pond turtles. These potential impacts on northwestern pond turtles are considered to be adverse, short-term in duration, and moderate in intensity. With implementation of *Mitigation Measure #2–Wildlife*, impacts would be less than significant.

### Cooper’s Hawk

Cooper’s hawks nest in riparian woodland in canyons and floodplains. Suitable foraging and nesting habitat exists within the Project area, although no recorded nest sites were identified by the CNDDDB program within the vicinity of the Project. No Cooper’s hawk nests were observed within the Project area during the December 20, 2013 survey. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Implementation of *Mitigation Measure #3–Migratory Songbirds and Raptors* will further reduce the potential for impacts.

### Golden Eagle

Golden eagles nest on cliffs and tall trees on hillsides, and forage over open grasslands. The Project area provides only marginal nesting habitat in bluffs approximately 850 yards upstream of the Project site, and marginal foraging habitat in the landscaped Turtle Bay East Regional Park. No recorded nest sites were identified by the CNDDDB program

within the vicinity of the Project and no individuals were observed foraging in the Project area during the December 20, 2013 survey. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Implementation of *Mitigation Measure #3–Migratory Songbirds and Raptors* will further reduce the potential for impacts.

#### *Yellow Warbler*

The yellow warbler forages and nests in dense riparian habitat. Suitable habitat for the species exists within the Project area, although no recorded nest sites were identified by the CNDDDB program within the vicinity of the Project. No yellow warbler nests were observed within the Project area during the December 20, 2013 survey. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Construction activities associated with gravel augmentation, particularly the removal of two willow trees on the gravel pile, could impact active yellow warbler nests. These impacts are considered to be adverse, intermediate-term in duration, and moderate in intensity. *Mitigation Measure #3–Migratory Songbirds and Raptors* will be implemented to reduce potential impacts on yellow warbler to a less-than-significant level.

#### *Yellow-Breasted Chat*

The yellow-breasted chat requires dense riparian thickets of willows, vine tangles, and dense brush associated with streams, swampy ground, and margins of small ponds for foraging and nesting. Some suitable habitat for the species exists within the Project area, although no recorded nest sites were either identified by the CNDDDB program or observed during the December 20, 2013 survey. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Construction activities associated with gravel augmentation, particularly the removal of two willow trees on the gravel pile, could impact active yellow-breasted chat nests. These impacts are considered to be adverse, intermediate-term in duration, and moderate in intensity. *Mitigation Measure #3–Migratory Songbirds and Raptors* will be implemented to reduce potential impacts on yellow-breasted chat to a less-than-significant level.

#### *Southern DPS of North America Green Sturgeon*

Green sturgeon are widely distributed throughout the Sacramento River with their critical habitat designated as the water column, river bottom, and adjacent riparian zones within all accessible reaches, including the Project area. The Project implementation period of November avoids the Southern DPS of green sturgeon spawning season, so potential effects would be to migrating and holding adults. The furthest upstream occurrence of green sturgeon in the Upper Sacramento River is at Cow Creek (RM 280), which is 16 river miles downstream of the Project site (RM 296) (Israel and Klimley 2008). Additionally, the Project action area is within a relatively shallow and fast moving portion of the Upper Sacramento River, which would not provide good adult holding

habitat and would not be a migration corridor as no upstream spawning habitat on the Upper Sacramento has been observed. That evaluation of green sturgeon habitat in the action area is collaborated by ongoing green sturgeon migration studies which have not detected adult green sturgeon swimming through the action area (NMFS 2007). Also, the 2007 NMFS letter on the State Route 299 Replacement Project, a project that considered effects to a similar action area, concurred with the determination that construction in this area of the Upper Sacramento River was not likely to adversely affect green sturgeon due to lack of suitable sturgeon habitat (NMFS 2007). That letter concludes that the only aquatic habitat potentially suitable for sturgeon use in the action area consisted of a shallow-water riffle – referring to Painter’s Riffle. The letter then goes on to describe how Painter’s Riffle does not provide suitable conditions for green sturgeon holding. Since no suitable green sturgeon habitat occurs in Painter’s Riffle or the Project action area and given the implementation of measures to reduce downstream impacts, namely *Mitigation Measure #8 – Anadromous Fish*, *Mitigation Measure #5 – Erosion and Sediment Controls*, and *Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants*, the potential project impacts to the Southern DPS of green sturgeon are less than significant and discountable.

### **3. Species known to be Present:**

- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) – Federally Threatened

- Osprey (*Pandion haliaetus*) – State Species of Concern

- Bald eagle (*Haliaeetus leucocephalus*) – Federally Delisted; State Endangered

- Winter-run Chinook salmon (*Oncorhynchus tshawytscha*) – Federally Endangered/Critical Habitat; State Endangered

- Central Valley spring-run Chinook salmon (*O. tshawytscha*) – Federally Threatened/Critical Habitat; State Threatened

- Central Valley steelhead (*Oncorhynchus mykiss irideus*) – Federally Threatened/Critical Habitat

- Central Valley fall/late fall-run Chinook salmon (*O. tshawytscha*) – State Species of Concern

#### *Valley Elderberry Longhorn Beetle*

The valley elderberry longhorn beetle occurs in riparian woodlands, where it feeds on the pith and leaves of blue elderberry (*Sambucus mexicana*) shrubs. The presence of exit holes on the stems of the elderberry shrubs indicates the presence of the valley elderberry longhorn beetle. A cluster of 32 elderberry shrubs was observed during the December 20, 2013 surveillance survey adjacent to an existing pathway in Turtle Bay East Regional Park. Project implementation would occur when the beetle has not yet emerged from the shrub, so individual adults will not be impacted. Although none of the shrubs contain exit holes, the beetle is completely dependent on this shrub species, thus the shrub will be protected during Project activities. The elderberry shrubs already occur in disturbed

context as is evident with visible landscaping and large equipment tracks nearby. Mitigation Measure #4 – Valley Elderberry Longhorn Beetle will be implemented to reduce potential impacts on valley elderberry longhorn beetle to a less than significant level. Elderberry shrubs will be completely avoided in accordance with the USFWS conservation guidelines (USFWS 1999). In accordance with ESA, the project may affect but is not likely to adversely affect Valley Elderberry Longhorn Beetle as construction will occur during November and shrubs will be avoided in accordance with USFWS conservation guidelines (USFWS 1999).

#### Osprey

The osprey, a state species of special concern, forages over clear open waters such as rivers, lakes, and reservoirs. The species nests in large trees, snags, and dead-topped trees near bodies of water. Two ospreys were observed fishing in the main channel Sacramento River directly upstream of the Project area during the site visit on December 20, 2013. No osprey nests were observed within or directly adjacent to the Project area. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Implementation of Mitigation Measure #3–Migratory Songbirds and Raptors will further reduce the potential for impacts.

#### Bald Eagle

The bald eagle utilizes ocean shorelines, lake margins, and large, open-river courses for both nesting and wintering habitat. The Project area provides foraging, perching, and nesting habitat for bald eagles. A record of occurrence from the CNDDDB program indicates the presence of a known bald eagle nest approximately 400 yards from the Project site, across the Sacramento River, on the immediate upstream side of Highway 44 bridge. No individual bald eagles were observed during the December 20, 2013 survey, and the nest is far enough away from the Project site not to be disturbed by construction noise. The known nesting area is 130 yards from the Highway 44 bridge, and take of bald eagle was avoided during the reconstruction of the bridge. The California Department of Transportation (Caltrans) tried preventing nest-building in the known location by shielding nesting locations, but public outcry caused Caltrans to take them down and the eagles continued to successfully nest during construction. Potential impacts would primarily involve altering foraging activities away from construction activities; however, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Project area. Implementation of Mitigation Measure #3–Migratory Songbirds and Raptors will further reduce the potential for impacts.

#### Winter-Run Chinook Salmon

Most of the current winter-run Chinook spawning and rearing habitat exists between Keswick Dam and Red Bluff Diversion Dam (RBDD). Although a small, unknown number of winter-run Chinook are thought to spawn in Battle Creek, the Evolutionarily Significant Unit is widely considered to be reduced to a single population in the mainstem Sacramento River below Keswick Dam. The critical habitat designation in the

Project area includes the water column, river bottom, and adjacent riparian zones of the Sacramento River, within all accessible reaches.

Adult winter-run Chinook enter San Francisco Bay from November through July and migrate past RBDD from mid-December through early August. Spawning may occur from mid-April through mid-August; however, in 2013, some winter-run Chinook redds were observed beyond August, which required higher Keswick Dam releases to be maintained until November 1. The egg incubation period extends from mid-April through mid-September, normally. Juveniles then rear in the upper Sacramento River for a short period before migrating through the Bay-Delta to the ocean as smolts from December to as late as May (Stevens 1989). Juvenile Chinook salmon move out of upstream spawning areas into downstream habitats in response to many factors, including inherited behavior, habitat availability, flow, competition for space and food, and water temperature. The number of juveniles that migrate and the timing of movement are highly variable. In general, juvenile abundance in the Delta increases as flow increases.

### **Potential Effects to Redds and Spawning**

The Project area is within critical habitat of the Sacramento River for winter-run Chinook salmon. The Project action area provides spawning habitat and functions as a migratory corridor for adult and juvenile winter-run Chinook. Due to the life history timing of winter-run Chinook, the spawning and egg/alevin incubation period would be avoided as construction work would occur in the dry side channel when river flows are low in November, after typical winter-run spawning activities – occurring mid-April through mid-August – and would therefore have no effect on winter-run spawning or eggs/alevin.

### **Central Valley Spring-Run Chinook Salmon**

Adult spring-run Chinook salmon enter the Delta beginning January and enter their natal streams from March to July. Upon entering their natal streams, they must hold in cold water for several months to sexually mature. Spring-run Chinook spawning occurs between September and October. Emergence from redds occurs between November and February, depending on water temperature (optimum is 44 to 54 degrees Fahrenheit). Early emergence is common (November to December) at warmer low elevation habitats, and later emergence (January to February) is more common in cooler, higher elevation habitats (CDFW 1998, Harvey Arrison personal communication). The juvenile downstream emigration period extends from November to early May. The critical habitat designation in the Project area includes the water column, river bottom, and adjacent riparian zones of the Sacramento River, within all accessible reaches.

### **Potential Effects to Redds and Spawning**

The Project action area provides spawning habitat and functions as a migratory corridor for adult and juvenile spring-run Chinook. Due to the life history timing of spring-run Chinook, it is possible, though unlikely, for incubating eggs and rearing and emigrating juveniles to be present during the Project work window. Although there is evidence of spring-run Chinook salmon spawning in the main stem Sacramento River, August and September data from the 2005 through 2013 aerial redd surveys performed by CDFW and the Pacific States Marine Fisheries Commission on the upper Sacramento River

(CDFW 2013; Roberts 2014) show that no spring-run Chinook redds were observed in the reach containing the Project site (Highway 44 Bridge to Airport Road Bridge) in six out of 12 surveys within that timeframe (see Table 1). No surveys were done for spring-run Chinook redds in 2009 and 2011. Table 1 also shows that in the past five years there have been no spring-run Chinook redds observed between Highway 44 Bridge and Airport Road Bridge, with the exception of 11 redds observed on September 27, 2013. In recent years, the percentage of spring-run Chinook salmon spawning in the upper Sacramento River within the vicinity of the Project area has declined dramatically.

**TABLE 1. Aerial Redd Surveys on the Sacramento River from Highway 44 Bridge to Airport Road Bridge, August through September 2005 – 2013**

<u>Year</u>	<u>Flight Date</u>	<u>Total Spring-Run Chinook Redds Observed (Based on Timing)</u>
2013	9/12/2013	0
2013	9/27/2013	11
2012	9/20/2012	0
2011	no survey	no survey
2010	8/31/2010	0
2010	9/16/2010	0
2010	9/28/2010	0
2009	no survey	no survey
2008	9/10/2008	0
2008	9/29/2010	10
2007	9/20/2010	6
2006	9/14/2006	3
2005	8/29/2005	4
2005	9/7/2005	3

According to Reclamation’s May 2014 90% Forecast, releases out of Keswick Dam are Projected to be over 58 degrees Fahrenheit, peaking at 58.5 degrees Fahrenheit in late October, and then dropping due to changes in air temperature (Bratcher 2014). This may lead to sub-optimal temperatures for egg incubation and some degree of mortality (approximately 15 to 25 percent for temperatures between 58 and 60 degrees Fahrenheit) for spring-run Chinook (Bratcher 2014). Considering the low probability that spring-run redds will be present near the Project site based on recent aerial redd surveys and the projected sub-optimal temperatures in October Keswick Dam releases, the chances of spring-run Chinook eggs being present near the Project area and being affected by Project activities is unlikely. Additionally, *Mitigation Measure #8–Anadromous Fish* calls for coordination with CDFW and NMFS and implementation of additional protective measures if a spring-run redd is identified near the project site during 2014 aerial surveys. Construction will occur during November, which will likely avoid the egg incubation period and *Mitigation Measure #8–Anadromous Fish* will be implemented to protect spring-run eggs and redds, therefore, potential project impacts to spring-run spawning and eggs are less than significant and discountable.

### Central Valley Steelhead

The spawning migration period for Central Valley steelhead is from October to February, with spawning occurring from December to April. Central Valley steelhead juveniles rear for one to four years and emigrate downstream with the episodic fall, winter, and spring high flows. Central Valley steelhead are found through-out the Lower Sacramento River and on many of the tributaries to the Sacramento River. The critical habitat designation in the Project area includes the water column, river bottom, and adjacent riparian zones of the Sacramento River, within all accessible reaches.

### **Potential Effects to Redds and Spawning**

The Project action area provides juvenile rearing habitat and functions as a migratory corridor for adult and juvenile Central Valley steelhead. Due to the life history timing of Central Valley steelhead, the spawning and egg/alevin incubation period for Central Valley steelhead would be avoided as construction work would occur in the dry side channel when river flows are low in November, prior to typical spawning activities – occurring December to April – and would therefore have no effect on steelhead spawning or eggs/alevin.

### **Winter-run Chinook, Spring-run Chinook, and Central Valley steelhead – Juvenile Fish**

Due to the life history timing of winter-run Chinook, spring-run Chinook, and Central Valley steelhead there is a slim possibility for rearing and emigrating juveniles to be present during the Project work window in the backwater area on the downstream end of the side channel. Overall, very limited salmonid rearing habitat occurs in the Project area as the side channel lacks well developed vegetation, large substrate, or turbulent flow that might create sufficient cover for rearing fish. Also immediately downstream of the side channel, several undercut banks and large overhanging vegetation create very good rearing habitat. Potential impacts to juvenile salmonids in the side channel involve crushing individuals and reducing water quality when the gravel is redistributed within the side channel. To minimize effects to any stray juvenile salmonids in the side channel Mitigation Measure #8–Anadromous Fish would limit water quality effects and injury from construction activities in the side channel by isolating the side channel from the main stem Sacramento River and encouraging juvenile fish to move downstream, out of the side channel and into areas more suitable for rearing.

Construction activities outside of those planned in the side channel itself include construction of gravel pads and placement of lateral berms downstream. When the gravel is placed as gravel pads and lateral berms within 200 feet downstream, construction equipment or gravel may injure juveniles. When gravel is introduced into the main stem Sacramento River, a short-term increase in turbidity may occur as a result of re-suspension of fine streambed sediments, which could re-deposit on the streambed downstream. Potential impacts due to construction of lateral berms are discountable, as it is unlikely to affect juvenile salmonids, because the majority of work is done outside of the stream bank and relatively little gravel enters the stream at the time of placement. However, juvenile salmonids may be at risk of harm due to some loss of riparian

vegetation where new lateral berms are placed over existing riparian vegetation. This effect is expected to be insignificant, however, because of the relatively small amount of riparian habitat that would be affected, and suitable adjacent riparian habitat readily available.

Any use of construction equipment within the banks of the Sacramento River poses a risk that hazardous materials (e.g., fuel, lubricants, hydraulic fluids) could be accidentally spilled during construction activities. *Mitigation Measure #6–Prevention of Accidental Spills of Pollutants* reduces the risk of an accidental release of hazard materials by regular maintenance, cleaning equipment, and replacing typical hydraulic fluid in the hydraulic systems with biodegradable vegetable oil.

Although unlikely, Project activities could result in short-term adverse effects to juvenile salmonids – of winter-run Chinook salmon, spring-run Chinook salmon, and Central Valley steelhead. However, as construction will occur during November and several mitigation measures, *Mitigation Measure #5–Erosion and Sediment Control*, *Mitigation Measure #6–Prevention of Accidental Spills of Pollutants*, *Mitigation Measure #7–Riparian and Sensitive Plant Communities*, and *Mitigation Measure #8–Anadromous Fish*, will be implemented to protect juvenile fish and reduce potential impacts to a less than significant level, the Project may affect but is not likely to adversely affect juvenile salmonids.

#### *Central Valley Fall/Late Fall-Run Chinook Salmon*

Fall / late-fall run Chinook salmon typically migrate upstream in the Sacramento River from July through December and mid-October through March respectively. Adult peak migration occurs from September to October for fall run and December for late-fall run. The primary reaches for fall-run Chinook spawning occur between Keswick and RBDD (approximately 15 miles downstream of the Bend Bridge flow gage). Fall-run Chinook salmon spawn between early October and late December, and incubation takes place during October through March. The peak of spawning is in October and November as water cools. Late-fall run Chinook salmon spawn between early January and late April, and incubation take place from January to June. Chinook salmon deposit their eggs in redds (i.e. gravel nests) located on riffles, runs and pool tails. Eggs generally hatch in six to nine weeks and yolk sac larvae remain in the gravel for several more weeks. After emergence, juvenile Chinook salmon may rear along the channel edge or begin their movement downstream.

Adult fall-run Chinook will be spawning and eggs will be incubating in redds in the vicinity of the Project area during the November work window. Potential impacts to Central Valley fall/late fall-run Chinook salmon involve crushing eggs and reducing water quality during gravel movement and when water flows through the redesigned side channel. Use of construction equipment poses a risk that hazardous materials (e.g., fuel, lubricants, hydraulic fluids) could be accidentally spilled during construction activities. When gravel is redistributed in the side channel and then the gravel in excess of that is placed as gravel pads and lateral berms within 200 feet downstream, construction equipment or gravel may injure juveniles. When gravel is introduced into the mainstem

Sacramento River, a short-term increase in turbidity may occur as a result of re-suspension of fine streambed sediments, which could re-deposit on the streambed downstream. Protection measures described in *Mitigation Measure #5–Erosion and Sediment Control*, *Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants*, *Mitigation Measure #7–Riparian and Sensitive Plant Communities*, and *Mitigation Measure #8–Anadromous Fish* shall be implemented to reduce potential impacts on Central Valley fall-run Chinook salmon to a less than significant level.

- 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 Wildlife or U.S. Fish and Wildlife Service? **Less Than Significant Impact with Mitigation Incorporated.***

As discussed in IV-a, *Mitigation Measure #4 – Valley Elderberry Longhorn Beetle* will be implemented to reduce potential impacts on valley elderberry longhorn beetle to a less than significant level. Two clumps of willow trees will be removed from the gravel pile in the side channel, but *Mitigation Measure #7–Riparian and Sensitive Plant Communities* will be implemented to reduce potential impacts to riparian vegetation to a less than significant level. No other vegetation is anticipated to be removed.

- 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? **No Impact.***

A Waters of the U.S. wetland delineation survey was conducted on December 20, 2013, followed up by a report that was submitted to the U.S. Army Corps of Engineers for verification (Reclamation 2014b). The proposed Project construction area is located below the Ordinary High Water Mark. However, there were no wetlands identified above the Ordinary High Water Mark of the Sacramento River in the study area. It is important to note that redistribution of the gravels would not convert Painter’s Riffle to dry land or change the use of the side channel, but return it to its original streambed elevation and the relative properties. The proposed Project would restore and enhance aquatic habitats impacted by construction of Shasta Dam, and would implement reasonable and prudent alternatives identified in the OCAP Biological Opinion (i.e., continue spawning gravel augmentation efforts in the Sacramento River). Therefore, implementation of the proposed Project would not result in permanent adverse effects on waters of the United States. There would be no impact.

- 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? **Less Than Significant with Mitigation Incorporation.***

As discussed in IV-a, winter-, spring-, fall/late fall-run Chinook and Central Valley steelhead use the Sacramento River in the Project area for spawning and rearing habitat

and as a migratory corridor in unique timeframes. Resident and migratory birds may nest in the riparian vegetation nearby as well. The Painter's Riffle side channel is currently clogged with accumulated gravel and is dry until it reaches the main stem Sacramento River. The side channel is not currently used as a migratory fish or wildlife corridor and Project activities would not impede the use of native wildlife nursery sites. The main Sacramento River channel is used as a migratory corridor for fish and aquatic species, but it will remain open to allow continued passage. A gravel berm would be left at the mouth of the side channel to isolate the construction area from the river until activities conclude. Reclamation will provide a post-construction report summarizing construction activities, fish survey data collected within 200 yards upstream and downstream of the construction site, and avoidance and/or minimization measures taken.

The lateral berms and gravel pads placed downstream of the side channel will not extend into the mainstem Sacramento River enough to block wildlife and migratory fish movement. Implementation of *Mitigation Measure #2 – Wildlife*, *Mitigation Measure #3–Migratory Songbirds and Raptors*, and *Mitigation Measure #8–Anadromous* would further reduce impacts to the movement of native resident or migratory fish or wildlife species to a less than significant level.

- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? **No Impact.***

The proposed Project involves returning properties to a side channel that would provide suitable habitat for wild salmon spawning and rearing. There would be minimal vegetation removal/replanting and equipment would remain on existing pathways until they reach the side channel. Native plant restoration activities by the City of Redding in Turtle Bay East Regional Park would be complete in the spring of 2014 and would not be impacted by the proposed Project. There would be no impact.

- 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? **No Impact.***

The Project will not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan. There would be no impact.

## **Mitigation Measures**

### *Mitigation Measure #2 – Wildlife*

- Additional mitigation terms developed in coordination with CDFW, USFWS and NMFS shall also be implemented.
- Due to very limited habitat in the Project area, prior to commencing with site-specific gravel augmentation work, the Project area shall be surveyed by a qualified biologist using CDFW-approved protocols for survey and relocation activities for northwestern

pond turtle. If individual northwestern pond turtles are observed in the Project area, they will be relocated to the main channel downstream of the side channel.

#### Mitigation Measure #3–Migratory Songbirds and Raptors

- Mitigation terms associated with the obtained permits shall be applied.
- To avoid impacts on nesting songbirds and raptors, vegetation removal activities shall occur outside of the nesting season (nesting season is approximately March 1–August 31).
- If other Project implementation activities that have a potential to disturb nesting birds (e.g., noise from equipment) are to occur from March 1–August 31, pre-construction surveys for active raptor and migratory bird nests will be conducted by a qualified biologist. The preconstruction surveys shall be conducted a maximum of 15 days before the start of construction activities. The survey area for raptor nests will include all accessible areas within 250 feet of the Project area; the survey area for migratory birds will include all accessible areas within 50 feet of the Project area. If any active raptor or migratory bird nests are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. These measures may include, but are not limited to establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

#### Mitigation Measure #4 – Valley Elderberry Longhorn Beetle

- Mitigation terms associated with the obtained permits shall be applied.
- Elderberry shrubs within 100 feet of high construction activity shall be buffered by placing orange fencing at a 20-foot radius around the shrub.
- Contractors shall be briefed on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements. Work crews shall be briefed about the status of the beetle and the need to protect its elderberry host plant.
- Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet, and be maintained for the duration of construction.

#### Mitigation Measure #5–Erosion and Sediment Control

- Mitigation terms associated with the obtained permits shall be applied.
- Equipment shall not operate in an active stream channel except as may be necessary to place spawning gravel. When in-channel work is unavoidable, such as to place the leftover gravel in lateral berms downstream once the side channel is redesigned, clean spawning gravel shall be used to create a pad in the channel from which equipment will operate. Instream construction shall proceed in a manner that minimizes sediment discharge.

- GCID shall minimize effects of increased turbidity and sedimentation by meeting the Central Valley Regional Water Quality Control Board (CVRWQCB) water quality objectives for the Sacramento River Basin:
  - Monitoring and Reporting Program under Waste Discharge Requirements;
  - Water sampling and reporting to CVRWQCB;
  - During in-river work, turbidity shall be monitored to remain within criteria established by the CVRWQCB in its Clean Water Act §401 Water Quality Certification. Activities shall not cause turbidity increases in surface water to exceed the CVRWQCB water quality objectives for Sacramento River Basin and all Water Quality Certification requirements shall be implemented; and
  - If the turbidity criteria are exceeded during the 12-hour averaging period, all construction activities shall be halted until turbidity levels drop back down to criteria levels.
- Construction in the side-channel will be isolated from the mainstem Sacramento River until complete. This will minimize potential impacts of sediment releases increasing turbidity downstream.
- Prior to commencing with site-specific gravel augmentation work the project area will be surveyed for spring-run Chinook redds as part of on-gong monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.

*Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants*

- Mitigation terms associated with the obtained permits shall be applied.
- All equipment working within the stream channel shall be inspected daily for fuel, lubrication, and coolant leaks; and for leak potentials (e.g. cracked hoses, loose filling caps, stripped drain plugs); and all equipment shall be free of fuel, lubrication, and coolant leaks. External oil, grease, and mud shall be hand-removed and vehicles or equipment shall be washed/cleaned only at designated areas away from the river channel.
- All construction equipment staging, storage, refueling and maintenance shall be restricted to designated staging areas located away from streams and sensitive habitats on the upper floodplain.
- There shall be temporary spill containment under all equipment receiving fuel.
- Equipment mobilized in the active channel near the water shall use biodegradable vegetable oil instead of typical hydraulic fluid in the hydraulic systems.
- All equipment shall be steam-cleaned prior to arriving on-site to remove contaminants and to minimize the chance of introducing New Zealand mud snails to the river and adjacent lands.
- There shall be no overnight fuel storage on-site.
- Spill prevention kits shall be in close proximity to construction areas, and workers shall be trained in their use.

*Mitigation Measure #7 – Riparian and Sensitive Plant Communities*

- Mitigation terms associated with the obtained permits shall be applied.
- Impacts on existing vegetation shall be avoided to the extent practical.
- Some riparian vegetation has grown on the accumulated gravel pile in the side channel, including two large willow clumps. Removal of the willows shall be done with a method that allows for use of the plants to supply cuttings for any accidental impacts to riparian vegetation. If the willow cuttings are not needed for accidental impacts to riparian vegetation, they may be planted within the Project vicinity in coordination with the City of Redding.

#### Mitigation Measure #8 – Anadromous Fish

- Mitigation terms associated with the obtained permits shall be applied.
- Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work.
- Prior to commencing with site-specific gravel augmentation work the project area will be surveyed for spring-run Chinook redds as part of on-gong monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.
- A visual (snorkel or walking) survey will be performed. Then, if during the visual survey juvenile salmonids are suspected to be present within Painter’s Riffle, either a CDFW biologist would assist in relocating the isolated or stranded fish to the river, or 2-3 biologists will walk abreast downstream at least three times with a block net the length of the side channel, in order to encourage any juveniles to move out of the channel to adjacent habitat. Once the relocation of the fish and visual survey are complete, and it has been determined that no juveniles are present, the downstream connection to the Sacramento River will be immediately blocked off.
- Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work. A gravel berm would be left at the mouth of Painter’s Riffle and a gravel berm would be built at the downstream extent of excavation in the side channel to isolate the Project area from the main channel. The downstream portion of the side channel will be isolated from the main channel after three block net passes through the side channel are completed to encourage any remaining fish to move out of the side channel. Once the block net passes are complete the downstream connection to the Sacramento River will be immediately blocked off.
- To avoid or minimize potential injury and mortality of fish during riverine activities (e.g. addition and grading of spawning gravel in gravel pads or lateral berms), equipment shall be operated slowly and deliberately, or a person shall wade ahead of equipment to alert and cause any adult and juvenile salmonids to shift away from the Project area. Before submerging a front end loader bucket or laying gravel below the water surface, the bucket shall be operated to slightly contact the surface of the water, or a person will wade ahead of the fill placement equipment to cause any fish to withdraw from the work area. The first layers of clean gravel that are being placed into the wetted channel shall be added slowly and deliberately to allow fish to move from the work area. These mitigation

measures shall occur in the morning prior to the commencement of construction activities, after breaks, and after extended periods of inactivity.

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

**Response:**

- a) *Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5? **Less Than Significant with Mitigation Incorporation.***

The proposed action requires compliance with the California Environmental Quality Act (CEQA) as well as the National Historic Preservation Act (NHPA) of 1966, as amended. Both the NHPA and CEQA essentially mandate that government agencies take into consideration the effects of their actions on cultural resources listed on or eligible for inclusion in the California Register of Historical Resources (CRHR) (defined as historical resources at 14 CCR § 15064.5[a]) and the National Register of Historic Places (NRHP) (defined as historic properties at 36 CFR § 800.16[1]). A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. While the NRHP and CRHR significance criteria are similar, the former is given precedence in this analysis because cultural resources eligible for the NRHP are also eligible for inclusion in the CRHR, but the reverse is not necessarily true (PRC 5024.1[c]). Therefore, employing the federal standards will be applicable in both federal and state regulatory contexts. The USACE, with technical assistance from Reclamation, initiated NHPA Section 106 consultations with the California State Historic Preservation Officer (SHPO) on a finding of no adverse effects to historic properties, pursuant to 36 CFR §800.5(b).

The Proposed Action/Project area/Area of Potential Effects (APE) has been subjected to cultural resources investigations by the Reclamation, dated April 23, 2014. As a result of

a records search at the Northeastern Information Center, historical research, and archaeological field survey, no cultural resources were identified with the APE (Barnes 2014, incorporated by reference). No archaeological resources were identified.

No plant resources of potential value for Native Americans such as sedge or deer grass, which are of importance in the traditional methods of basketry construction, were observed in the surveyed area.

No evidence of subsurface cultural resources was found in the records search or the field survey. Should an unanticipated discovery be made, implementation of *Mitigation Measure #9 – Cultural Resources* will reduce any potential impacts to less than significant.

- b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? **No Impact.***

See remarks under V-a.

- c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? **No Impact.***

The geological formations identified in the Project area do not contain paleontological resources or unique geologic features (Barnes 2014).

- d) *Disturb any human remains, including those interred outside of formal cemeteries? **Less Than Significant Impact with Mitigation Incorporated.***

No evidence of human remains was identified through cultural resources investigations (Barnes 2014). Should an unanticipated discovery be made, implementation of *Mitigation Measure #9 – Cultural Resources* will reduce any potential impacts to less than significant.

## **Mitigation Measures**

### *Mitigation Measure #9 – Cultural Resources*

- In the unlikely event that buried archaeological deposits are encountered during construction, excavation, grading or leveling or development related activities, work in the immediate vicinity of the discovery shall cease until the finds have been evaluated by a qualified archaeologist. Should human remains and associated materials be encountered during construction on non-Federal lands, work in that area shall be halted and the Shasta County Coroner's Office shall be immediately contacted pursuant to Health and Human Safety Code Section 7050.5 and 14 CCR § 15064.5(e). If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of determination, as required by

PRC Section 5097. Work at the location of the discovery may not proceed until all requirements of PRC Section 5097 are met through the NAHC.

- The title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. GCID will consult with Assistant Chief Counsel Pam Griggs should any cultural resources on State lands be discovered during construction of the proposed Project.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

VI. GEOLOGY AND SOILS. Would the Project:

- |                                                                                                                                                                                                                                                                                        |                          |                          |                                     |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?                                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?                                                                                                                                                                                                                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| iv) Landslides?                                                                                                                                                                                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?                                                                                                                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

**Response:** Would the Project:

- a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
- i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
  - ii) *Refer to Division of Mines and Geology Special Publication 42. Strong seismic ground shaking?*
  - iii) *Seismic-related ground failure, including liquefaction? **For i to iii) No Impact.***

The Alquist-Priolo Earthquake Fault Zoning Map shows that the City of Redding, California is not affected by Alquist-Priolo Earthquake Fault Zones as of January 2010; thus, the Project would not expose people or structures to potential adverse effects involving the rupture of a known earthquake fault, strong seismic ground shaking, or ground failure, including liquefaction. There would be no impact.

- b) *Result in substantial soil erosion or the loss of topsoil? **Less Than Significant Impact.***

The Project would not involve the movement of soil or topsoil. All cut and fill activities would be restricted to the gravel bar found within the confines of the side channel and the adjacent river bed. For this reason, equipment will not disturb the gravel material along the banks of the side channel, so there would be no discernible increase in erosion of the banks from the proposed Project. Changing the flow and volume of the water moving through the gravel side-channel lead to only minor additional soil erosion or loss of topsoil outside of the side-channel as this Project returns the river to the previous stable alignment of the side channel that was altered by the landing installed to build the upstream bridge. Some stabilization of the river bed would occur but this would lead to only minor amounts of erosion because the river had this alignment for nearly 25 years prior to bridge construction. There would be a less than significant impact.

- c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? **Less Than Significant Impact.***

The Project involves the distribution of dry accumulated gravel material in a side channel of the Upper Sacramento River. Equipment would mobilize on top of this material. The gravel material is within a riverbed and would be mobilized when the side channel is reopened and subjected to flows. However, the Project was designed to return the side channel to its previous stable alignment that was altered by the landing installed to build the upstream bridge. Some reestablishment of the downstream river bed would occur but

this would lead to only minor amounts of erosion because the river had this alignment for nearly 25 years prior to bridge construction and therefore the grade and substrate would be stable if the side channel is reopened. There would be a less than significant impact.

- 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? **No Impact.***

The Project area is not located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), and would not create substantial risks to life or property. There would be no impact.

- e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? **No Impact.***

The Project area is located within the channel of the Upper Sacramento River where septic tanks or alternative waste water disposal systems would not be located. There would be no impact.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant</b>	<b>No Impact</b>
<b><u>VII. GREENHOUSE GAS EMISSIONS.</u> Would the Project:</b>				

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Response:** Would the Project:

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? **No Impact.***

Greenhouse gas (GHG) impacts are considered to be cumulative impacts since any increase in GHG emissions would add to the existing inventory of gases that could contribute to climate change. CARB has not adopted a definition for a significant impact or GHG emission limits and emission reduction measures. Since there is no specific

definition for a significant impact, the new guidelines on GHG emissions do not establish any specific thresholds for determining whether those emissions are significant and has left it to lead agencies to use their best efforts to investigate and disclose a Project's environmental effects.

Because it is believed that global warming is being caused by human activities on the entire planet it would be highly speculative to conclude that this Project's temporary emission of 32.41 metric tons of carbon dioxide equivalents would have a direct adverse impact on global climate. Temporary Project construction emissions would be minimal (see section Air Quality III. a-c) and the release of GHGs when compared to the scope of the current anthropogenic release of GHGs would be negligible. The Project would have no discernible impact on GHG. There would be no impact.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:

- |                                                                                                                                                                                                                                |                          |                                     |                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?                                                                                        | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?                                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?                                                                | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a                                 | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

safety hazard for people residing or working in the Project area?

- |                                                                                                                                                                                                                      |                          |                          |                                     |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**Response:** Would the Project:

- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? **Less Than Significant Impact with Mitigation Incorporated.***

Implementation of the proposed Project will involve a hazard associated with the use of diesel- or gasoline-powered construction equipment (e.g., front end loaders) and lubricants such as oil. The potential for public or environmental exposure to such a hazard would be temporary and mitigable since equipment would be routinely maintained and inspected to avoid leaks. Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants will be implemented to reduce potential impacts associated with accidental spills of pollutants (e.g., fuel, oil, grease) to a less than significant level. There would be a less than significant impact with mitigation incorporated.

- 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? **Less Than Significant Impact with Mitigation Incorporated.***

See VIII-a. With the implementation of Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants, reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would create a less than significant impact to the public or environment.

- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? **No Impact.***

Construction equipment would emit some combustion-engine emissions, but the Project area is not located within one-quarter mile of an existing or proposed school. There would be 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? **No Impact.***

The Project area is not 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 not create a hazard to the public or the environment. There would be no impact.

- e) *For a Project located within an airport land use plan or, where such a plan has not been adopted, within 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? **No Impact.***

The Project area is neither located within an airport land use plan nor, where such a plan has not been adopted, within two miles of a public airport or public use airport and therefore not result in a safety hazard for people residing or working in the Project area. There would be no impact.

- f) *For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area? **No Impact.***

The Project area is not located within the vicinity of a private airstrip. There would be no impact.

- g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? **No Impact.***

The Project area consists of the side channel on the east bank of the Upper Sacramento River, approximately 200 yards downstream of the Highway 44 bridge and approximately one acre total of roadway and staging area within the immediately adjacent Turtle Bay East Regional Park. There are residential areas bordering the eastern side of the park along Bechelli Road, but the Project location and activities would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as the Project. There would be no impact.

- 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? **Less Than Significant Impact.***

Turtle Bay East Regional Park is regularly landscaped and maintained by the City of Redding. Areas of the park where construction activities will occur along the bank of the Sacramento River are vegetated with trees, shrubs, grasses, and herbs. However, the Project activities will occur in November when humidity is higher and day time

temperatures are lower, reducing the risk of fire. There would be a less than significant impact.

**Mitigation Measures**

Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants shall be implemented to reduce potential hazard impacts to a less than significant level.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>IX. HYDROLOGY AND WATER QUALITY.</b>				
Would the Project:				
Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level 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 a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in 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 checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/>            |
| j) Inundation by seiche, tsunami, or mudflow?                                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Response:** Would the Project:

- a) *Violate any water quality standards or waste discharge requirements? **Less Than Significant Impact with Mitigation Incorporated.***

The Project will comply with all of the water quality standards and waste discharge requirements of the Clean Water Act Section 404 with a Nationwide Permit through the U.S. Army Corps of Engineers, and the Clean Water Act Section 401 with a Water Quality Certification through the CVRWQCB. Water quality concerns include turbidity, suspended matter, settleable matter, and various pollutants associated with construction activities.

The proposed Project could result in water quality impacts by temporarily increasing in-river suspended particles during construction activities and as flows pass through the newly opened side channel. However, BMPs and standards for water quality and waste discharge required by the U.S. Army Corps of Engineers and CVRWQCB would be implemented under *Mitigation Measure #5 – Erosion and Sediment Control* and *Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants* to avoid violation and reduce impacts to a less than significant level.

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

The Project is located within a side channel of the Sacramento River and would not involve the use of water supplies. GCID would move accumulated gravel within the side

channel that had active flows prior to clogging in 2011, and would not excavate below the original streambed elevation. The Project would not impact groundwater supplies or interfere with groundwater recharge.

- c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? **Less Than Significant Impact with Mitigation Incorporated.***

The purpose of the Project is to unplug the side channel to once again allow flows through as occurred prior to construction of the new Highway 44 bridge. Due to the fact that this side channel had water flowing through it for 25 years until 2011, the reopening of the side channel would not substantially alter the course of a river in a manner which would result in substantial erosion or siltation on- or off-site. Mitigation Measure #5 – Erosion and Sediment Control and Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants would be implemented to reduce impacts to existing drainage patterns of the site or area to a less than significant level.

- 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? **Less Than Significant Impact with Mitigation Incorporated.***

See IX-c. Additionally, the reactivated channel would spread potential flood release water over a larger area and help prevent flooding in other areas of the Upper Sacramento River. There would be a less than significant impact with mitigation incorporated.

- 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? **No Impact.***

The proposed Project would not collect any storm run-off from any Public Agencies, communities, or districts. The Project would not increase the rate or amount of surface run-off as the surface area and slope of the existing gravel pile in the side channel would be reduced. There would be no impact.

- f) *Otherwise substantially degrade water quality? **Less Than Significant Impact with Mitigation Incorporated.***

Most of the gravel-moving activities would occur in the dry side channel. In order to avoid operating equipment in the water when placing excess gravel in lateral berms downstream of the side channel outlet, excess gravel would be pushed out to create a gravel pad upon which the equipment would mobilize. Once the lateral berms are formed, the gravel pad would be pushed into the main stem Sacramento River for natural distribution. This action may result in having equipment operating in the water. However, as discussed in VIII-b and IX-a, the proposed Project will implement the

specified mitigation measures and comply with the water quality standards and waste discharge requirements of the Clean Water Act Sections 404 and 401 through a Nationwide Permit and Water Quality Certification. There would be a less than significant impact with mitigation incorporated.

- 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? **No Impact.***

The proposed Project does not involve construction of housing. There would be no impact.

- h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows? **Less Than Significant Impact.***

The Sacramento River and western portion of Turtle Bay East Regional Park of the Project location are within the Federal Emergency Management Agency 100-year floodplain; however, there would be no change in existing land uses that would add additional area into the floodplain described by FEMA.

The proposed Project involves the reactivation of a side channel to provide attractive spawning and rearing habitat for wild salmon. The side channel is currently clogged with gravel and is dry. The excess accumulated gravel would gradually be placed in the main stem Sacramento River from the mouth and outlet of the side channel for natural distribution. In addition, the grading of the side channel to allow flows, including flood flows, through it would help reduce flood risk when compared to the existing conditions. There would be a less than significant impact.

- i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? **Less Than Significant Impact.***

As discussed in IX-g, there would be no change in existing land uses that would add additional area into the floodplain described by FEMA. The Project would lessen the risk for flooding due to failure of a dam, structure, or levee upstream. There would be a less than significant impact.

- j) *Inundation by seiche, tsunami, or mudflow? **No Impact.***

The proposed Project footprint is a riverine environment so there is no potential for a seiche, tsunami or mudflow to occur. There would be no impact.

## **Mitigation Measures**

*Mitigation Measure #5–Erosion and Sediment Control and Mitigation Measure #6 – Prevention of Accidental Spills of Pollutants shall be implemented to reduce potential impacts to hydrology and water quality to a less than significant level.*

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

X. LAND USE AND PLANNING. Would the Project:

- |                                                                                                                                                                                                                                                                                                             |                          |                          |                          |                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community?                                                                                                                                                                                                                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to 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"/> |

**Response:** Would the Project:

- a) *Physically divide an established community? **No Impact.***

The proposed Project is located on the Sacramento River and Turtle Bay East Regional Park and would not physically divide an established community. There would be 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 the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? **No Impact.***

The proposed Project would reactivate a gravel-plugged side channel to allow water flows through and once again provide salmonid spawning habitat. No part of Turtle Bay East Regional Park would be altered, other than temporarily using the parking lot or an upland area to stage equipment. The City of Redding recently landscaped the park and staged large equipment on site as well. Therefore, there would be no impact on existing or proposed land use plans, policy or regulation of other agencies or conflict with conservation plans of others as a result of the Project.

- c) *Conflict with any applicable habitat conservation plan or natural community conservation plan? **No Impact.***

There are no applicable habitat conservation plans or natural community conservation plans in place for the Project site. There would be no impact.

	<b>Less Than Significant</b>		
	<b>with</b>	<b>Less Than</b>	
<b>Potentially Significant Impact</b>	<b>Mitigation Incorporated</b>	<b>Significant Impact</b>	<b>No Impact</b>

XI. MINERAL RESOURCES. Would the Project:

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

**Response:** 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? **No Impact.***

The Shasta County General Plan (2004) includes Chapter 6.3 “Minerals”, which listed the Sacramento River as one of the primary identified locations for alluvial sand and gravel resources for Portland cement concrete grade aggregate. The proposed Project is located in a previously active side channel in the Sacramento River, and involves the mobilization of known gravel material. However, no gravel material would be removed from the Sacramento River system within Shasta County. There would be no impact.

- b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? **No Impact.***

As discussed in XI-a, the proposed Project would not remove gravel material from the Shasta County portion of the Sacramento River system. There would be no impact.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

XII. NOISE -- Would the Project result in:

- |                                                                                                                                                                                                                                                                     |                          |                                     |                          |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                                                                                 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?                                                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/>            | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?                                                                                                      | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Response:** Would the Project result in:

- a) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*  
***Less Than Significant Impact with Mitigation Incorporated.***

Construction and hauling would be limited to weekdays, excluding holidays, between the hours of 7 am and 7 pm. The City of Redding Municipal Code Noise Standards state that construction operations are prohibited to occur between the hours of 7 p.m. and 6 a.m., and 7 p.m. and 7 a.m. from September 16 through May 14. Implementation of Mitigation Measure #10 – Noise would further reduce potential impacts to a less than significant level.

- b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? **No Impact.***

The main sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these sources are anticipated with the Project. The primary vibratory source during the Project could be from front end loaders, a bulldozer, or excavator. Typical bulldozer or loaded truck activities generate an approximate vibration level of 80-87 Vdb at a distance of 25 feet. Typically, vibration levels must exceed 80 Vdb before annoyance occurs or 100 VdB before building damage occurs. There are no residences or structures within 25 feet of any proposed construction activity. There would be no impact.

- c) *A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? **No Impact.***

The noise levels are temporary during construction of the Project and would return to existing conditions after the Project is completed. There would be no impact.

- d) *A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? **Less Than Significant Impact with Mitigation Incorporated.***

No additional noise would be generated by the Project except for the minor, temporary use of equipment during the construction activities. As discussed in XII-a, *Mitigation Measure #10 – Noise* shall be implemented to reduce potential impacts to a less than significant impact.

- e) *For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? **No Impact.***

The proposed Project area is not located within an airport land use plan or within two miles of a public airport or public use airport. There would be no impact.

- f) *For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels? **No Impact.***

The proposed Project area is not within the vicinity of a private airstrip. There would be no impact.

## **Mitigation Measures**

### Mitigation Measure #10 – Noise

- Mitigation terms associated with the obtained permits shall be applied.

- Construction equipment shall be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc.); including shrouding or shielding all impact tools, and muffling or shielding all intake and exhaust ports on power equipment.
- Construction equipment usage shall be arranged to minimize travel adjacent to occupied residences and turned off during prolonged periods of non-use.
- Stationary construction equipment and staging areas shall be located as far as possible from sensitive receptors.
- The Project applicant shall designate a disturbance coordinator. That person's telephone number shall be conspicuously posted around the Project site and supplied to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem (e.g., revised construction hours and use of alternative equipment).
- In advance of noise-generating construction operations, the disturbance coordinator shall advise nearby noise-sensitive receptors of the construction schedule at least 72 hours prior to construction activities by posting signage in high-visibility locations.

	<b>Less Than Significant</b>		<b>Less Than Significant</b>	
	<b>Potentially Significant</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant</b>	<b>No Impact</b>

XIII. POPULATION AND HOUSING. Would the Project:

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

**Response:** Would the Project:

- a) *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?* **No Impact.**

The proposed Project involves neither the extension of roads and other infrastructure nor the proposition of new homes and businesses; thus would not induce population growth. There would be no impact.

- b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? **No Impact.***

The proposed Project area is not located in a residential area and would not displace existing housing. There would be no impact.

- c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? **No Impact.***

As discussed in XIII-b, the proposed Project area is not located in a residential area, and would not displace people. There would be no impact.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

XIV. 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Response:**

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:*

a. *Fire protection, Police protection, Schools, Parks, or Other Public Facilities?*  
**No Impact.**

The proposed Project would not involve the addition or alteration of any public services. The proposed Project is partially located on and would be accessed through the Turtle Bay East Regional Park, which is open to the public. Although construction equipment would be staged in the park after construction hours for the Project, the Project involves alteration of a side channel in the Sacramento River, outside of the park. There would be no physical impacts associated with the need for new or physically altered governmental facilities in order to maintain acceptable public services. There would be no impact.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

**XV. RECREATION.**

- |                                                                                                                                                                                                                |                          |                                     |                          |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 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?                        | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Response:**

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? **Less Than Significant Impact with Mitigation Incorporated.***

As discussed in XIV-a, the proposed Project is partially located on and would be accessed through the Turtle Bay East Regional Park. However, the Project involves the restoration of a side channel in the Sacramento River in order to provide suitable spawning habitat for salmonids. This action may create additional fishing areas, and the presence of equipment could create a safety issue. Implementation of *Mitigation Measure #11 – Land Use* would reduce potential impacts to a less than significant level.

- 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? **No Impact.***

The proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities. There would be no impact.

**Mitigation Measures**

*Mitigation Measure #7 – Riparian and Sensitive Plant Communities* shall be implemented to reduce potential impacts to recreation to a less than significant level.

*Mitigation Measure #11 – Land Use*

- Mitigation terms associated with the obtained permits shall be applied.
- Interpretive signs shall be placed at the entrance of any roads or trails in Turtle Bay East Regional Park warning of equipment use in the area. The interpretive signs shall include a summary of the side channel restoration activities. As appropriate, entrances to the side channel shall be gated or closed to vehicle, bicycle, or pedestrian traffic when not in use by placing boulders, logs, dirt piles or other barriers.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

XVI. TRANSPORTATION/TRAFFIC. 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) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <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) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?                                                                         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

**Response:** 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? **No Impact.***

Mobilization and demobilization for the proposed Project would entail the transport of equipment to the Project site. All gravel hauling and stockpiling would be inside the confines of the side channel Project footprint. Given the limited use of the surrounding circulation system, the implementation of the proposed Project would not impact the Level of Service of any vehicle road.

Access would be limited to the proposed Project footprint during construction. This area is not utilized by bicycle commuters however recreationist, mostly hikers and fishermen, do use the site to access adjacent portions of the river. The areas adjacent to the proposed Project area can be accessed via alternative routes and the closure would be posted two weeks in advance along the trail and at the trail head to notify recreational users of the temporary closure. The closure is temporary and with proper notification recreational users of the Turtle Bay East Regional Park and the Sacramento River would be able to access most of the open space adjacent to the proposed Project footprint.

The proposed Project would not change the existing land use in the area. Consequently, the Project would not generate an increase in traffic as a long-term result of the Project construction activities. There would be no impact.

- b) *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? **No Impact.***

As discussed in XVI-a, the proposed Project would not generate any additional traffic that would contribute to congestion on the local roadways. There would be no impact.

- 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? **No Impact.***

The proposed Project would not cause an increase in air traffic or alter air traffic in any way. There would be no impact.

- d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? **No Impact.***

There are no hazardous design features associated with the proposed Project. No alterations to road features would be involved. There would be no impact.

- e) *Result in inadequate emergency access? **No Impact.***

The proposed Project will incorporate adequate emergency access. There would be no impact.

- f) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? **Less Than Significant Impact with Mitigation Incorporated.***

As discussed in XVI-a, the proposed Project would not change the existing land use in the area. There are unpaved roads throughout Turtle Bay East Regional Park and the Sacramento River pedestrian and bicycle trail running along the north border of the park from Bechelli Lane and under the Highway 44 bridge. The City of Redding is actively landscaping and making park improvements in this area, including a bike and pedestrian trail that would be used for the ingress and egress of equipment to the river. Equipment will be mobilized on this trail once for ingress and once for egress a day, to and from the equipment staging site. Implementation of *Mitigation Measure #11 – Land Use* would reduce impacts to bicyclist and pedestrian use of trails to a less than significant level. The trail will be returned to its prior conditions when the proposed Project has been completed.

**Mitigation Measures**

Mitigation Measure #11 – Land Use shall be implemented to reduce potential impacts on transportation and traffic to a less-than-significant level.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>XVII. UTILITIES AND SERVICE SYSTEMS.</b>				
Would the Project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

**Response:** Would the Project:

a-g) **No Impact.**

The proposed Project involves the removal and grading of accumulated gravel in a side channel in the Sacramento River where salmonids have previously spawned successfully. Once the side channel is graded to the accepted design, any excess gravel would be placed in lateral berms within 200 feet downstream of the side channel outlet, and be pushed out from the inlet of the side channel for natural distribution. There would be no changes to any land uses, no requirements for domestic water supply, no solid waste production, nor would it generate any wastewater. There would be no impact.

	<b>Less Than Significant</b>			
	<b>Potentially Significant Impact</b>	<b>with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |                                     |                                     |                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?                                                                                                           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Response:**

- 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? **Less Than Significant Impact with Mitigation Incorporated.***

The proposed Project is not expected to degrade the quality of the environment, substantially reduce the habitat of 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. The purpose of the proposed Project is to benefit salmonids by reopening a side channel that had previously supported between 100 and 200 redds for the 25 years before it was plugged in 2011 with remnants from a gravel work pad left in the river from the Highway 44 bridge construction. The analysis of this Initial Study results in a determination that any potential biological habitats or archaeological findings will be avoided and mitigated per the previous impact section discussions. There would be a less than significant impact with avoidance and mitigation incorporation.

- 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)? **Less Than Significant Impact with Mitigation Incorporated.***

The proposed Project would allow for Sacramento River flows to move through the side channel and provide suitable salmonid spawning and rearing habitat while reducing the risk of redd dewatering. The duration of construction would only be for approximately two to three weeks and involve equipment. Due to the size of the Project and implementation of mitigation measures and reconnaissance level surveys prior to construction, the individual impacts from the Project would not be cumulatively considerable.

The Highway 44 Bridge Reconstruction Project approximately 200 yards upstream of the Project site completed construction in 2010. The gravel that has accumulated in and clogged Painter's Riffle originated from the gravel work pads left in the Sacramento River upon completion of work as spawning gravel. The temporal distance between that Project and the proposed Project is large enough to avoid any cumulatively considerable impacts.

Landscaping and irrigation system installation activities by the City of Redding have recently concluded in the Turtle Bay East Regional Park. Vegetation, including some riparian vegetation, invasive species, and nonnative species were removed and replaced with native vegetation. The park activities were beneficial for native and riparian habitat, and the only impact that the proposed Project would have is the removal of the two clumps of willows on the gravel pile and replanting the cuttings in access points on the river bank leading to Painter's Riffle. The Project impacts would not be cumulatively considerable.

There are approximately 7 additional gravel augmentation Project sites in the Upper Sacramento River proposed by Reclamation and the other agencies charged with implementing the Central Valley Project Improvement Act (CVPIA) goals. All of these Projects involve gravel redistribution in the Upper Sacramento River to provide suitable salmonid habitat. The proposed Projects include the following sites (Table 1):

Table 1 Potential Salmonid Restoration Projects in the Upper Sacramento

<u>Site Name</u>	<u>River Mile</u>
Keswick Dam West	302.0
Market Street	298.3
Turtle Bay Island Side-Channel	297.0
Cypress Avenue	295.0
Tobiasson Island and Side-Channel	291.6
Kapuesta	288.0
Shea	289.6

The timeframe for implementation of most of these Projects is three to five years subject to funding and completion of environmental review. Of these Projects, the Turtle Bay Island Project is the closest upstream proposed Project site. The Turtle Bay Island Project involves construction of four side channels through an island. Gravel would be excavated from the island and redistributed on the island and surrounding river.

The proposed Project could have potential cumulatively considerable impacts to aesthetics, air quality, cultural resources, land use and planning, noise, biological resources, geology and soils, hazards and hazardous materials, and hydrology and water quality resources. The cumulative analysis for these resources follows. The Proposed Action would not have cumulatively considerable impacts to other resources evaluated in this IS.

**AESTHETICS, AIR QUALITY, CULTURAL RESOURCES, LAND USE AND PLANNING, HAZARDS AND HAZARDOUS MATERIALS and NOISE**

Impacts to aesthetics, air quality, cultural resources, land use and planning, hazards and hazardous materials, and noise resources from the proposed Project are solely construction related. Therefore impacts to these resources would be temporary and limited to the Project footprint and the areas immediately adjacent to the Project. Because the other proposed gravel augmentation Projects would be separated by space and time, no additional cumulative effect is possible to these resources. The proposed Project's individual impacts would be less than significant or with implementation of mitigation measures would reduce individual impacts to less than significant. Therefore, aesthetics, air quality, cultural resources, land use and planning, hazards and hazardous materials, and noise impacts would not be cumulatively considerable.

## GEOLOGY AND SOILS and HYDROLOGY AND WATER QUALITY

Impacts to geology and soils and hydrology and water quality from the proposed Project result from disturbance of materials during construction in the short term and in the long term changes to sediment transport within the Sacramento River. Disturbance of materials during construction leading to an increase in turbidity is a temporary short term effect –observable on a weekly timeframe. The implementation of mitigation measures would reduce the Proposed Action’s individual impacts to less than significant. Therefore because the other proposed restoration actions would be separated by space and time no additional cumulative effect is possible from material disturbance during construction.

In the longer term, movement of gravels placed in the Sacramento River during this proposed Project would be recruited and moved downstream changing downstream sediment budgets. The gravel material is within a riverbed and would be mobilized when the side channel is reopened and subjected to flows. Some aggradation and erosion may result. However, the Project was designed to return the side channel to its previous stable alignment that was altered by the landing installed to build the upstream Highway 44 bridge. Some reestablishment of the downstream river bed would occur but this would lead to only minor amounts of erosion because the river had this alignment for nearly 25 years prior to bridge construction and therefore the grade and substrate would be stable if the side channel is reopened.

The Turtle Bay Island Side-Channel Project involves construction of four perennially flowing side channels up to 1,000 feet-long by 50 feet-wide through an island designed to provide spawning and juvenile rearing habitat. Gravel would be excavated from the island and redistributed on the island and surrounding river. Most gravel from the Turtle Bay Island Project would be carefully sited on the island, if possible. If needed, gravel would be pushed across the upper end of the side channel to create a temporary driving surface for equipment and would be removed by grading into the surrounding terrain at the completion of work. Any gravel placed in areas where it might mobilize during high flow would be sited such that it would not plug Painter’s Riffle side channel. The Painter’s Riffle side channel was stable for nearly 25 years so this indicates that minor perturbation of the upstream gravel budget should not cause the riffle to aggrade. If other gravel augmentation Projects are implemented, the amount of gravel in the Upper Sacramento River would increase. However the Sacramento River runs a sediment deficit due to the damming of the areas upstream of Shasta Dam where historically gravel was recruited in the Sacramento River watershed. The purpose of the CVPIA gravel augmentation program is to rectify some of that deficit such that listed salmonids have habitat in which to spawn and rear. The cumulative increase in gravel should improve conditions for salmonids and augment the sediment distribution found in the Sacramento River such that river hydrology is closer to conditions found in other large undammed valley rivers. There would be a beneficial impact and the effect to geology and soils and hydrology and water quality would not be cumulatively considerable.

## BIOLOGICAL RESOURCES

Potential impacts to biological resources from the proposed Project result from short term construction activities such as direct effects to redds or elderberry shrubs while indirect effects to biological resources result from increased water turbidity. The implementation of mitigation measures would reduce the proposed Project's individual impacts to less than significant. Therefore, because the other proposed restoration actions would be separated by space and time no additional cumulative effect is possible from construction activities for these short term effects.

In the long term, effects of the Painter's Riffle side channel Project would be to improve salmonids spawning and rearing habitat. Additionally, the goals of the other gravel augmentation Projects in the Upper Sacramento River would be to improve fish habitat. There would be a beneficial impact and the effect to biological resources would not be cumulatively considerable.

- c) *Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? **Less Than Significant Impact.***

The environmental effects of the proposed Project would at most be less than significant; therefore, the proposed Project would not cause substantial adverse effects on human beings, either directly or indirectly. There would be a less than significant impact.

## OTHER REQUIRED DISCLOSURES:

### Indian Trust Assets

The Proposed Action does not have the potential to affect Indian Trust Assets (ITA). The nearest ITA is the Redding Rancheria, approximately 5 miles South of the Project location.

### Indian Sacred Sites

As defined by Executive Order 13007: Indian Sacred Sites, a sacred site "means any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an

Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The affected environment for the Proposed Project does not include Federal land; therefore, there is no potential for Indian Sacred Sites to be affected by the Proposed Project.

### Environmental Justice

The 1994 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all Federal agencies to conduct “programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons

(including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.”

The residential communities near the Project site include some apartments and rental properties that may house low-income or minority persons. The proposed Project would result in no adverse changes in the environment to the surrounding residential communities as mobilization and demobilization will be the only time heavy equipment will be traveling through the surrounding neighborhood, the construction duration is limited to 2 to 3 weeks, and only limited short-term emissions of criteria pollutants would result from construction activities. Therefore, the proposed Project is not likely to affect low-income and minority groups potentially living in the neighborhoods surrounding the Painter's Riffle site. Accordingly, the Proposed Action would not have any significant or disproportionately negative impact on low-income or minority individuals within the project area.

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## **ATTACHMENT A: Vicinity Map**

Vicinity Map for the  
Painter's Riffle Fish Habitat  
Enhancement Project

**Legend**

 Study Area

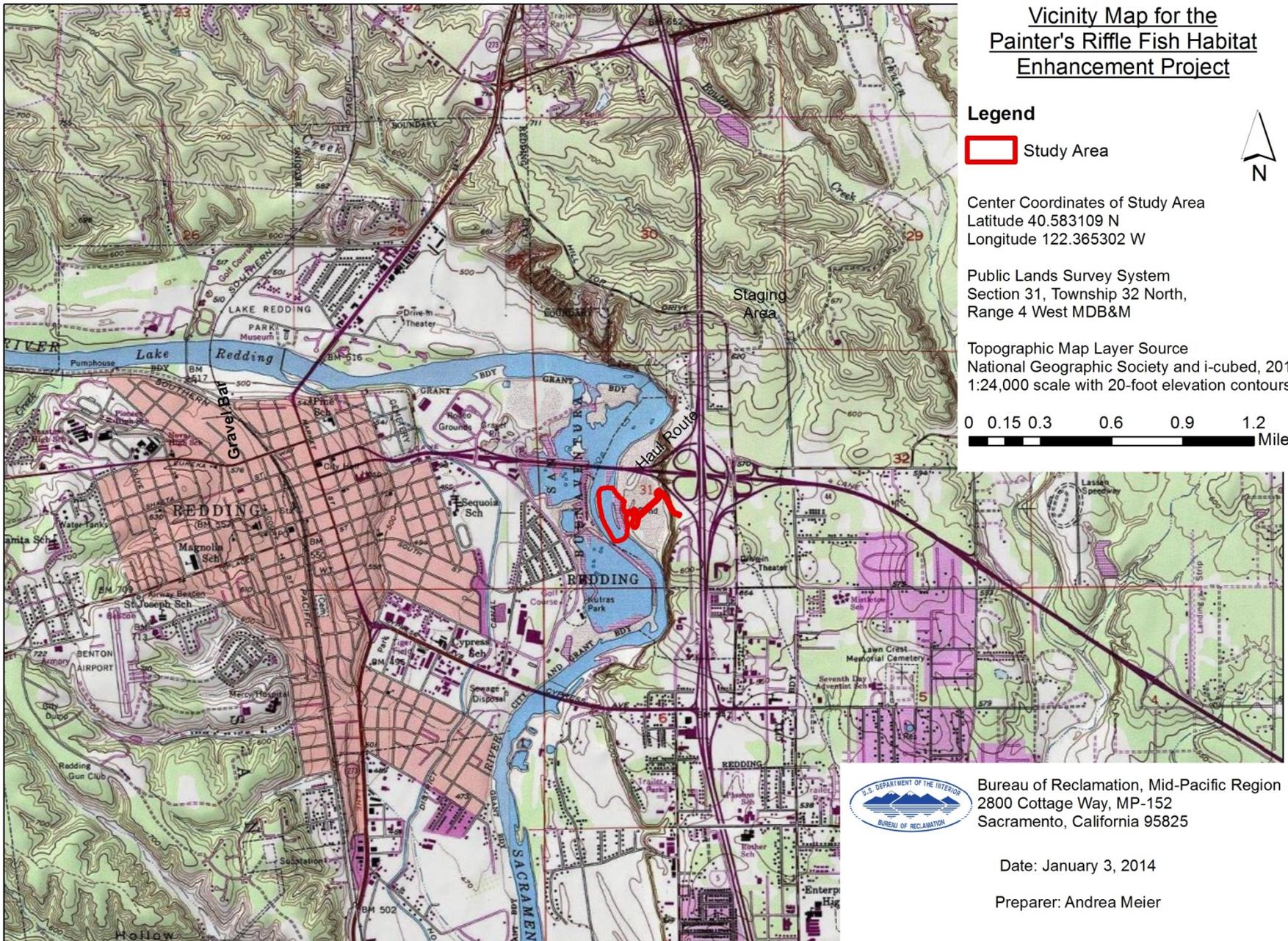


Center Coordinates of Study Area  
Latitude 40.583109 N  
Longitude 122.365302 W

Public Lands Survey System  
Section 31, Township 32 North,  
Range 4 West MDB&M

Topographic Map Layer Source  
National Geographic Society and i-cubed, 2013  
1:24,000 scale with 20-foot elevation contours

0 0.15 0.3 0.6 0.9 1.2  
Miles

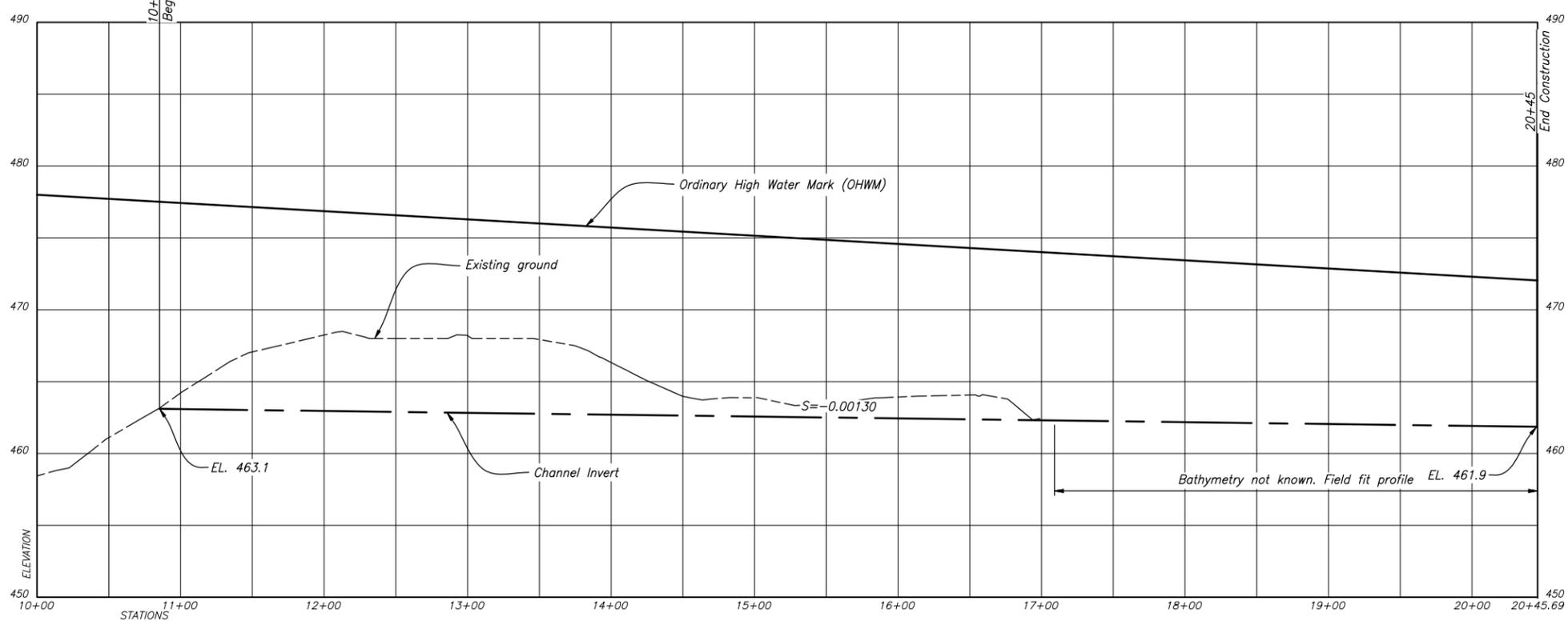
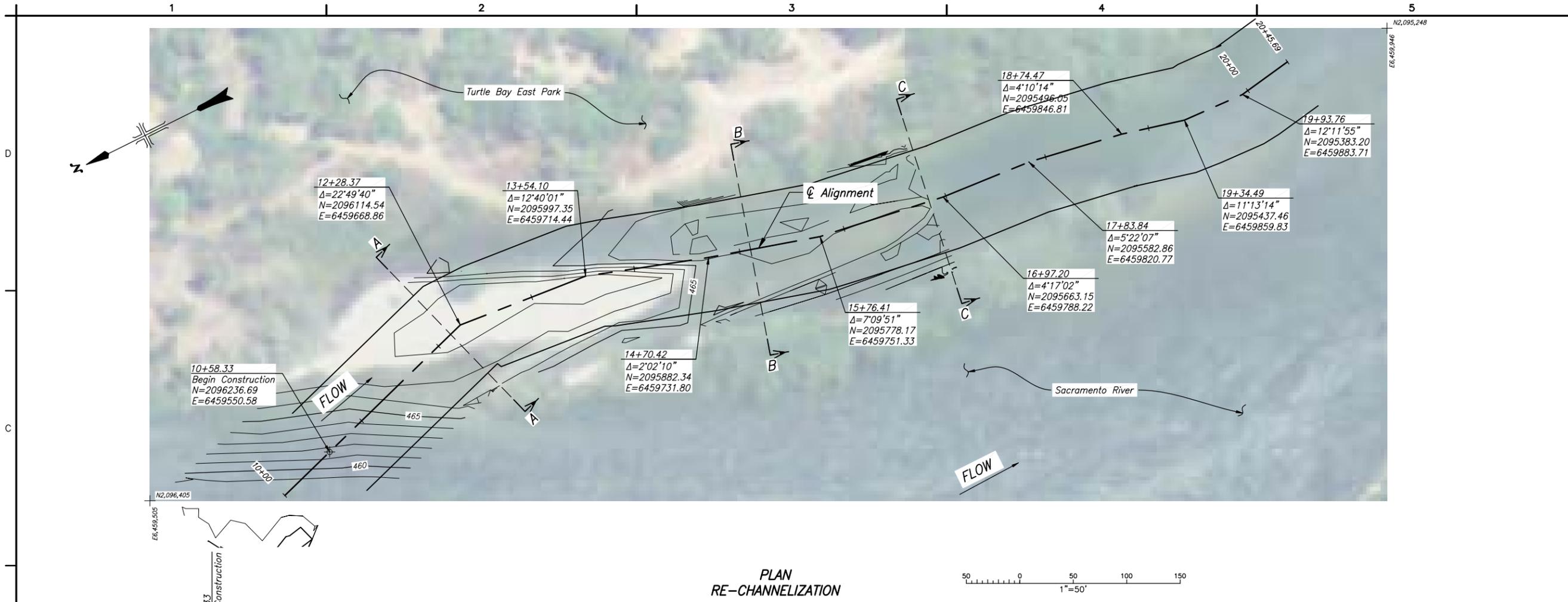


Bureau of Reclamation, Mid-Pacific Region  
2800 Cottage Way, MP-152  
Sacramento, California 95825

Date: January 3, 2014

Preparer: Andrea Meier

**ATTACHMENT B: Plan and Profile View Engineer Drawings**



- NOTES**
- Horizontal coordinate system used is North American datum of 1983 (NAD83) State Plane California Zone I. Vertical coordinate system used is North American Vertical datum of 1988 (NAVD88).
  - No vegetation on banks will be disturbed.
  - Image is NAIP 2012.

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION

**PAINTER'S RIFFLE SIDE CHANNEL**  
RE-CHANNELIZATION OF PAINTER'S RIFFLE SIDE CHANNEL  
PLAN AND PROFILE  
STA 10+00 TO STA XXXX+00

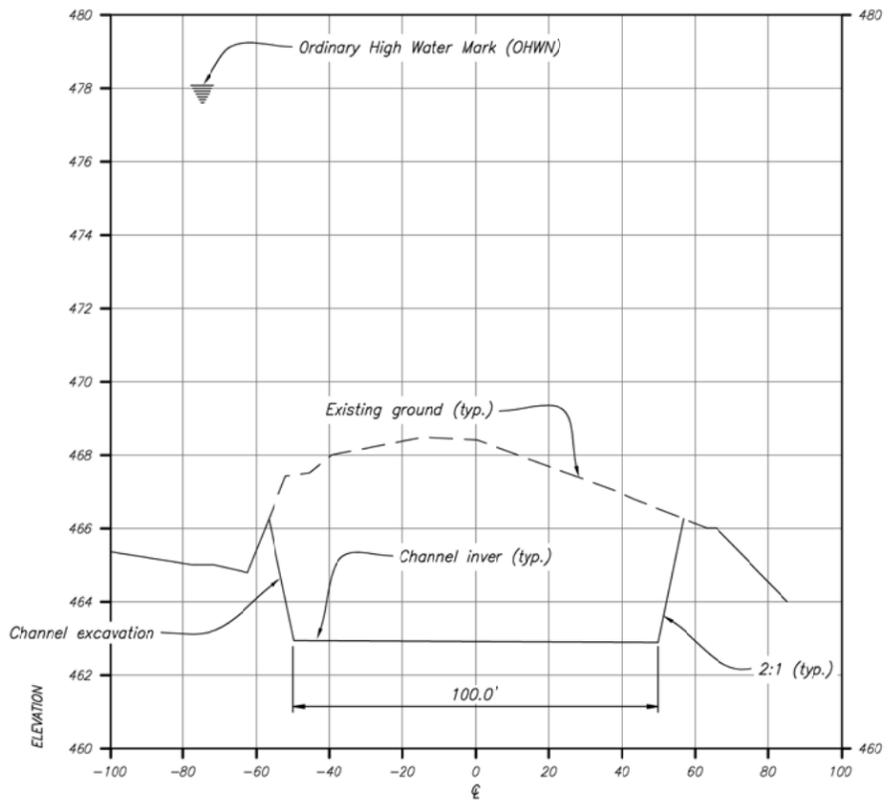
DENVER, COLORADO APRIL 14, 2014

RE-CHANNELIZATION OF RIVER

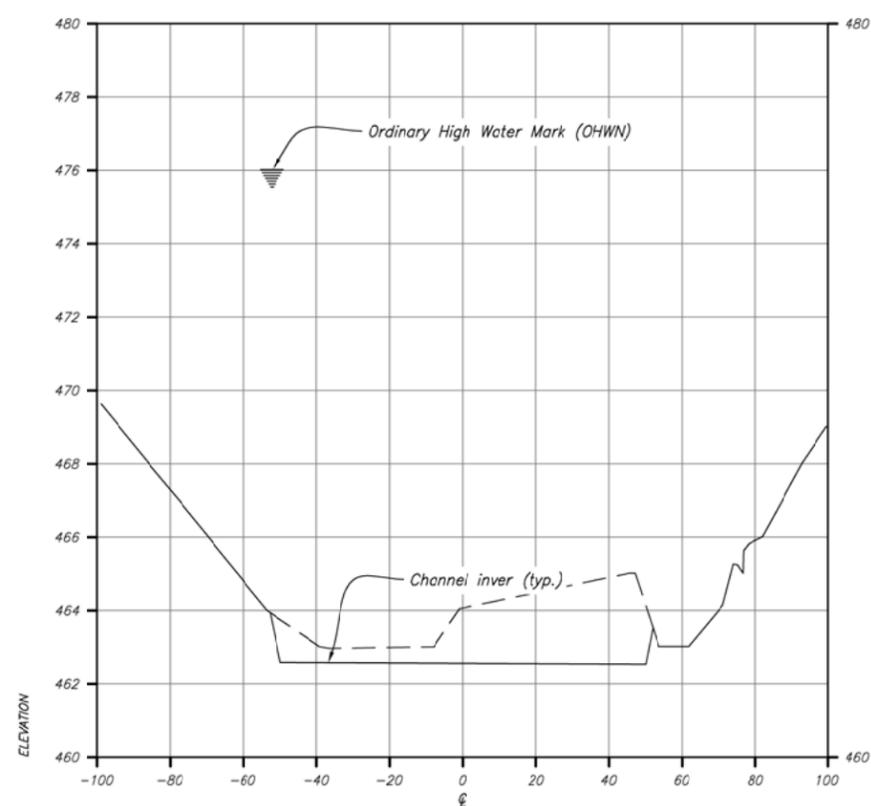
FIGURE 1

DATE AND TIME PLOTTED  
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PLOTTED BY  
JGEMPERLINE

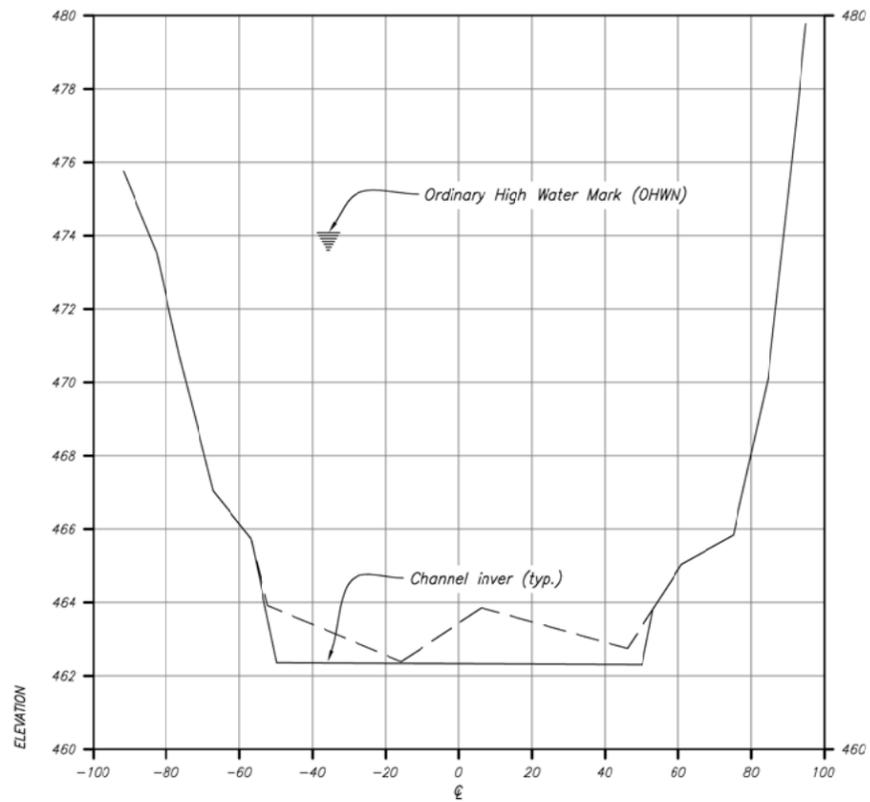
CADD SYSTEM  
AutoCAD Rev. 19 Is (LMS Tech)  
CADD FILENAME  
Final.dwg



SECTION A-A



SECTION B-B



SECTION C-C

- NOTES**
1. Horizontal coordinate system used is North American datum of 1983 (NAD83) State Plane California Zone 1. Vertical coordinate system used is North American Vertical datum of 1988 (NAVD88).

DATE AND TIME PLOTTED  
APR 14 2014 04:50  
PLOTTED BY  
JGEMPERLINE

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CADD FILENAME  
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PAINTER'S RIFFLE SIDE CHANNEL  
RE-CHANNELIZATION OF PAINTER'S RIFFLE SIDE CHANNEL

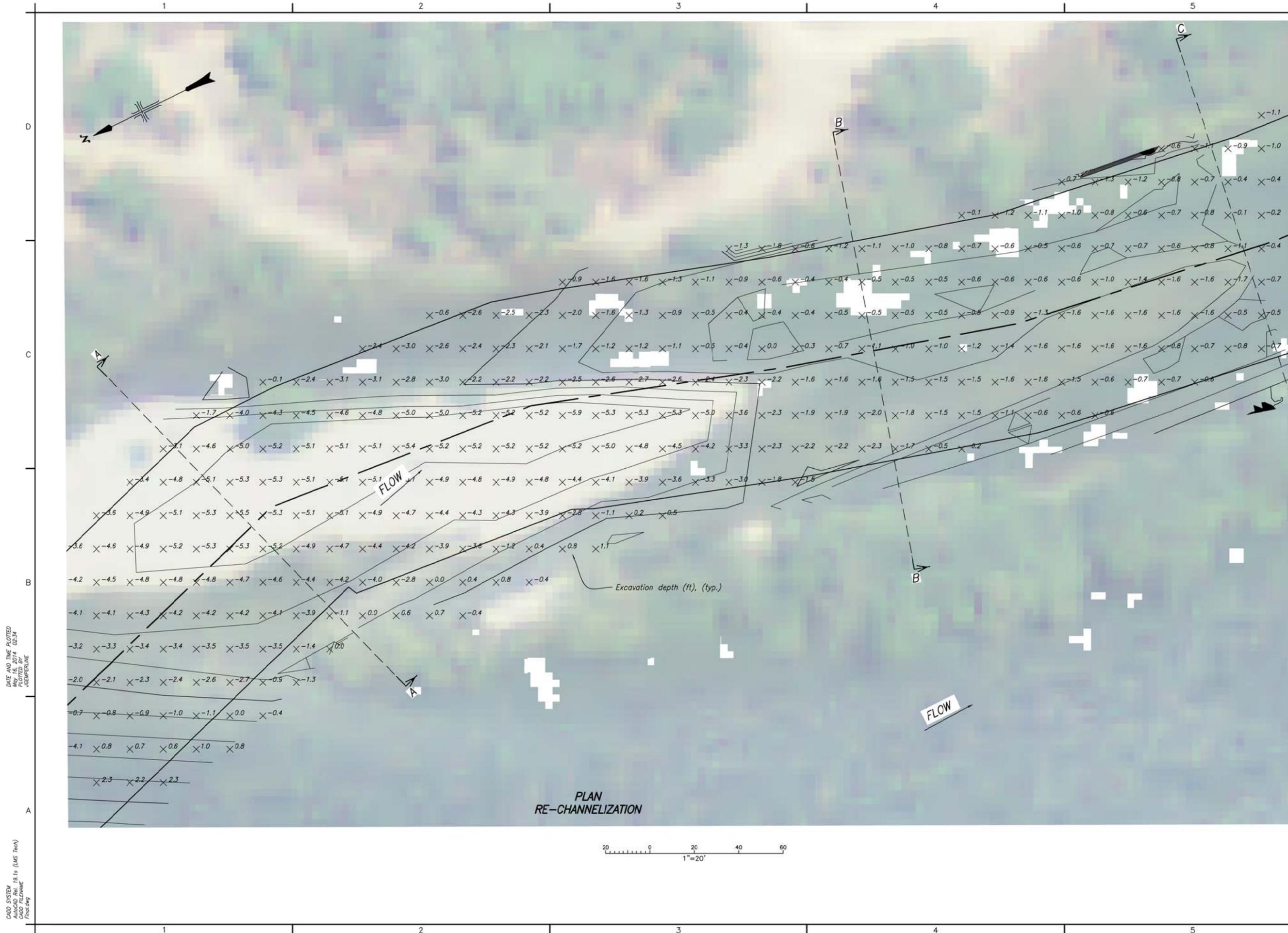
SECTIONS

DENVER, COLORADO APRIL 14, 2014

RE-CHANNELIZATION OF RIVER

FIGURE 2

SHEET 2 OF 2



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**PAINTER'S RIFFLE SIDE CHANNEL**  
**RE-CHANNELIZATION OF PAINTER'S RIFFLE SIDE CHANNEL**  
**PLAN AND PROFILE**  
**EXCAVATION DEPTH**

DENVER, COLORADO APRIL 14, 2014

RE-CHANNELIZATION OF RIVER

**FIGURE 3**

SHEET 3 OF 3

## **ATTACHMENT C: Project Area and Location of Gravel Movement**



**Legend**

- Lateral Berm/Excess Relocation Sites
- Gravel Excavation/Redistribution Area
- Potential Reopened Trail/Access Route
- Elderberry Shrubs
- Access Route
- Painter's Riffle

Painter's Riffle Anadromous Fish Habitat Enhancement Project

**Project Action Area**

0 0.025 0.05 0.075 0.1 0.125 0.15  
Miles

## **APPENDIX A: Public Comments**

# Appendix A

## Public Comments

### A.1 Introduction

This appendix contains comments received on the Proposed MND and Draft IS. The date of each comment received, each commentor, their associated agency/group, and assigned number identification is listed in Section A.2. Section A.3 includes the comment letters received with each comment bracketed and numbered for response. Section A.4 includes responses to comments by comment number.

Questions or comments regarding the proposed Mitigated Negative Declaration and the Initial Study were accepted until September 10, 2014. On August 12, 2014, the GCID filed the Proposed MND and Draft IS with the State Clearinghouse, posted the document for a 30-day public review at <http://www.gcid.net/Painter%20Riffle.php>, and issued a press release notifying the public of the documents release and start of the public review period which can be accessed at <http://www.gcid.net>. The press release was also distributed to residents and landowners around the Project site. A total of four comment letters were received before the close of the public comment period on September 10, 2014.

### A.2 List of Commentors

Table A-1 presents commenters and associated agencies or groups that submitted comments on the Painter's Riffle Anadromous Fish Habitat Enhancement Project IS.

<b>Date Received</b>	<b>Commentor</b>	<b>Agency/Group</b>	<b>Letter ID</b>
August 15, 2014	Patricia Bratcher	California Department of Fish and Wildlife	1
August 26, 2014	Rocko Brown	University of California, Davis	2
September 8, 2014	Curt Babcock	California Department of Fish and Wildlife	3
September 9, 2014	Cy Oggins	California State Lands Commission	4

### A.3 Comments

The full text of the comment letters received is included below.

*[This page intentionally left blank]*



Aviles, Alexandra <aaviles@usbr.gov>

**FW: USFWS Proposes Designation of Critical Habitat for Western Yellow-Billed Cuckoo**

**Bratcher, Patricia@Wildlife** <Patricia.Bratcher@wildlife.ca.gov> Fri, Aug 15, 2014 at 2:13 PM  
To: "Aviles, Alexandra (aaviles@usbr.gov)" <aaviles@usbr.gov>  
Cc: "tkisanuki@usbr.gov" <tkisanuki@usbr.gov>, "jhannon@usbr.gov" <jhannon@usbr.gov>, "Henderson, Brad@Wildlife" <Brad.Henderson@wildlife.ca.gov>, "Harris, Michael R.@Wildlife" <Michael.R.Harris@wildlife.ca.gov>

1-1

Alex—a heads up. Now that it's proposed, and the env. documentation is still not completed on Painter's Riffle (and keeping in line with the consultation requirements, which includes downloading a species list every 90 days and addressing any changes or additions), may I suggest that you consider amending the Painter's Riffle NEPA document to include this change in designation. Note, it will not change the outcome of effects, but it still is warranted to include, I think, esp. if critical habitat includes the project area.

Regards, tricia

**Patricia (Tricia) Bratcher**

**Habitat Restoration Coordinator, Upper Sacramento River and tributaries**

**Senior Environmental Scientist (Specialist)**

**601 Locust Street**

**Redding, CA 96001**

**Office: (530) 225-3845**

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Aviles, Alexandra <aaviles@usbr.gov>

**Fwd: Painter's Riffle Salmon Project**

**From:** Rocko Brown <rokbrown@ucdavis.edu>  
**Date:** August 26, 2014 at 10:28:54 AM PDT  
**To:** <cdavis@gcid.net>  
**Subject:** Painter's Riffle Salmon Project

Hi,

I recently saw a news article and environmental documentation on a salmon habitat enhancement project on the Sacramento River at a site called Painter's Riffle.

It appears material was transported from a work pad upstream of the project vicinity. I have two concerns related to this that are not addressed in the environmental documentation. One, the environmental documentation does not state why an alternative that allows the material to be entrained from the side channel downstream of the area was not considered. Two, as a fluvial geomorphologist there I believe there should be an investigation as to whether the side channel will clog with sediment again. ] 2-1 ] 2-2

I would like to know if either of these issues have been addressed.

Thanks  
Rocko

—  
**Rocko Brown, PhD**  
Department of Land, Air, & Water Resources  
University of California, Davis  
www.rockobrown.com



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Region 1 – Northern  
601 Locust Street  
Redding, CA 96001  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



September 4, 2014

Mr. Zac Dickens  
Glenn-Colusa Irrigation District  
PO Box 150  
Willows, CA 95988

**Subject: Review of the Painter's Riffle Anadromous Fish Habitat Enhancement Project Initial Study and Proposed Mitigated Negative Declaration (SCH #2014082028)**

Dear Mr. Dickens:

The Department of Fish and Wildlife (Department) has reviewed the Painter's Riffle Anadromous Fish Habitat Enhancement Project (Project) Initial Study and Proposed Mitigated Negative Declaration (ISMND). The Project is located south of the State Route 44 Bridge in the City of Redding. The Department offers the following comments and recommendations on the Project in our role as the State's trustee for fish and wildlife resources, and as a responsible agency under the California Environmental Quality Act (CEQA), California Public Resources Code sections 21000 et seq.

### **Project Description**

The Project is the enhancement and rehabilitation of the currently blocked Painter's Riffle side channel on the Sacramento River. Glenn-Colusa Irrigation District (GCID) will reshape Painter's Riffle to a range of depths and velocities to provide salmon with the ability to select preferred conditions over a broad area and range of flows. The entrance elevation to Painter's Riffle will be configured to allow the side channel to remain inundated at all flows, including the minimum Keswick Dam release of 3,250 cubic feet per second (cfs) to avoid redd dewatering that can occur with the existing channel configuration. The side channel will also be designed to provide one to three feet of depth during peak fall-run spawning (October to early November), when average flows are approximately 6,000 cfs. The minimum entrance elevation of 463 feet will provide approximately one-half foot of depth at 3,250 cfs.

Painter's Riffle will be excavated to maintain a channel approximately 800 feet long by 100 feet wide. No shaping of the side channel banks or vegetation removal is anticipated outside the excavation area which currently supports a stand of willows. The proposed profile of the side channel is approximately 0.00125, with an upstream

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elevation of 463 feet (at station 100 feet) and an elevation of 462.25 feet (at station 700 feet). Reclamation's Technical Service Center estimates that GCID will need to remove between 6,600 and 8,000 cubic yards of gravel. However, due to uncertainties in the survey data and longitudinal extent of the deposits, the estimated quantities could range up to 10,000 cubic yards.

A gravel berm will be left at the mouth of Painter's Riffle to isolate the Project area from the main channel. Approximately one-third of the gravel pile is expected to be in excess of what would be needed to return the side channel to its original design. It would either be pushed into the main Sacramento River channel from the side channel inlet or placed within 200 feet downstream of the side channel bar, in lateral berms (across the channel) along the steep bank of the east bend of the main river where velocities are highest and the potential for downstream transport within the short-term is greatest.

Work would proceed by building a gravel pad from the side channel outlet and downstream to allow equipment to reach the lateral berm designation and gradually pushing the gravel pad into the main channel for distribution once construction activities conclude. In-river work would be performed with heavy equipment to remove and redistribute no more than 10,000 cubic yards of the gravel blockage. The gravel will be placed to allow mobilization during high flows.

### Project Comments and Recommendations

3-1  
The upper Sacramento River supports fall, late fall, winter, and spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley Steelhead (*Oncorhynchus mykiss irideus*). The Department has maintained an active role with Project partners during the planning and design stages of the Project and supports the goals and objectives of the Project to enhance salmon and steelhead spawning and rearing habitat. The proposed Project is intended to restore habitat conditions at Painter's Riffle to previous conditions when the site supported substantial numbers of spawning salmonids. The Project would also contribute to ongoing efforts to enhance the anadromous fishery of the upper Sacramento River.

3-2  
The Project will require Lake or Streambed Alteration Agreement (LSAA) notification, pursuant to section 1600 et seq. of the Fish and Game Code, prior to the GCID's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream, or lake, or use material from a streambed. A LSAA notification package may be obtained through the Department's website at <http://www.dfg.ca.gov/habcon/1600>.

Mr. Zac Dickens  
September 4, 2014  
Page 3

3-1 [ The Department appreciates the opportunity to comment on this important Project and fully supports the proposed activities. If you have any questions regarding the Department's comments please contact Senior Environmental Scientist Brad Henderson at (530) 351-5948 or e-mail [brad.henderson@wildlife.ca.gov](mailto:brad.henderson@wildlife.ca.gov).

Sincerely,



**Curt Babcock**  
Habitat Conservation Program Manager

ec: Ms. Alexandra Aviles  
U.S. Bureau of Reclamation  
[aaviles@usbr.gov](mailto:aaviles@usbr.gov)

Mss. Donna L. Cobb, Patricia Bratcher, Tobi Freeny, and Amy Henderson  
Messrs. Brad Henderson, Michael Harris, Doug Killam, and Jason Roberts  
[donna.cobb@wildlife.ca.gov](mailto:donna.cobb@wildlife.ca.gov), [patricia.bratcher@wildlife.ca.gov](mailto:patricia.bratcher@wildlife.ca.gov),  
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State Clearinghouse  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov)

CHRON

**CALIFORNIA STATE LANDS COMMISSION**  
 100 Howe Avenue, Suite 100-South  
 Sacramento, CA 95825-8202

**RECEIVED**

SEP - 9 2014

**G.C.I.D.**



*Established in 1938*

September 9, 2014

JENNIFER LUCCHESI, *Executive Officer*  
 (916) 574-1800 Fax (916) 574-1810  
 California Relay Service TDD Phone 1-800-735-2929  
 from Voice Phone 1-800-735-2922

**Contact Phone: (916) 574-1890**  
**Contact FAX: (916) 574-1885**

File Ref: SCH #2014082028

Glenn-Colusa Irrigation District  
 Attn: Cynde Davis  
 P.O. Box 150  
 Willows, CA 95988

**Subject: Mitigated Negative Declaration (MND) for the Painter's Riffle  
 Anadromous Fish Habitat Enhancement Project, Shasta County**

Dear Ms. Davis:

The California State Lands Commission (CSLC) staff has reviewed the subject MND for the Painter's Riffle Anadromous Fish Habitat Enhancement Project (Project) which is being prepared by the Glenn-Colusa Irrigation District (District). The District, as the public agency proposing to carry out the Project is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC is a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, because the Project involves work on sovereign lands, the CSLC will act as a responsible agency.

#### **CSLC Jurisdiction and Public Trust Lands**

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low

water mark and a Public Trust easement landward to the ordinary high water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

4-2  
After reviewing the information contained in the MND, CSLC staff has determined portions of the Project will be located on State-owned sovereign land in the Sacramento River, under the jurisdiction of the CSLC. Because a lease from the CSLC will be required for the District to implement the Project on sovereign lands, please contact Wendy Hall (see contact information below) at your earliest convenience for further information about the extent of the CSLC's sovereign ownership and leasing requirements. The lease application form and instructions can be found on the CSLC website at [http://www.slc.ca.gov/Online\\_Forms/Online\\_Forms\\_Home\\_Page.html](http://www.slc.ca.gov/Online_Forms/Online_Forms_Home_Page.html).

4-3  
Please also be advised that the waterways involved in the Project are subject to a public navigational easement. This easement provides that the public has the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by oar or motor-propelled small craft. Such uses may include, but are not limited to, boating, rafting, sailing, rowing, fishing, fowling, bathing, skiing, and other water-related public uses. The activities completed under the Project must not restrict or impede the easement right of the public.

These comments are made without prejudice to any future assertion of State ownership or public rights, should circumstances change, or should additional information become available. This letter is not intended, nor should it be construed as a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

### Project Description

The Project site is located in a side channel along the east bank of the Sacramento River near river mile 296.2, approximately 200 yards downstream of the Highway 44 in the city of Redding. The site has supported successful spawning habitat for a number of years. In 2008, however, approximately 11,000 cubic yards of gravel was placed as a work pad beneath the Highway 44 Bridge during construction activities and the majority of it washed downstream during a large storm event in 2011, depositing within the side channel and creating a potential salmon redd dewatering situation. The Project would include the removal of the blockage and redistribution of the existing gravel material, which would restore the fisheries benefits of the site.

### Environmental Review

CSLC staff requests that the District consider the following comments on the Project's MND.

### Biological Resources

- ↓
1. Wildlife. Mitigation Measure (MM) #2 on page 36, states that "Mitigation terms associated with the obtained permits shall be applied" and "[p]rior to commencing with site-specific gravel augmentation work, the Project area shall be surveyed and

4-4

cleared by a qualified biologist regarding special status wildlife and other sensitive species (e.g., northwestern pond turtle).” CSLC staff is unclear what “obtained permits” would be relied on by the District. Please also note that under CEQA, a lead agency may not defer the formulation of a mitigation measure to other agencies; lead agencies have an independent obligation to address potentially significant impacts, even where a subsequent permit from another agency is necessary. In addition, CEQA requires that mitigation measures be presented as specific, feasible, enforceable obligations, or where identification of specific measures is infeasible or impractical, be presented as formulas containing “performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way” (State CEQA Guidelines, §15126.4, subd. (b)). MM#2 does not appear to meet either of these standards.

4-4

In the MND, MM#2 is intended to mitigate impacts to northwestern pond turtle (Biological Resource Checklist Item (a), page 27) and native resident or migratory wildlife species (Biological Resource Checklist Item (d), pages 35-36); however, the MM does not provide specifics on what survey protocol would be required, what other species would be included in the survey, what actions would be taken if the specie(s) is discovered, or whether the qualified biologist would be required to consult with the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. As a result, this appears to constitute an improper deferral of mitigation. With this in mind, CSLC staff recommends MM#2 be revised to include sufficient detail about the mitigation measure and its expected performance and/or enforcement mechanisms to enable the reader to independently assess and comment on the measure.

4-5

Cultural Resources

2. Title to Resources: The MND should mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. CSLC staff requests that the District consult with Assistant Chief Counsel Pam Griggs (see contact information below) should any cultural resources on State lands be discovered during construction of the proposed Project.

4-6

Recreation

3. The MND states that hikers and fishermen use the Project site (part of the Turtle Bay East Regional Park) to access adjacent portions of the river. In response to Recreation Checklist Item (a) (page 58), the MND references MM#7- *Riparian and Sensitive Plant Communities* to reduce impacts to a less-than-significant level. Due to the limited discussion in this section, the relationship of MM#7 to the impact is unclear. CSLC staff requests that additional discussion be included in the MND to explain how MM#7 reduces impacts to recreation, in regards to access of hikers and fisherman to the river.

Thank you for the opportunity to comment on the MND for the Project. As a responsible and trustee agency, the CSLC will need to rely on the Final MND for the issuance of a lease as specified above and, therefore, we request that you consider our comments prior to adoption of the MND.

Please send copies of future Project-related documents, including electronic copies of the Final MND, Mitigation Monitoring and Reporting Program (MMRP), and Notice of Determination (NOD) when they become available, and refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or via e-mail at [Cynthia.Herzog@slc.ca.gov](mailto:Cynthia.Herzog@slc.ca.gov). For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Assistant Chief Counsel Pam Griggs at (916) 574-1854 or via email at [Pamela.Griggs@slc.ca.gov](mailto:Pamela.Griggs@slc.ca.gov). For questions concerning CSLC leasing jurisdiction, please contact Wendy Hall, Public Land Management Specialist, at (916) 574-0994, or via email at [Wendy.Hall@slc.ca.gov](mailto:Wendy.Hall@slc.ca.gov).

Sincerely,



Cy R. Oggins, Chief  
Division of Environmental Planning  
and Management

cc: Office of Planning and Research  
W. Hall, LMD, CSLC  
C. Herzog, DEPM, CSLC  
E. Milstein, Legal, CSLC

## A.4 Response to Comments

This section contains responses to comments received on the Proposed MND and Draft IS. The comments received did not result in changes to the Proposed MND and Draft IS text, or analysis; however, minor revisions to the text have been made to update, clarify, or amplify the analysis in the Draft IS.

Pursuant to Section 15073.5 of the State CEQA Guidelines, recirculation of a negative declaration is required when a document must be substantially revised after public notice has been given. A "substantial revision" is defined under this section to mean:

- Any new, avoidable significant effects have been identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or
- The Lead Agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significant and new measures or revisions must be required.

The minor revisions made do not change the project scope or any findings and conclusions as presented in the original document; therefore, no recirculation of the MND is required.

### 1 – Patricia Bratcher, Senior Environmental Scientist, California Department of Fish and Wildlife

#### *Comment 1-1*

The most recent species list was obtained from the USFWS Sacramento Office on July 7, 2014, and after generating a new one on September 9, 2014 there were no changes or additions. However, Shasta crayfish (*Pacifastacus fortis*) and northern spotted owl (*Strix occidentalis caurina*) and its designated critical habitat are on the species list and were not analyzed in the draft IS, so these species have been included as well with no effect determinations. Additionally, the USFWS is proposing to designate critical habitat for the federally-proposed threatened Western U.S. Distinct Population Segment of yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and the public comment period ends October 14, 2014, so there is potential for the designation to be finalized before the Project commences. Although the proposed critical habitat does not include Shasta County, yellow-billed cuckoo ranges as far north as the Project area and is considered on the list of species potentially present in the IS with a no effect determination. The analysis of these species in the IS does not change the outcome of effects.

### 2 – Rocko Brown, Fluvial Geomorphologist, University of California, Davis

#### *Comment 2-1*

Not enough information was provided by the commentator to evaluate this alternative. CEQA also does not require the evaluation of alternatives other than the build alternative for an IS (Section 15126.6 of the 2010 CEQA Guidelines).

***Comment 2-2***

Painter's Riffle was successful at supporting salmonid spawning habitat for 25 years until a large amount of gravel originating from a construction gravel work pad upstream accumulated in it. Approximately 11,000 yds<sup>3</sup> of gravel was placed in the Sacramento River as a gravel work pad beneath the Highway 44 Bridge during its reconstruction in 2008. It was estimated that approximately 10,000 yds<sup>3</sup> of that gravel pad was mobilized during a large storm event in March 2011 and resettled in Painter's Riffle, rendering the side channel insufficient for salmonid spawning habitat. It is unlikely that rain events in the future will cause remnants of the gravel pad, approximately 1,000 yds<sup>3</sup>, to accumulate in the side channel and create insufficient conditions for spawning habitat. However, if signs of concerning accumulation are noticed, the Fisheries Core Team of the CVPIA may consider additional activities at the Painter's Riffle site in the Upper Sacramento River. This text has been added to the Excess Gravel and Lateral Berm Placement section of the project description.

### **3 – Curt Babcock, Habitat Conservation Program Manager, California Department of Fish and Wildlife**

***Comment 3-1***

GCID recognizes the role of CDFW and, as indicated in Section 4.5.2 of the Draft IS, coordinated with CDFW during the planning and design stages of the Project and preparation of the document. GCID also acknowledges that CDFW fully supports the proposed activities as it would contribute to ongoing efforts to enhance the anadromous fishery of the upper Sacramento River. CDFW correctly summarizes the Proposed Action in the second paragraph of the comment letter.

***Comment 3-2***

GCID acknowledges the requirement of a Lake or Streambed Alteration Agreement (LSAA) notification prior to its commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of a river, stream, or lake, or use material from a streambed. GCID submitted a LSAA notification package to CDFW's Region 1 office in Redding, California on August 12, 2014 and is currently pending approval.

### **4 – Cy Oggins, Chief of Division of Environmental Planning and Management, California State Lands Commission**

***Comment 4-1***

GCID acknowledges that the California State Lands Commission (CSLC) is a trustee agency due to its trust responsibility for projects that could affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. GCID also acknowledges that CSLC is a responsible agency due to the Project involving work on sovereign lands.

***Comment 4-2***

GCID acknowledges that a lease from the CSLC will be required since the Project will be located on State-owned sovereign land in the Sacramento River, under jurisdiction of CSLC, and an application package for a State Lands Lease was submitted on August 12, 2014. Approval is currently pending.

***Comment 4-3***

GCID acknowledges that the waterways involved in the Project are subject to a public navigational easement providing that the public has the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by oar or motor-propelled small craft. GCID will ensure that the activities completed under the Project will not restrict or impede the easement right of the public.

***Comment 4-4***

*Mitigation Measure #2 – Wildlife* has been clarified to explain how measures developed in coordination with the USFWS and NMFS will also be implemented to avoid and minimize potential impacts to wildlife. CDFW-approved survey and relocation protocols to be followed and enforcement mechanisms for northwestern pond turtle were also specified.

***Comment 4-5***

The IS/MND now mentions that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC under *Mitigation Measure #9 – Cultural Resources*. It also notes that GCID will consult with Assistant Chief Counsel Pam Griggs should any cultural resources on State lands be discovered during construction of the proposed Project.

***Comment 4-6***

The inclusion of *Mitigation Measure #7 – Riparian and Sensitive Plant Communities* to reduce impacts on recreation in regards to access of hikers and fishermen to the river to a less-than-significant level was done by error, would not reduce impacts on recreation, and has been removed from the response under section XV. Recreation (a).

## **APPENDIX B: Mitigation, Monitoring, and Reporting Program**

## Appendix B Mitigation Monitoring and Reporting Program

The proposed Project would result in the potential for significant environmental impacts associated with Biological Resources, Hazards & Hazardous Materials, Cultural Resources, Hydrology and Water Quality, Noise, and Recreation. Mitigation measures have been incorporated into the Project to reduce impacts to less than significant levels. The mitigation measures for the Project must be adopted by GCID, in conjunction with adoption of the MND/IS.

Section 21081.6 of the Public Resources Code (PRC) and CEQA Guidelines section 15097 require the Lead Agency for each project that is subject to the CEQA to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The PRC requires the Lead Agency to adopt a monitoring and reporting program for assessing and ensuring the implementation of required mitigation measures.

In accordance with PRC Section 21081.6, GCID has developed this Mitigation Monitoring and Reporting Program (MMRP) for the Project. The purpose of the MMRP is to ensure activities associated the Painter's Riffle Fish Enhancement Project comply with all applicable environmental mitigation requirements. Mitigation measures would reduce short-term environmental impacts associated with reopening a side channel to recreate salmonids spawning habitat in the Upper Sacramento River.

Table B lists the mitigation measures identified in the IS, responsible parties, the time frame for implementation, and the monitoring parties. A column is provided for the monitoring party to indicate the date of completion of each mitigation measure.

**Table B. Mitigation Monitoring and Reporting Program Table**

Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
#1 – Air Quality/ Fugitive Dust Control	Fugitive dust shall be controlled by using reasonably available control measures provided in Rule 3:16 “Fugitive, Indirect, or Nontraditional Sources” of the SCAQMD.	GCID	GCID	Visual	During construction	
#2 – Wildlife	<ul style="list-style-type: none"> <li>a. Additional mitigation terms developed in coordination with CDFW, USFWS and NMFS shall also be implemented.</li> <li>b. Due to very limited habitat in the Project area, prior to commencing with site-specific gravel augmentation work, the Project area shall be surveyed by a qualified biologist using CDFW-approved protocols for survey and relocation activities for northwestern pond turtle. If individual northwestern pond turtles are observed in the Project area, they will be relocated to the main channel downstream of the side channel by a qualified biologist using CDFW-protocols.</li> </ul>	GCID	GCID, Reclamation, and/or CDFW biologist.	Visual survey	Prior to Project implementation.	
#3 – Migratory Songbirds and Raptors	<ul style="list-style-type: none"> <li>c. Mitigation terms associated with the obtained permits shall be applied.</li> <li>d. To avoid impacts on nesting songbirds and raptors, vegetation removal activities shall occur outside of the nesting season (nesting season is approximately March 1–August 31).</li> <li>e. If other Project implementation activities that have a potential to disturb nesting birds (e.g., noise from equipment) are to occur from March 1–August 31, pre-construction surveys for active raptor and migratory bird nests will be conducted by a qualified biologist. The preconstruction surveys shall be conducted a maximum of 15 days before the start of construction activities. The survey area for raptor nests will include all accessible areas within 250 feet of the Project area; the survey area for migratory birds will include all accessible areas within 50 feet of the Project area. If any active raptor or migratory bird nests are identified, appropriate</li> </ul>	GCID	<ul style="list-style-type: none"> <li>c. USFWS and CDFW</li> <li>d. Reclamation and/or CDFW biologists</li> <li>e. Reclamation and/or CDFW biologists</li> </ul>	Visual survey	Prior to Project implementation	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
	<p>conservation measures (as determined by a qualified biologist) will be implemented. These measures may include, but are not limited to establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.</p>					
#4 – Valley Elderberry Longhorn Beetle	<p>a. Mitigation terms associated with the obtained permits shall be applied.            b. Elderberry shrubs within 100 feet of high construction activity shall be buffered by placing orange fencing at a 20-foot radius around the shrub.            c. Contractors shall be briefed on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements. Work crews shall be briefed about the status of the beetle and the need to protect its elderberry host plant.            d. Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet, and be maintained for the duration of construction.</p>	<p>a.GCID            b.Reclamation            c.GCID/            Reclamation            d.Reclamation</p>	USFWS	Visual	Prior to Project implementation	
#5 – Erosion and Sediment Control (a – d)	<p>a. Mitigation terms associated with the obtained permits shall be applied.            b. Equipment shall not operate in an active stream channel except as may be necessary to place spawning gravel. When in-channel work is unavoidable, such as to place the leftover gravel in lateral berms downstream once the side channel is redesigned, clean spawning gravel shall be used to create a pad in the channel from which equipment will operate. Instream construction shall proceed in a manner that minimizes sediment discharge.</p>	GCID	CVRWQCB	<p>a. Visual survey and turbidity testing            b. Visual survey</p>	During Project implementation	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
	<p>c. GCID shall minimize effects of increased turbidity and sedimentation by meeting the Central Valley Regional Water Quality Control Board (CVRWQCB) water quality objectives for the Sacramento River Basin:</p> <ul style="list-style-type: none"> <li>i. Monitoring and Reporting Program under Waste Discharge Requirements;</li> <li>ii. Water sampling and reporting to CVRWQCB;</li> <li>iii. During in-river work, turbidity shall be monitored to remain within criteria established by the CVRWQCB in its Clean Water Act §401 Water Quality Certification. Activities shall not cause turbidity increases in surface water to exceed the CVRWQCB water quality objectives for Sacramento River Basin and all Water Quality Certification requirements shall be implemented; and</li> <li>iv. If the turbidity criteria are exceeded during the 12-hour averaging period, all construction activities shall be halted until turbidity levels drop back down to criteria levels.</li> </ul> <p>d. Construction in the side-channel will be isolated from the main stem Sacramento River until complete. This will minimize potential impacts of sediment releases increasing turbidity downstream.</p>			<p>c. Turbidity testing and monitoring                      d. Visual survey</p>		
#5 – Erosion and Sediment Control (e)	<p>e. Prior to commencing with site-specific gravel augmentation work the Project area will be surveyed for spring-run Chinook redds as part of on-gong monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.</p>	GCID and surveys by Reclamation and CDFW.	CDFW and/or NMFS.	Visual redd surveys and/or snorkel survey	Prior to Project Implementation	
#6 – Prevention of Accidental Spills of	<ul style="list-style-type: none"> <li>a. Mitigation terms associated with the obtained permits shall be applied.</li> <li>b. All equipment working within the stream channel shall be inspected daily for fuel, lubrication, and coolant leaks; and for leak potentials (e.g. cracked hoses, loose</li> </ul>	GCID	CVRWQCB	Visual	Prior to and during Project implementation	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
Pollutants	<p>filling caps, stripped drain plugs); and all equipment shall be free of fuel, lubrication, and coolant leaks. External oil, grease, and mud shall be hand-removed and vehicles or equipment shall be washed/cleaned only at designated areas away from the river channel.</p> <p>c. All construction equipment staging, storage, refueling and maintenance shall be restricted to designated staging areas located away from streams and sensitive habitats on the upper floodplain.</p> <p>d. There shall be temporary spill containment under all equipment receiving fuel.</p> <p>e. Equipment mobilized in the active channel near the water shall use biodegradable vegetable oil instead of typical hydraulic fluid in the hydraulic systems.</p> <p>f. All equipment shall be steam-cleaned prior to arriving on-site to remove contaminants and to minimize the chance of introducing New Zealand mud snails to the river and adjacent lands.</p> <p>g. There shall be no overnight fuel storage on-site.</p> <p>h. Spill prevention kits shall be in close proximity to construction areas, and workers shall be trained in their use.</p>					
#7 – Riparian and Sensitive Plant Communities	<p>a. Mitigation terms associated with the obtained permits shall be applied.</p> <p>b. Impacts on existing vegetation shall be avoided to the extent practical.</p> <p>c. Some riparian vegetation has grown on the accumulated gravel pile in the side channel, including two large willow clumps. Removal of the willows shall be done with a method that allows for use of the plants to supply cuttings for any accidental impacts to riparian vegetation. If the willow cuttings are not needed for accidental impacts to riparian vegetation, they may be planted within the Project vicinity in coordination with the City of Redding.</p>	GCID	City of Redding	Visual	During and after Project implementation	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
#8 – Anadromous Fish (a – d)	<p>a. Mitigation terms associated with the obtained permits shall be applied.</p> <p>b. Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work.</p> <p>c. Prior to commencing with site-specific gravel augmentation work the project area will be surveyed for spring-run Chinook redds as part of on-gong monitoring efforts by CDFW and Reclamation. In the unlikely event that a spring-run redd is observed during that survey within 200 yards of the proposed project, coordination with NMFS and CDFW will occur and additional protection measures may be implemented such as installation of a turbidity curtain.</p> <p>d. A visual (snorkel or walking) survey will be performed. Then, if during the visual survey juvenile salmonids are suspected to be present within Painter's Riffle, a CDFW biologist would assist in relocating the isolated or stranded fish to the river, or 2-3 biologists will walk abreast downstream at least three times with a block net the length of the side channel, in order to encourage any juveniles to move out of the channel to adjacent habitat. Once the relocation of the fish and visual survey are complete, and it has been determined that no juveniles are present, the downstream connection to the Sacramento River will be immediately blocked off.</p>	GCID and surveys by Reclamation and CDFW.	CDFW and NMFS	<p>a. Visual</p> <p>b. Visual</p> <p>c. Visual redd surveys and/or snorkel surveys</p> <p>d. Visual redd surveys and/or snorkel surveys</p>	<p>a. Prior to and during Project</p> <p>b. During Project implementation</p> <p>c. Prior to Project implementation</p> <p>d. Prior to Project implementation</p>	
#8 – Anadromous Fish (e – f)	<p>e. Measures shall be taken to minimize effects to anadromous fish by restricting and isolating in-water work. A gravel berm would be left at the mouth of Painter's Riffle and a gravel berm would be built at the downstream extent of excavation in the side channel to isolate the Project area from the main channel. The downstream portion of the side channel will be isolated from the main channel after three block net passes through the side channel are completed to encourage any remaining fish to move out of the side channel. Once the block net passes are complete the</p>	GCID	CDFW and NMFS	<p>e. Visual</p> <p>f. Visual</p>	<p>e. During Project implementation</p> <p>f. During Project implementation</p>	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
	<p>downstream connection to the Sacramento River will be immediately blocked off.</p> <p>f. To avoid or minimize potential injury and mortality of fish during riverine activities (e.g. addition and grading of spawning gravel in gravel pads or lateral berms), equipment shall be operated slowly and deliberately, or a person shall wade ahead of equipment to alert and cause any adult and juvenile salmonids to shift away from the work area. Before submerging a front end loader bucket or laying gravel below the water surface, the bucket shall be operated to slightly contact the surface of the water, or a person will wade ahead of the fill placement equipment to cause any fish to withdraw from the work area. The first layers of clean gravel that are being placed into the wetted channel shall be added slowly and deliberately to allow fish to move from the work area. These mitigation measures shall occur in the morning prior to the commencement of construction activities, after breaks, and after extended periods of inactivity.</p>					
#9 – Cultural Resources	<p>a. In the unlikely event that buried archaeological deposits are encountered during construction, excavation, grading or leveling or development related activities, work in the immediate vicinity of the discovery shall cease until the finds have been evaluated by a qualified archaeologist. Should human remains and associated materials be encountered during construction on non-Federal lands, work in that area shall be halted and the Shasta County Coroner's Office shall be immediately contacted pursuant to Health and Human Safety Code Section 7050.5 and 14 CCR § 15064.5(e). If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of determination, as required by PRC Section 5097. Work at the location of the discovery may not proceed until all requirements of PRC Section 5097 are met through the NAHC.</p> <p>b. The title to all abandoned shipwrecks, archaeological</p>	GCID	<p>a. Shasta County and Native American Heritage Commission</p> <p>b. Assistant Chief Counsel Pam Griggs – CSLC</p>	Visual survey upon discovery of buried archaeological deposits	During Project implementation	

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Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Date of Completion
	sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. GCID will consult with Assistant Chief Counsel Pam Griggs should any cultural resources on State lands be discovered during construction of the proposed Project.					
#10 – Noise	<ul style="list-style-type: none"> <li>a. Mitigation terms associated with the obtained permits shall be applied.</li> <li>b. Construction equipment shall be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc.); including shrouding or shielding all impact tools, and muffling or shielding all intake and exhaust ports on power equipment.</li> <li>c. Stationary construction equipment and staging areas shall be located as far as possible from sensitive receptors.</li> <li>d. The Project applicant shall designate a disturbance coordinator. That person's telephone number shall be conspicuously posted around the Project site and supplied to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem (e.g., revised construction hours and use of alternative equipment).</li> <li>e. In advance of noise-generating construction operations, the disturbance coordinator shall advise nearby noise-sensitive receptors of the construction schedule at least 72 hours prior to construction activities by posting signage in high-visibility locations.</li> </ul>	GCID and signs posted by Reclamation	Shasta County	Visual and Auditory	Prior to and during Project implementation	
#11 – Land Use	<ul style="list-style-type: none"> <li>a. Mitigation terms associated with the obtained permits shall be applied.</li> <li>b. Interpretive signs shall be placed at the entrance of any roads or trails in Turtle Bay East Regional Park warning of equipment use in the area. The interpretive signs shall include a summary of the</li> </ul>	GCID and Reclamation	City of Redding	Visual cues of signage and blocked entrances to Project site	Prior to and during Project implementation	

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<b>Measure No.</b>	<b>Mitigation Measure</b>	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Method of Verification</b>	<b>Timing of Verification</b>	<b>Date of Completion</b>
	side channel restoration activities. As appropriate, entrances to the side channel shall be gated or closed to vehicle, bicycle, or pedestrian traffic when not in use by placing boulders, logs, dirt piles or other barriers.					