Buckhorn Dam/Grass Valley Creek Toe Drain and Channel Rehabilitation Project

Project Initial Study and Draft Negative Declaration
Environmental Checklist and Evaluation of Environmental Impacts

This document has been prepared in accordance with the California Environmental Quality Act (CEQA)
(Public Resource Code § 21000 *et seq.*)

November 2011

California Lead Agency for CEQA
Trinity County Resource Conservation District

Project Proponent
U. S. Department of the Interior
Bureau of Reclamation
Northern California Area Office

Project Proponent's Consultant
North Wind Services, LLC

PROJECT OVERVIEW

The United States Department of Interior (USDI) Bureau of Reclamation (Reclamation), Northern California Area Office (NCAO), with assistance from Reclamation's Trinity River Restoration Program Office (TRRPO) staff, has prepared an environmental review document for construction and aquatic habitat work planned as part of the Buckhorn Dam/Grass Valley Creek (GVC) Toe Drain and Channel Rehabilitation Project. The review analyzes the potential impacts of the proposed activities according to National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 et seq.) and CEQA (California Public Resources Code [PRC], Section 21000 et seq.) guidelines. The review was completed in coordination with the Trinity County Resource Conservation District (TCRCD) as the California state lead agency under the California Environmental Quality Act (CEQA). The results of these analyses are recorded in the Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project Environmental Assessment / Initial Study (EA/IS), which is a combined NEPA/CEQA document. The EA/IS evaluates the environmental impacts of the proposed actions in the outlet channel at the base of Buckhorn Dam. Reference sources cited in this IS Environmental Checklist are included in the EA/IS.

PROJECT BACKGROUND

The Buckhorn Dam was built to trap fine sediment eroding from the upper GVC watershed in order to reduce fine sediment input into the Trinity River. Geology of the GVC watershed is composed primarily of weathered quartz diorite, commonly referred to as "Decomposed Granite" or "DG," which is easily erodible. Historic poor logging practices in the upper GVC watershed has caused the DG to erode more severely resulting in deposition in critical spawning gravel substrate. Construction of the dam began in 1988 and was completed in November 1991. The dam has an uncontrolled/ungated "run of the river" concrete spillway on the north end of the dam that spills water during the winter-spring runoff period or storm events. The dam also has a buried 800-foot long gated conduit system as the main outlet works. This provides water to the outlet channel where work is proposed. Historically, Reclamation has managed the outlet works discharge level between 6 and 10 cfs throughout the calendar year.

Soon after Buckhorn Dam was completed, deposition began occurring immediately downstream of the outlet works discharge pipe. This has caused the Buckhorn Dam outlet channel to aggrade (fill) approximately 1-3 feet in elevation immediately downstream of the dam outlet works for approximately 600 feet resulting in a corresponding increase in the water surface elevation. Toe drains located at the downstream side of the dam near the outlet works are designed to be dry in order to serve as an indicator of dam integrity; however they are currently submerged and thus not useful for measuring dam seepage. The increased water surface elevation in the Buckhorn Dam outlet channel does not allow measurement of dam seepage because the streambed aggradation has caused water to back up into the outlet works and toe drains. The inability to measure dam seepage has created a "Safety of Dams" issue because assessment of the dam's structural integrity is hindered. Without the ability to measure toe drain flows, it is likely that seepage could go undetected and could possibly result in dam failure. If Buckhorn Dam were to fail or make unusually high discharges, human lives and/or property downstream would be in danger (Trinity County 2002; USBR 2007).

In addition to the need to correct the dam safety issue, the Buckhorn Dam outlet works could be enhanced to provide additional fish habitat. GVC currently serves as one of the vital production tributaries to the Trinity River for coho salmon (*Oncorhynchus kisutch*). The Southern Oregon Northern California Coast Evolutionarily Significant Unit (SONCC ESU) of coho salmon was listed as a threatened population under the Endangered Species Act (ESA) on May 6, 1997. The dam does not have a fish passage system and thus eliminates migration to the upper 9 miles of historic headwater habitat. In addition, approximately 600 feet downstream of the outlet works is an exposed bedrock outcrop that is causing a natural hydraulic control and raised water surface elevation within the channel. Beaver have taken advantage of this feature and have strategically raised the water an additional foot or more above the bedrock, effectively blocking all coho salmon and all but a few steelhead from accessing this segment of the channel.

Therefore, the project includes two primary design objectives: 1) Reduce water surface elevations in the Buckhorn Dam outlet works/toe drain system and throughout the initial 600 feet of the outlet channel reach; 2) Develop coho salmon rearing and potentially spawning habitat within the project area.

PROJECT LOCATION

Buckhorn Dam is located in Trinity County along the eastern border with Shasta County near Buckhorn summit. The dam is approximately 1 mile south of SR 299, 13 miles southeast of the town of Weaverville, and 25 miles west-northwest of Redding, California (Figure 1). For purposes of this document, the two water-bearing channels at the base of the dam are defined as: 1) GVC which flows downstream of the spillway and receives all overflow from the Buckhorn Dam Reservoir, and 2) the Buckhorn Dam outlet channel which essentially is the "headwaters of GVC," that has remained at approximately constant flows (6-10 cubic feet per second [cfs]) since the dam was built. The proposed project is located west of the Buckhorn Dam outlet works, primarily within the Buckhorn Dam outlet channel and includes portions of Sections 15, 16, and 22, Township 32 North, Range 8 West, of the Mount Diablo Meridian. The project area extends from the Buckhorn Dam outlet works plunge pool downstream approximately 800 feet within the Buckhorn Dam outlet channel (Figure 2). This channel continues for another 1,500 feet to where it confluences with GVC below the spillway. Since construction of Buckhorn Dam, this outlet channel has been considered the headwaters of GVC.

PROJECT DESCRIPTION

Reclamation and TCRCD are proposing to excavate approximately 4,500 cubic yards of material from the outlet channel in order to lower the water surface elevation and dry out the toe drains. This would correct submergence problems on the toe drain system so that measurements can be made at any time during outlet works releases. An additional 4,500 cubic yards of excavation would occur to remove the bedrock intrusion and enhance rearing habitat for juvenile coho salmon and steelhead. It is expected that low velocity and protected habitat enhancements for coho would also benefit other native riparian species (e.g., migratory birds and amphibians). Therefore, a secondary objective is for long-term enhancement of fish and wildlife habitat within the reach; design elements are included in the proposed action to achieve this habitat objective.

As part of the project, the centerline alignment and profile of the outlet channel would be altered, creating more sinuosity, building pool/riffle habitat, lowering streambed elevations, increasing slope, widening the cross-sectional area, and developing inset floodplain benches. The project would also redevelop the meander pattern of the 800 foot outlet channel (Figure 2). Two coho

salmon rearing ponds are included in the project design; both have an approximate area of 6,000 ft^2 (Figure 3). The rearing ponds are adjacent to the outlet channel and are connected with side channels that allow a percentage of flow to divert into the slow water pond habitat. The ponds are designed with an average depth of 6 feet but would be built with a variable bottom elevation for diversity of water depth.

The pond areas would also be filled with wood material to serve as shelter for rearing salmonids. Large Woody Debris (LWD) structures would be incorporated into the final design for both habitat and geomorphic/hydraulic purposes. LWD would create cover for coho and provide hard points for necessary flow portioning into the side channel/pond areas.

Dewatering of the project area would be essential during construction and would be implemented by diverting the normal base flow through a pump system. The flow would be pumped and rerouted from behind the outlet works wing walls, around the project reach, and back into the outlet channel downstream of the construction area. Capture and relocation of fish from within the project area to downstream of the confluence with the spillway outlet would be mandatory before excavation begins.

More information about the specific activities that would occur at the GVC project area is described in the EA/IS, Section 2.3. The information contained in Section 2.3 describes the timing, kind, size, intensity, and location of the activities associated with the site. Implementation of the Buckhorn Dam/GVC project would take place during the late summer or early fall 2012.

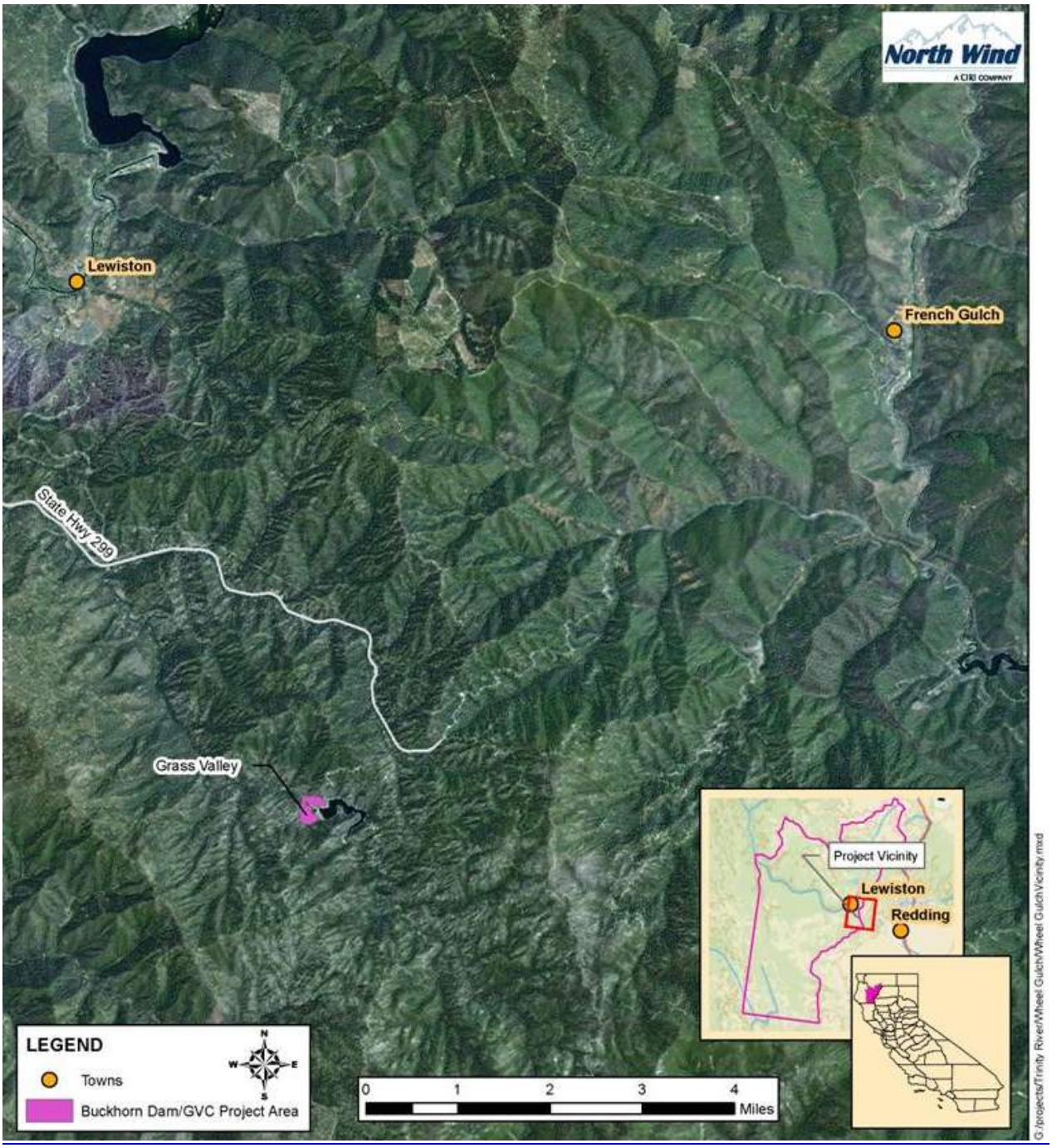

Figure 1. General project location.

Figure 2. Buckhorn Dam outlet channel rehabilitation project area.

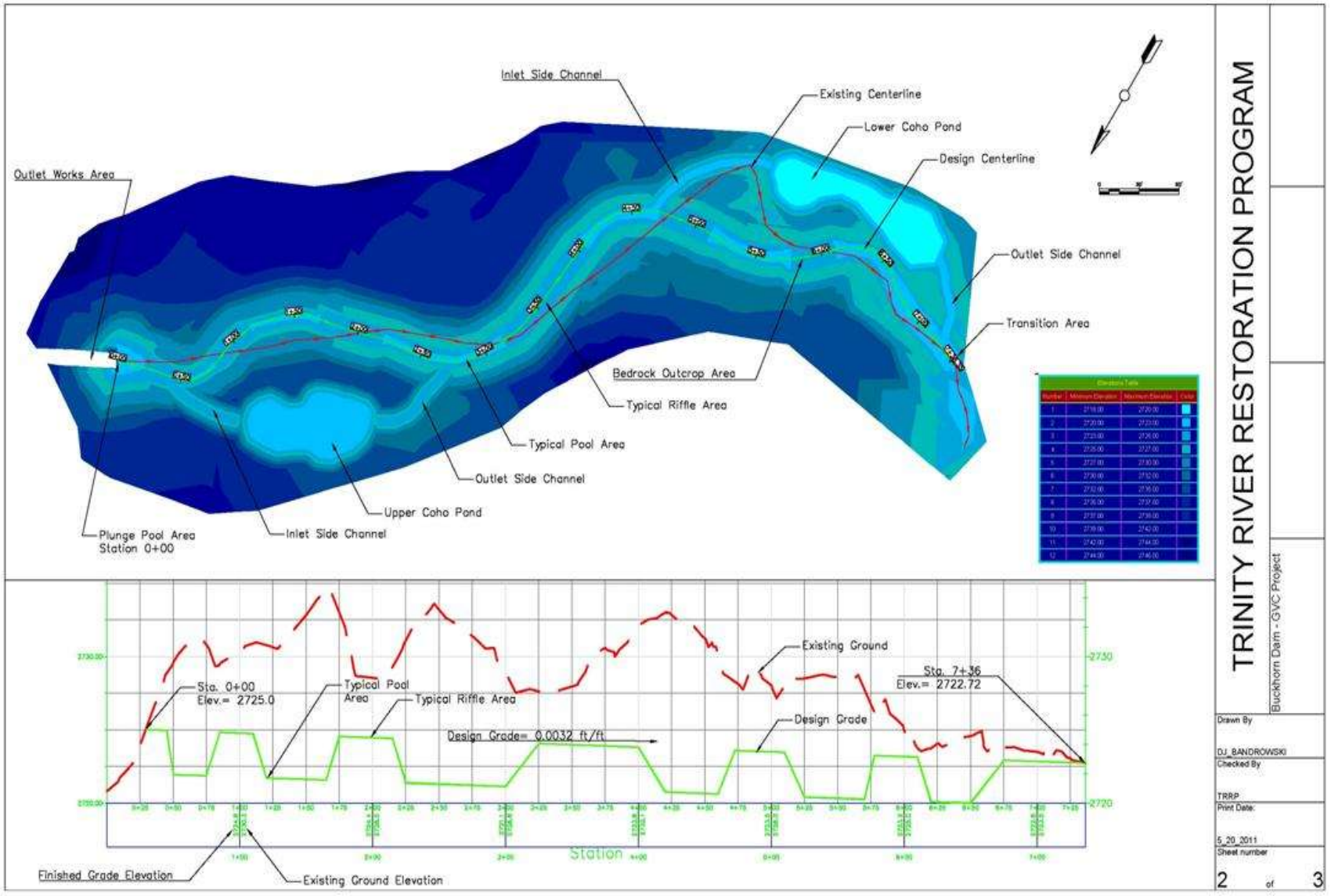

Figure 3. Proposed design of channel rehabilitation activities.

ENVIRONMENTAL SETTING

Buckhorn Dam is located within the GVC watershed along Upper GVC in a narrow, V-shaped valley. The GVC watershed encompasses 23,525 acres within steep, mountainous terrain ranging in elevation from around 1,600 to 5,950 feet and is an important watershed of the Trinity River Basin. Resource descriptions for the project area are included in Chapter 3 of the EA/IS.

GVC flows northwesterly into the Trinity River about 6 miles downstream from the old Lewiston Bridge. The Buckhorn Dam/GVC project site is accessible off SR 299 between Weaverville and Redding, California. The project area can be reached from Weaverville by traveling east on SR 299 for approximately 13.5 miles, turning south onto Shingle Shanty Road just before Buckhorn Summit. The access road is gated as is the dam itself, which is located approximately 1.65 miles further along the road.

The climate of the area is characterized by hot, dry summers and cold, moderately wet winters (NRCS 1998). Most precipitation in the area results from major storms originating in the Pacific Ocean; however, short thunderstorms occur in the summer months as a result of localized climate conditions. Precipitation in the lower elevations is dominantly rainfall, with occasional snow in the winter while the higher mountain ridges receive precipitation as snow and hold most of it until late spring (North Coast Unified Air Quality Management District 1995). Trinity County has an average summer high temperature of 93.9°F and winter low of 27.3°F.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

SUMMARY OF MITIGATION MEASURES

California PRC section 21081.6(a), subdivision (a), requires lead agencies under CEQA to "adopt a reporting and mitigation monitoring program… in order to mitigate or avoid significant effects on the environment." Mitigation measures that will be implemented in association with the Proposed Action are clearly identified and presented in the "Impacts and Mitigation Measures" section for each resource in the EA/IS in language that will facilitate establishment of a monitoring and reporting program. All mitigation measures that will be adopted by the TCRCD as conditions of project approval are included in a Mitigation Monitoring and Reporting Program (MMRP) in Appendix A of the EA/IS.

These measures would be included as part of the Proposed Action to reduce impacts on resources to less than significant.

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

_____ _____

Signature Date

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.

ENVIRONMENTAL CHECKLIST AND EXPLANATORY NOTES

I. AESTHETICS:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.13, Aesthetics, for information about impacts and mitigation measures.

I.	**AESTHETICS:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a)	Have an adverse effect on a scenic vista?	☐	☒	☐	☐
b)	Damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d)	Create a new source of light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

II. AGRICULTURE RESOURCES:

There are no agriculture resources in the project area therefore they were not addressed in the Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS.

II.	**AGRICULTURE 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 prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program in the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for timber production (TPZ)?	☐	☐	☐	☒
d)	Involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural use?	☐	☐	☐	☒

III. AIR QUALITY:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.12, Air Quality, for information about impacts.

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:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
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 that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
f)	Otherwise degrade the atmospheric environment?	☐	☐	☒	☐
g)	Substantially alter air movement, moisture, temperature or other aspects of climate?	☐	☐	☒	☐

IV. BIOLOGICAL RESOURCES:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Sections 3.5, 3.6, 3.7, and 3.8 for information about impacts and mitigation measures.

IV.	**BIOLOGICAL RESOURCES:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a)	Have an adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have an adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have an adverse effect on Corps of Engineers jurisdictional wetlands either individually or in combination with the known or probable effects of other activities through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d)	Interfere with the movement of any resident or	☐	☒	☐	☐

migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐
g) Otherwise degrade the biotic environment?	☐	☐	☒	☐

V. CULTURAL RESOURCES:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.11, Cultural Resources, for information about impacts and mitigation measures.

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

VI. GEOLOGY AND SOILS:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.3, Soils and Geology, for information about impacts and mitigation measures.

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

iv) Landslides?	☐	☐	☐	☒
b) Result in soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.12, Air Quality, for information about impacts related to greenhouse gases.

VII. **GREENHOUSE GAS EMISSIONS:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
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?	☐	☐	☒	☐

VIII. HAZARDS AND HAZARDOUS MATERIALS:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.14, Hazards and Hazardous Waste, for information about impacts.

VIII. **HAZARDS AND HAZARDOUS MATERIALS:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Have hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and consequently result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Be located within the vicinity of a private airstrip, and consequently result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

IX. HYDROLOGY AND WATER QUALITY:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.4, Water Resources and Water Quality, for information about impacts and mitigation measures.

IX. **HYDROLOGY AND WATER QUALITY:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Violate any applicable water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned	☐	☐	☒	☐

uses for which permits have been granted)?				
c) Alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?	☐	☒	☐	☐
f) Place housing within a 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
g) Place within a 100-year floodplain structures that would impede or redirect flood flows?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death involving: 1) flooding, including flooding as a result of the failure of a levee or dam, or 2) inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐
i) Otherwise degrade water quality?	☐	☒	☐	☐
j) Change the amount of surface water in a water body?	☐	☐	☐	☒
k) Change currents or the course or direction of water movements?	☐	☐	☒	☐

X. LAND USE AND PLANNING:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.2, Land Use, for information about impacts.

X. **LAND USE AND PLANNING:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Physically divide an established community?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural communities' conservation plan?	☐	☐	☒	☐

XI. MINERAL AND ENERGY RESOURCES:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.3, Soils and Geology, for information about impacts.

XI. **MINERAL AND ENERGY RESOURCES:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Result in the loss of availability of a known mineral that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐
c) Result in the use of energy or non-renewable resources in a wasteful or inefficient manner?	☐	☐	☒	☐

XII. NOISE:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.15, Noise, for information about impacts and mitigation measures.

XII. **NOISE:** Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Generate or expose persons to noise levels	☐	☐	☒	☐

in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
b) Generate or expose persons to excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
c) Result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) Result in a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and consequently expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) Be within the vicinity of a private airstrip, and consequently expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XIII. POPULATION AND HOUSING:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.10, Socioeconomic Values, for information about impacts.

XIII. POPULATION AND HOUSING: Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

XIV. PUBLIC SERVICES:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.16, Public Services and Utilities/Energy, for information about impacts.

XIV. PUBLIC SERVICES: Would the project result in 1) adverse physical impacts associated with the provision of new or physically altered governmental facilities, or 2) the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Roads?	☐	☐	☐	☒
f) Other public facilities?	☐	☐	☐	☒

XV. RECREATION:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.9, Recreation, for information about impacts.

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

XVI. TRANSPORTATION/TRAFFIC:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.17, Transportation for information about impacts and mitigations.

XVI. TRANSPORTATION/TRAFFIC: Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒

g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
h) Adversely affect rail, waterborne, or airborne transportation?	☐	☐	☐	☒

XVII. UTILITIES AND SERVICE SYSTEMS:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.16, Public Services and Utilities/Energy, for information about impacts.

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, for any of the following utilities?				
i) Water treatment or distribution facilities?	☐	☐	☐	☒
ii) Wastewater collection, treatment, or disposal facilities?	☐	☐	☐	☒
iii) Storm water drainage facilities?	☐	☐	☐	☒
iv) Electric power or natural gas?	☐	☐	☐	☒
v) Communications systems?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:

Refer to Buckhorn Dam/GVC Toe Drain and Channel Rehabilitation Project EA/IS Section 3.20, Cumulative Effects and other CEQA and NEPA considerations and Appendix A – Mitigation Measures and Reporting Program, for information about impacts.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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 probably future projects, as defined in Section 15130.)	☐	☐	☒	☐
d) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐