

Notice of Determination

TO: Office of Planning and Research

For U.S. Mail:

P.O. Box 3044
Sacramento, CA 95812-3044

Street Address:

1400 Tenth Street
Sacramento, CA 95814

FROM: California Department of Fish and Wildlife
1455 Sandy Prairie Court, Suite J
Fortuna, CA 95540
Contact: Beatrijs deWaard
Phone: (707) 725-1078

LEAD AGENCY (if different from above):

California Department of Fish and Wildlife
830 S Street
Sacramento, CA 95814-7023
Contact: Dylan Inskeep
Phone: (916) 327-8658

SUBJECT: Filing of Notice of Determination pursuant to § 21108 of the Public Resources Code

State Clearinghouse Number: **2019109011**

Project Title: **Lake and Streambed Alteration Agreement No. 1600-2020-0250-R1 Middle Slough Restoration Project – Phase 2.**

Project Location: **Located at Middle Slough, in the County of Humboldt, State of California: 40.290738° north latitude, 124.345652 ° west longitude.**

Project Description: **The Project is limited to excavation of 800 feet of the Middle Slough Channel; installation of 12 wood structures and three alcoves along the restored channel; installation of 3000 feet of willow baffles, planting of 4000 trees and 4000 wetland plants, installation of salvaged wetland vegetation, and seeding and mulching the disturbed area.**

This is to advise that the Department of Fish and Wildlife (CDFW), acting as **the lead agency** / **a responsible agency** approved the above-described project on the date signed below and has made the following determinations regarding the above described project:

1. The project **will** / **will not** have a significant effect on the environment. (This determination is limited to effects within CDFW's jurisdiction when CDFW acts as a responsible agency.)
2. **An environmental impact report** / **A negative declaration** / **A timber harvesting plan** was prepared for this project pursuant to CEQA.
3. Mitigation measures **were** / **were not** made a condition of CDFW's approval of the project.
4. A Statement of Overriding Considerations **was** / **was not** adopted by CDFW for this project.
5. Findings **were** / **were not** made by CDFW pursuant to Public Resources Code § 21081(a). CDFW did, however, adopt findings to document its compliance with CEQA.
6. Compliance with the environmental filing fee requirement at Fish and Wildlife Code § 711.4 (check one):
 - Payment is submitted with this notice.
 - A copy of a receipt showing prior payment is on file with CDFW.
 - A copy of the CEQA Filing Fee No Effect Determination Form signed by CDFW is attached to this notice.
 - Payment is not required when CDFW is Lead Agency.

Lead Agency certification: CDFW, as Lead Agency, has made the final EIR with comments and responses and record of project approval, or the Negative Declaration, available to the General Public at the CDFW office identified above.

Responsible Agency statement: The final EIR, Negative Declaration, or THP that was prepared by the Lead Agency for this project is available to the General Public at the office location listed above for the Lead Agency. CDFW's record of decision is available at the CDFW office identified above.

Signed: _____

Trevor Tollefson
Senior Environmental Scientist (Supervisor)
CDFW – North Coast Watershed Improvement Center
Date Received for filing at OPR:

Date: _____

Governor's Office of Planning & Research

Jun 10 2020

STATE CLEARINGHOUSE

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
CEQA FINDINGS FOR THE
AGREEMENT REGARDING PROPOSED LAKE OR STREAMBED
ALTERATION NO. 1600-2020-0250-R1

Introduction

The California Environmental Quality Act (**CEQA**) (Public Resources Code section 21000, *et seq.*) and the State CEQA Guidelines (**Guidelines**) (Section 15000, *et seq.*, Title 14, California Code of Regulations) require that no public agency shall approve or carry out a project for which a mitigated negative declaration (MND) has been completed that identifies one or more significant effects, unless such an agency makes the following finding as to each significant effect:

Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

As the lead agency for the project, the California Department of Fish and Wildlife (CDFW) adopted the MNDs for the Project on **November 18, 2020**. CDFW found that the Project will not result in significant environmental effects with the mitigation measures required in, or incorporated into the Project.

CDFW is issuing a Lake or Streambed Alteration Agreement (Agreement) to the project applicant, **Mr. Hugh McGee representing Mattole Salmon Group**. The project is located **at Middle Slough, tributary to the Mattole River, in the County of Humboldt, State of California; Section 18, Township 2 South, Range 2 West, Petrolia**.

Findings

CDFW has considered the MND adopted for the project and has concluded that the Agreement should be issued under the terms and conditions specified therein. On the basis of the record before CDFW, there is no substantial evidence that the project will have a significant effect on the environment. CDFW finds that the MND reflects CDFW's independent judgment and analysis. In this regard, CDFW hereby adopts the findings set forth in the MND insofar as they pertain to the Project's impacts on biological resources.

Signed: _____

Trevor Tollefson
Senior Environmental Scientist (Supervisor)
CDFW – North Coast Watershed Improvement Center
California Department Fish and Wildlife

Date: _____

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
REGION 1 - NORTHERN
1455 SANDY PRAIRIE CT, SUITE J
FORTUNA, CA 95540



STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2020-0250-R1
MATTOLE RIVER

MATTOLE SALMON GROUP
MIDDLE SLOUGH RESTORATION PROJECT – PHASE 2

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the Mattole Salmon Group as represented by Hugh McGee acting on behalf of Permittee.

RECITALS

WHEREAS, pursuant to Fish and Game Code section 1602, Permittee notified CDFW on May 29, 2020 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to Fish and Game Code section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located at Middle Slough tributary to the Mattole River in the County of Humboldt, State of California. The project is located approximately 3500 feet upstream from the mouth of the Mattole River and downstream of the town of Petrolia, CA. The project sites are located on the south side of the Mattole Estuary, in the King Range National Conservation Area.

Objective 1 activities will take place at section C2, upstream from section C1. Access to this site is via Lighthouse Road.
Objective 2 activities will take place at BLM30. Access to this site is via Lighthouse Road.

Project coordinates are: 40.290738 north and 124.345652 west at the center point of the 800 feet of excavation at C2 and 40.290206 north and 124.340985 west at the center point of where spoils will be relocated, willow baffles will be installed, and riparian planting will take place. The project is at Township 02 South, Range 02 West, and

Section 18 of the Petrolia 7.5 Minute U.S. Geological Survey (USGS) Quadrangle map.

PROJECT DESCRIPTION

The project is limited to the following activities:

Task 1 – Project Management and Administration

Grantee's Executive Director, Bookkeeper/Contract Manager, Native Ecosystems' (NE) Project Manager, and all subcontractor personnel will provide technical and administrative services associated with performing and completing the work for the Project, including managing this Agreement, assuring all permits are finalized, delivering the final landowner access agreement, administering subcontracts, invoicing and payments, drafting and finalizing progress and final reports, and data management.

Task 2 – Photo Documentation

NE Project Manager and the MRC Project Manager will establish photo points and collect pre and post-project ground and drone photos at Section C2 and BLM30. They will also collect drone video footage of construction.

Task 3 – Middle Slough Section C2 Construction

A description of construction activities can be found in Plans for Construction Mattole Estuary, Middle Slough Habitat Enhancement, Final Design, Attachment 2, which is attached hereto and made a part of this agreement by this reference. These plans are referred to as design plans below. Construction of section C2 will occur in reference to design plans with field engineering occurring where needed. Please refer to design plans for all reference to station markers. NE project manager and MSG laborers will be on-site during entire length of this task.

- 3.1 - Conduct archaeological and botany surveys at C2 and BLM30 by Roscoe and Associates. Coordination will be done by NE Project Manager.
- 3.2 - Hold pre-construction meeting with heavy equipment contractors, engineer, project manager, laborers and members of the Mattole Estuary Technical Advisory Committee (TAC) to discuss: Project timeline, project design, operations plan, and safety protocols. Meeting will be held by NE and MSG Project Manager.
- 3.3 - Open access road from Lighthouse Road to C2 and BLM30. Remove vegetation (willow and alder) with an excavator and labor crew from Edwards Excavation and restoration. Vegetation will be staged for later use in willow trenches. Road will be graded with a bulldozer. Road will be watered for dust mitigation. Access will not require crossing of any streams or the Mattole River.
- 3.4 - Vegetation will be cleared along 800 feet of section C2 (Station 750-1550) and haul road with an excavator and labor crew from Edwards Excavation. Red alder and Pacific willow trees within removal areas will be tipped so root wads remain intact and will be staged for future use as in-stream wood structures. Special care will be made to leave wildlife trees and trees that provide shade in-stream. All willow removed will be removed with roots attached and staged for future use in willow baffles and planting into

haul road. If staging of willow is required for more than 3 days, willows will be soaked in temporary pond until installation occurs.

3.5 - Mike Love and Associates (MLA) Engineer will survey and stake section C2 boundaries and center line with elevation hub stakes placed every 50 feet.

3.6 - Excavator and laborers will salvage on-site native wetland vegetation through vegetative lifts and transfer to salvaged plant material staging area (See Attachment 1).

3.7 - A 20-foot-wide haul road will be installed parallel to the entire length of section C2 with one entrance at station 750 and one entrance at station 1500. The haul road will not require any imported fill material and will be constructed by removing vegetation and grading. Once the haul road is no longer in use, it will be incorporated into the project as a combination of littoral shelf, floodplain, and off-channel pond/alcove that will be field engineered depending on site conditions. The road will be de-compacted and planted with native plant materials, including salvaged vegetation, as these features are built.

3.8 - Excavation of section C2 will take place according to design plans from station 750 to station 1550. Station 1500 to 1550 will consist of a gradual slope out of channel to existing grade at station 1550 to allow for fish passage and future tie-in of the Lower Bear Creek project. A laser level, and boom and rod receivers, will be used to assure specified channel bed and littoral shelf elevation targets are being met. An MLA Engineer will conduct weekly site visits to assure Project is being built to specifications. A 50,000 pound excavator will dig spoils from channel and load into a 20 cubic yard capacity articulated haul truck. Haul truck operator will transfer topsoil to staging area for future use on post-project revegetation and transfer gravel and cobble to spoils area at BLM30. Spoils will be graded with 20,000 pound bulldozer. Channel will be shaped to slopes specified in design plans. A 20 foot wide earth berm will be left at station 750 that will span the entire width of the channel to maintain disconnection between C1 and C2. A turbidity curtain will be installed below station 750 and the berm will be removed as the final step of excavation.

3.9 - De-watering will occur when necessary for excavator to shape channel and efficiently remove spoils. Construction will be scheduled to take place when groundwater levels will be at their lowest in June and July. When de-watering of channel occurs, no fish species will be present due to the channel having no connectivity to surface water. Dewatering will require the use of a 4 inch trash pumps, 4 inch intake, and 3 inch discharge line to move water from channel to adjacent floodplains. Water will not be discharged into surface water and will be used to irrigate willow baffles when possible. All pumps and associated fuel will be in secondary containment.

3.10 - During excavation, twelve wood structures will be placed instream and will be constructed using on-site red alder and Pacific willow as shown in design plans. A minimum of three alcoves and/or offchannel ponds will be constructed as shown in design plans at locations based on field conditions. A littoral shelf will be built as shown in design plans.

Task 4 – Riparian Restoration

4.1 – Pre-construction meeting. MRC Project Manager will hold and lead a pre-construction meeting with heavy equipment contractors, project manager, laborers and members of the Mattole Estuary TAC to discuss: Project timeline, project design, operations plan, and safety protocols.

4.2 - Willow baffle installation. Some willow baffles will be installed during construction of C2 so that willow from clearing access can be installed immediately after it is removed. All other willow baffles will be installed in late September to decrease the need for irrigation. A 50,000 pound excavator from Edwards Excavation and Restoration will dig 3000 feet of trenches that will be 10 feet to 15 feet deep. Trenches will be dug into spoils removed from C2 as well as native soils at project site BLM30. Trenches will be spaced approximately 30 feet apart and dug from north to south. MRC laborers will harvest willow cuttings with chainsaw from harvest areas that consist of Sitka willow and Hookers willow. Cuttings will range in size from 15 feet to 20 feet in length and 3 inches to 6 inches in diameter. Cuttings will be bundled with a cable choker in groups of 15-20 and moved directly to trench with 4X4 truck, excavator, or wheel loader. Cuttings will be installed in trench every 1 foot to 2 feet with cut ends in a minimum of 1 foot of groundwater. Slash material from clearing access and C2 will be placed into excavated trench after willow is installed. Laborers will then cut cuttings to 4 feet above grade and place slash material in trench. Trench will be backfilled with spoils using a 20,000 pound bulldozer. Spoils will be watered in as they are backfilled to maintain soil moisture. As the bulldozer backfills and grades, a 1 foot deep ditch line will be installed parallel to the willow baffle to aid in flood irrigation.

4.3 - Installation of salvaged topsoil. After willow baffles are installed, the excavator will load dump truck with salvaged topsoil and it will be transferred to areas in between trenches. Bulldozer will grade topsoil.

4.4 - Irrigation. A temporary irrigation system will be installed to flood irrigate willow baffles until winter rains provide adequate soil moisture. An excavator will dig an open groundwater well into gravel bar adjacent to willow baffles. The well will have no connection to surface water. Safety fencing will be installed around well. A gas powered 3 inch semitrash pump with 3 inch suction line will be used to move water from well into a 3 inch PVC mainline. The mainline will connect to 2 inch PVC lateral lines that will be placed perpendicular to willow baffles. A 2 inch PVC ball valve will be installed on the lateral line at the intersection of each baffle ditch line. Each willow baffle ditch will be flood irrigated a minimum of 2 hours per week to maintain adequate soil moisture. This system has already been built and dismantled and has been used on previous phases of the project for the same purpose. Temporary drip irrigation will be installed at containerized planting sites in the summer of 2021 if needed to maintain survival.

4.5 - Native Plant Installation. Installation of salvaged vegetative lifts will be installed during decommissioning of haul road at C2. See task 3.7. Native seed installation will occur at BLM 30 and C2 in September or October after the first rains. The riparian seed mix will consist of Oregon ash, Big leaf maple, Red alder, red-flowering currant, thimbleberry, black-capped raspberry, coffee berry, oceanspray, Toyon, Blue wildrye, California brome and Douglas iris. All seed will be sourced from local collection sites. Mix will be installed at a rate of 40 pounds per acre on all bare soils into salvaged topsoil in between willow baffles and on bare banks and floodplains at C2. Seed will be distributed by hand and raked in to increase soil contact. After installation, seed will be watered with a 2 inch hose with fire nozzle and lightly mulched with weed free straw. Straw will be watered in with 2 inch hose with fire nozzle to prevent loss from wind and maintain moisture for seed germination. Native plant installation will occur at BLM 30

and C2 after adequate soil moisture is reached from rainfall in November. All plants will be grown from locally collected seed at the MRC Native Plant Nursery. 500 black cottonwood, 200 Douglas-fir, 500 red alder, and 800 Pacific willow will be installed by laborers using a hoedad. Container size for trees will be size D25. Trees will be installed on 8 foot centers with shallow basins at willow baffle sites at BLM30 and on the bare banks and floodplains at C2. 3000 small fruited bullrush, 500 common rush, 500 gray rush will be installed by laborers using a hoedad. Container size will be AB34. Wetland plugs will be installed on 3 foot centers on the bare banks and floodplains at C2.

Task 5 – Off-Channel Habitat Feature Monitoring

MSG monitoring technician and MSG project manager will collect pre and post photos and design flow surveys, perform biological surveys of functional use, and collect water quality data.

Task 6 - Riparian Restoration Monitoring and Maintenance

MRC laborer and MRC project manager will perform post-project monitoring and maintenance at C2 and BLM30, including seedling survival surveys to assess survival of installed containerized plants. If any point during those surveys seedling survival falls below 60%, replacement plants will be installed at no cost. Perform post-project survival of willow baffles by measuring linear feet of willow baffle alive. Remove weeds and irrigate containerized plantings as needed.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Coho Salmon (*Oncorhynchus kisutch*), Chinook Salmon (*Oncorhynchus tshawytscha*), Steelhead trout (*Oncorhynchus mykiss*), Northern spotted owl (*Strix occidentalis caurina*), and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

I. Impacts to bed, channel, or bank; effects on habitat structure

1. Permanent or temporary loss of natural bed or bank
2. Permanent or temporary relocation of stream channel or lake
3. Change in contour of bed, channel or bank
4. Change in gradient of bed, channel or bank
5. Channel profile change: confinement or widening
6. Channel degradation or aggradation
7. Accelerated channel scour
8. Temporary loss of bank stability during construction
9. Increase of bank erosion during construction
10. Change in composition of channel materials: LWD and D₅₀
11. Soil compaction or other disturbance
12. Restriction or increase in sediment transport

13. Debris dams

II. Impacts to water quality

1. Change in Turbidity
 - a. Increased sedimentation from adjacent construction
 - b. Increased sedimentation from project roads
2. Chronic and stochastic increases of sedimentation to streams
3. Change in pH
4. Contaminants:
 - a. Short-term release (*e.g. incidental from construction*)
5. Change in water temperature
6. Change in dissolved oxygen (DO)

III. Impacts to bed, channel, or bank; more direct effects on fish, wildlife, and their habitat

1. Loss or decline of riparian and/or emergent marsh habitat
2. Decline of vegetative diversity
3. Colonization by exotic plant or animal species
4. Creation of predatory fish habitat
5. Loss or decline of instream channel habitat
6. Loss of or decline instream woody material
7. Loss or decline of natural bed substrate
8. Direct take of fish and other aquatic species, including redds
9. Construction pits and trenches that can capture terrestrial organisms
10. Disruption to nesting birds and other wildlife:
 - a. Direct take or
 - b. Disturbance from project activity
11. Loss of or decline of aquatic species' habitat: migration corridors, spawning or rearing areas
12. Loss of wildlife connectivity to water source
13. Temporary loss or impediment of terrestrial animal species travel routes due to temporary structures such as survey tape, sandbags, erosion protection materials etc.
14. Change in shading or isolation leading to vegetative change

IV. Impacts to natural flow: effects on habitat structure and process

1. Change in stream flow (Q)
2. Diversion of flow water from stream activity site or around activity site

3. Dewatering
4. Rewatering
5. Impoundment above intake
6. Change in hydrology below intake
7. Habitat fragmentation below intake
8. Change (increase or decrease) in sediment delivery below intake
9. Change in flow depth, width or velocity
10. Flow deflection
11. Flow restriction (with risk of culvert or bridge failure)
12. Loss of pools or riffles
13. Change in percolation
14. Change in fluvial geomorphology
15. Effect on another water project on the same watercourse

V. Impacts to natural flow: direct effects on fish and wildlife and their habitat

1. Direct take of aquatic species from pumps
2. Impediment to migration of aquatic and terrestrial species
3. Direct (seasonal) loss of resources for aquatic organisms
4. Entrapment in isolated pools due to loss of water surface elevation

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a

provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.

- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 General Measures for Protection of Biological Resources

- 1) Timing. To avoid impacts to aquatic habitat the activities carried out in the restoration program typically occur during the summer dry season where flows are low or streams are dry.
 - a) Work around streams is restricted to the period of June 15 through November 1 or the first significant rainfall, whichever comes first. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e. on the Shasta River projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). This is to take advantage of low stream flow and avoid the spawning and egg/alevin incubation period of salmon and steelhead.
 - b) Upslope work generally occurs during the same period as stream work. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Non jurisdictional upslope projects do not have seasonal restrictions in the Incidental Take Statement but work may be further restricted at some sites to allow soils to dry out adequately. In some areas equipment access and effectiveness is constrained by wet conditions.
 - c) The approved work window for individual work sites will be further constrained as necessary to avoid the nesting or breeding seasons of birds and terrestrial animals. At most sites with potential for raptor (including Northern Spotted Owls) and migratory bird nesting, if work is conditioned to start after July 9, potential impacts will be avoided and no surveys will be required. For work sites that might contain nesting Marbled Murrelets, the starting date will be September 16 in the absence of surveys. The work window at individual work sites could be advanced if surveys determine that nesting birds will not be impacted.
 - d) For restoration work that may affect swallow nesting habitat (such as removal or modification of bridges, culverts or other structures that show

evidence of past swallow nesting activities), construction shall occur after August 31 to avoid the swallow nesting period. Suitable nesting habitat shall be netted prior to the breeding season to prevent nesting. Netting shall be installed before any nesting activity begins, generally prior to March 1. Swallows shall be excluded from areas where construction activities cause nest damage or abandonment.

- e) All project activities shall be confined to daylight hours.
- 2) Projects shall not disturb or dewater more than 500 feet of contiguous stream reach.
 - 3) During all activities at project work sites, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
 - 4) Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high water area of the stream prior to refueling and lubricating. The grantee shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
 - 5) The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action while minimizing riparian disturbance without affecting less stable areas, which may increase the risk of channel instability. Existing roads shall be used to access work sites as much as practicable.
 - 6) The access and work area limits shall be identified with brightly colored flagging or fencing. Flagging and fencing shall be maintained in good repair for the duration of project activities. All areas beyond the identified work area limits shall not be disturbed.
 - 7) Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.

- 8) Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- 9) Any work within the stream channel shall be performed in isolation from the flowing stream and erosion protection measures shall be in place before work begins.
 - a) Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates shall be determined.
 - b) If there is any flow when work will be done, the grantee shall construct coffer dams upstream and downstream of the excavation site and divert all flow from upstream of the upstream dam to downstream of the downstream dam.
 - c) No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
 - d) Cofferdams may be constructed with clean river run gravel or sand bags, and may be sealed with sheet plastic. Upon project completion, sand bags and any sheet plastic shall be removed from the stream. Clean river run gravel may be left in the stream channel, provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.
 - e) Dewatering shall be coordinated with a qualified fisheries biologist to perform fish and wildlife relocation activities.
 - f) The length of the dewatered stream channel and the duration of the dewatering shall be kept to a minimum and shall be expected to be less than 500 contiguous feet.
 - g) When bypassing stream flow around work area, stream flow below the construction site shall be maintained similar to the unimpeded flow at all times.
 - h) The work area shall be periodically pumped dry of seepage. Pumps shall be placed in flat areas, away from the stream channel. Pumps shall be secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes shall be covered with 0.125 inch mesh to prevent entrainment of fish or amphibians that failed to be removed. Pump intakes shall be periodically checked for impingement of fish or amphibians, and shall be relocated according to the approved measured outlined for each species below.
 - i) If necessary, flow shall be diverted around the work site, either by pump or by gravity flow, the suction end of the intake pipe shall be fitted with fish screens meeting CDFW and NOAA criteria to prevent entrainment or

impingement of small fish. Any turbid water pumped from the work site itself to maintain it in a dewatered state shall be disposed of in an upland location where it will not drain directly into any stream channel.

- j) Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed net or screen. Mesh shall be no greater than 1/8-inch diameter. The bottom edge of the net or screen shall be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening shall be placed in areas of low water velocity to minimize fish impingement. Screens shall be regularly checked and cleaned of debris to permit free flow of water.
- 10) Where the disturbance to construct coffer dams to isolate the work site would be greater than to complete the action (for example, placement of a single boulder cluster), the action shall be carried out without dewatering and fish relocation. Furthermore, measures shall be put in place immediately downstream of the work site to capture suspended sediment. This may include installation of silt catchment fences across the stream, or placement of a filter berm of clean river gravel. Silt fences and other non-native materials will be removed from the stream following completion of the activity. Gravel berms may be left in the stream channel provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.
 - 11) Best management practices associated with fish screens and measures to minimize effects to salmonids associated with fish screen construction, maintenance, and repair are presented below:
 - a) Screening projects shall only take place on diversions with a capacity of 60 cfs or less. Screening larger diversions shall require separate consultation. Fish screens shall be operated and maintained in compliance with current law, including Fish and Game Code, and CDFW fish screening criteria.
 - b) Notwithstanding Fish and Game Code section 6027, fish screens and bypass pipes or channels shall be in-place and maintained in working order at all times water is being diverted.
 - c) If a screen site is dewatered for repairs or maintenance when targeted fish species are likely to be present, measures shall be taken to minimize harm and mortality to targeted species resulting from fish relocation and dewatering activities. The responsible party shall notify CDFW before the project site is de-watered and streamflow diverted. The notification shall provide a reasonable time for personnel to supervise the implementation of a water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires site dewatering and fish relocation, the responsible party shall implement the dewatering and relocation measures as described in this document to

minimize harm and mortality to listed species.

- d) If a fish screen is removed for cleaning or repair, measures shall be undertaken to ensure juvenile fish are not passively entrained into the diversion canal. The area shall be isolated, cleared of fish, and dewatered prior to screen maintenance or replacement. If dewatering the work area is infeasible, then the area in front of the screen shall be cleared of fish utilizing a seine net that remains in place until the project is complete. In the case of a damaged screen, a replacement screen shall be installed immediately or the diversion shut down until a screen is in place.
- e) Fish screens shall be inspected and maintained regularly (not less than two times per week) to ensure that they are functioning as designed and meeting CDFW fish screening criteria. During the diversion season, screens shall be visually inspected while in operation to ensure they are performing properly. Outside the diversion season when the screening structure is dewatered, the screen and associated diversion structure shall be more thoroughly evaluated.
- f) Existing roads shall be used to access screen sites with vehicles and/or equipment whenever possible. If it is necessary to create access to a screen site for repairs or maintenance, access points shall be identified at stable stream bank locations that minimize riparian disturbance.
- g) Sediment and debris removal at a screen site shall take place as often as needed to ensure that screening criteria are met. Sediment and debris shall be removed and disposed at a location where it will not re-enter the water course.
- h) Stationary equipment used in performing screen maintenance and repairs, such as motors, pumps, generators, and welders, located within or adjacent to a stream shall be positioned over drip pans.
- i) Equipment which is used to maintain and/or repair fish screens shall be in good condition and checked and maintained on a daily basis to prevent leaks of materials that could be deleterious to aquatic life, wildlife, or riparian habitat.
- j) To the extent possible repairs to a fish screen or screen site shall be made during a period of time when the target species of fish are not likely to be present (for example, in a seasonal creek, repair work should be performed when the stream is dry).
- k) Equipment used to maintain and/or repair fish screens shall not operate in a flowing stream except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
- l) Turbid water which is generated by screen maintenance or repair activities shall be discharged to an area where it will not re-enter the stream. If the

CDFW determines that turbidity/siltation levels resulting from screen maintenance or repair activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW-approved sediment control devices are installed and/or abatement procedures are implemented.

- 12) Any equipment entering the active stream (for example, in the process of installing a coffer dam) shall be preceded by an individual on foot to displace wildlife and prevent them from being crushed.
- 13) If any non-special status wildlife are encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed, and shall be flushed, hazed, or herded in a safe direction away from the project site. "Special status wildlife" is defined as any species that meets the definition of "endangered, rare, or threatened species" in section 15380, article 20 in Title 14 of the California Code of Regulations, also known as the "CEQA Guidelines".
- 14) Any red tree vole nests encountered at a work site shall be flagged and avoided during construction.
- 15) For any work sites containing western pond turtles, salamanders, foothill yellow-legged frogs, California red-legged frogs, or tailed frogs, the grantee shall provide to the CDFW grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction.
- 16) All habitat improvements shall be done in accordance with techniques in the *California Salmonid Stream Habitat Restoration Manual*. The most current version of the manual is available at:
<http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.
- 17) The grantee shall have dependable radio or phone communication on-site to be able to report any accidents or fire that might occur.
- 18) Installation of bridges, culverts, or other structures shall be done so that water flow is not impaired and upstream and downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade.
- 19) Temporary fill shall be removed in its entirety prior to close of work-window.

2.2 Specific Measures for Endangered, Rare, or Threatened Species That Could Occur at Specific Work Sites

1) Rare Plants

In order to avoid impacts to rare plants the following mitigation measures will be implemented:

- a) A qualified biological consultant shall survey all work sites for rare plants prior to any ground disturbing activities. Rare plant surveys will be conducted following the “Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities” (CDFW, 2018). These guidelines are available on the web at: <https://www.wildlife.ca.gov/Conservation/Plants>.
- b) If any special status plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:
 - i. Fencing to prevent accidental disturbance of rare plants during construction,
 - ii. On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed, or
 - iii. Redesign of proposed work to avoid disturbance of rare plants.
- c) Plant surveys will also include any host plants for butterflies identified as occurring in the area either in the CNDDDB or the official species list. These host plants are as follows for each butterfly:

Butterfly	Host Plant
Mission Blue Butterfly (<i>Icaricia icarioides missionensis</i>) - Endangered	Silver Bush Lupine (<i>Lupinus albifrons</i>)
San Bruno Elfin Butterfly (<i>Callophrys mossii bayensis</i>) – Endangered	Stonecrop (<i>Sedum spathulifolium</i>)
Callippe Silverspot Butterfly (<i>Speyeria callippe callippe</i>) – Endangered	Johnny Jump Up (<i>Viola pedunculata</i>)
Myrtle’s Silverspot (<i>Speyeria zerene myrtleae</i>) – Endangered	Hookedspur Violet (<i>Viola adunca</i>)
Bay Checkerspot Butterfly (<i>Euphydryas editha bayensis</i>) – Threatened	Native Plantain (<i>Plantago erecta</i>)

- i. If any host plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:
 - (a) Fencing to prevent accidental disturbance of larval host plants during construction,
 - (b) On-site monitoring by a qualified biologist during construction to assure that larval host plants are not disturbed, and
 - (c) Redesign of proposed work to avoid disturbance of larval host plants.
 - ii. If it becomes impossible to implement the project at a work site without impacts to larval host plants, then activity at that work site shall not proceed. If it becomes impossible to implement the project at a work site without potentially significant impacts to rare plants, then activity at that work site shall be discontinued.
 - iii. CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
- 2) Chinook Salmon (*Oncorhynchus tshawytscha*), Coho Salmon (*Oncorhynchus kisutch*), Steelhead Trout (*Oncorhynchus mykiss*), and Coast Cutthroat Trout (*Oncorhynchus clarkii clarkii*)

In order to avoid any potential for negative impacts to these species, the following measures will be implemented:

- a) Project work within the wetted stream shall be limited to the period between June 15 and November 1, or the first significant rainfall, or whichever comes first. This is to take advantage of low stream flows and to avoid the spawning and egg/alevin incubation period of salmon and steelhead. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e. on the Shasta River projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). Whenever possible, the work period at individual sites shall be further limited to entirely avoid periods when salmonids are present (for example, in a seasonal creek, work will be confined to the period when the stream is dry).
- b) Suitable large woody debris removed from fish passage barriers that is not used for habitat enhancement, shall be left within the riparian zone so as to provide a source for future recruitment of wood into the stream, reduce surface erosion, contribute to amounts of organic debris in the soil,

encourage fungi, provide immediate cover for small terrestrial species and to speed recovery of native vegetation.

- c) Prior to dewatering a construction site, fish and amphibian species shall be captured and relocated by CDFW personnel (or designated agents). The following measures shall be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities:
 - i. Fish relocation and dewatering activities shall only occur between June 15 and November 1 of each year.
 - ii. Fish relocation shall be performed by a qualified fisheries biologist, with all necessary State and Federal permits. Captured fish shall be moved to the nearest appropriate site outside of the work area. A record shall be maintained of all fish rescued and moved. The record shall include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the project site, and the number and species of fish captured and relocated. The record shall be provided to CDFW within two weeks of the completion of the work season or project, whichever comes first.
 - iii. Electrofishing shall be conducted by properly trained personnel following *NOAA Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act*, June 2000.
 - iv. Prior to capturing fish, the most appropriate release location(s) shall be determined. The following shall be determined:
 - i. Temperature: Water temperature shall be similar as the capture location.
 - ii. Habitat: There shall be ample habitat for the captured fish.
 - iii. Exclusions from work site: There shall be a low likelihood for the fish to reenter the work site or become impinged on exclusion net or screen.
 - v. The most efficient method for capturing fish shall be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down the pool and then seining or dip netting fish.
 - vi. Handling of salmonids shall be minimized. However, when handling is necessary, always wet hands or nets prior to touching fish.
 - vii. Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container

until time of release.

- viii. Air and water temperatures shall be measured periodically. A thermometer shall be placed in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds 18°C (64°F), fish shall be released and rescue operations ceased.
 - ix. Overcrowding in containers shall be avoided by having at least two containers and segregating young-of-year (YOY) fish from larger age-classes to avoid predation. Larger amphibians, such as Pacific giant salamanders, shall be placed in the container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and shall be released at the predetermined locations.
 - x. Species and year-class of fish shall be visually estimated at time of release. The number of fish captured shall be counted and recorded. Anesthetization or measuring fish shall be avoided.
 - xi. If feasible, initial fish relocation efforts shall be performed several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts.
 - xii. If mortality during relocation exceeds three percent, capturing efforts shall be stopped and the appropriate agencies shall be contacted immediately.
 - xiii. In regions of California with high summer temperatures, relocation activities shall be performed in the morning when the temperatures are cooler.
 - xiv. CDFW shall minimize the amount of wetted stream channel that is dewatered at each individual project site to the fullest extent possible.
 - xv. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Volume II, Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- d) If these mitigation measures cannot be implemented, or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to anadromous salmonids or their habitat, then activity at that work site shall be discontinued.

3) Northern Spotted Owl (*Strix occidentalis caurina*)

To avoid potential impacts Northern spotted owl or their habitat, the following mitigation measures will be implemented:

- a) Work with heavy equipment at any site within 0.25 miles of suitable habitat for the Northern Spotted Owl shall not occur from November 1 to July 9 for projects in areas under the jurisdiction of the Arcata USFWS Office and from November 1 to July 31 for projects in areas under the jurisdiction of the Sacramento USFWS Office.
- b) The work window at individual work sites may be advanced prior to July 9 or July 31 (corresponding to the different time constraints of the Arcata and Sacramento USFWS office), if protocol surveys determine that suitable habitat is unoccupied.
- c) If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to northern spotted owls or their habitat, then activity at that work site shall be discontinued and CDFW must reinitiate consultation with USFWS.
- d) For projects contained within streams and watersheds included in a USFWS Habitat Conservation Plan the mitigation measures contained within those Habitat Conservation Plans shall be followed.

2.3 Riparian and Re-vegetation

- 1) Planting of seedlings shall begin after December 1, or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings, but in no case after April 1.
- 2) Any disturbed banks shall be fully restored upon completion of construction. Revegetation shall be done using native species. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Volume II, Part XI of the *California Salmonid Stream Habitat Restoration Manual*.
- 3) Disturbed and compacted areas shall be re-vegetated with native plant species. The species shall be comprised of a diverse community structure that mimics the native riparian corridor. Planting ratio shall be 2:1 (two plants to every one removed).
- 4) Unless otherwise specified, the standard for success is 80 percent survival of plantings or 80 percent ground cover for broadcast planting of seed after a period of 3 years.
- 5) To ensure that the spread or introduction of invasive exotic plants shall be avoided to the maximum extent possible, equipment shall be cleaned of all dirt, mud, and plant material prior to entering a work site. When possible, invasive exotic plants at the work site shall be removed. Areas disturbed by project activities will be restored and planted with native plants.

- 6) Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.
- 7) If erosion control mats are used in re-vegetation, they shall be made of material that decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used.
- 8) CDFW shall retain as many trees and brush as feasible, emphasizing shade producing and bank stabilizing trees and brush to minimize impacts to the riparian corridor.
- 9) If riparian vegetation is to be removed with chainsaws, the grantee shall use saws that operate with vegetable-based bar oil when possible.
- 10) Disturbed and decompacted areas shall be re-vegetated with native species specific to the project location that comprise a diverse community of woody and herbaceous species.

2.4 Cultural Resources

Potential for inadvertent impacts will be avoided through implementation of the following mitigation measures:

- 1) The Grantee shall contract with an archaeologist(s) or other historic preservation professional that meets The Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61, and 48 FR 44716) to complete cultural resource surveys at any sites with the potential to be impacted prior to any ground disturbing activities. This work may be augmented with the aid of a Native American cultural resources specialist that is culturally affiliated with the project area. Cultural and paleontological resource surveys shall be conducted using standard protocols to meet CEQA Guideline requirements.
- 2) If cultural and/or paleontological resource sites are identified at a project location CDFW will require one or more of the following protective measures to be implemented before work can proceed: a) fencing to prevent accidental

disturbance of cultural resources during construction, b) on-site monitoring by cultural and/or paleontological resource professionals during construction to assure that cultural resources are not disturbed, c) redesign of proposed work to avoid disturbance of cultural resources.

- 3) The Grantee shall report any previously unknown historic, archeological, and paleontological remains discovered at a project location to CDFW for reporting to the USACE as required in the RGP.
- 4) CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
- 5) Inadvertent Discovery of Cultural Resources - If cultural resources, such as lithic debitage, ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR § 15064.5 (f)). Work near the archaeological finds shall not resume until an archaeologist that meets the Secretary of the Interior's Standards and Guidelines suited to the discovery, has evaluated the materials and offered recommendations for further action. Cultural materials not associated with human interments shall be documented and curated in place.
- 6) Inadvertent Discovery of Human Remains - If human remains are discovered during project construction, work shall stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, § 7050.5). The county coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American heritage Commission (NAHC) (Public Resources Code, § 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work shall not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, § 5097.98.
- 7) Procedures for treatment of an inadvertent discovery of human remains:
 - a) Immediately following discovery of known or potential human remains all ground-disturbing activities at the point of discovery shall be halted.
 - b) No material remains shall be removed from the discovery site, and a reasonable exclusion zone shall be cordoned off.

- c) The CDFW Grant Manager and property owner shall be notified and the CDFW Grant Manager shall contact the county coroner.
- d) The Grantee shall retain the services of a professional archaeologist to immediately examine the finds and assist the process.
- e) All ground-disturbing construction activities in the discovery site exclusion area shall be suspended.
- f) The discovery site shall be secured to protect the remains from desecration or disturbance, with 24-hour surveillance, if prudent.
- g) Discovery of Native American remains is a very sensitive issue, and all project personnel shall hold any information about such a discovery in confidence and divulge it only on a need-to-know basis, as determined by the CDFW.
- h) The coroner has two working days to examine the remains after being notified. If the remains are Native American, the coroner has 24 hours to notify the NAHC in Sacramento (telephone 916-653-4082).
- i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American.
- j) The MLD may, with the permission of the landowner, or their representative, inspect the site of the discovered Native American remains and may recommend to the landowner and CDFW Grant Manager means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment with 48 hours of being granted access to the site (Public Resource Code, § 5097.98(a)). The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.
- k) Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his/her authorized representative rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to the landowner, the landowner or his/her authorized representatives shall re-inter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance in accordance with Public Resource Code, § 5097.98(e).
- l) Following final treatment measures, the CDFW shall ensure that a report is prepared that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location. Appended to the report shall be a formal record about the discovery site

prepared to current California standards on DPR 523 form(s). CDFW shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC, and MLD.

- 8) Pursuant to RGP78 and in accordance to 36 C.F.R. § 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the CDFW shall notify the USACE archeological staff (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction.
- 9) If it becomes impossible to implement the project at a work site without disturbing cultural or paleontological resources, then activity at that work site shall be discontinued.

2.5 Geology and Soils

In order to avoid temporary increases in surface erosion, the following mitigation measures will be implemented:

- 1) CDFW will implement the following measures to minimize harm to listed salmonids resulting from culvert replacement activities and other instream construction work:
 - a) All stream crossing replacement or modification designs, involving fish passage, shall be reviewed and approved by NOAA (or CDFW) engineers prior to onset of work.
 - b) If the stream in the project location was not passable to, or was not utilized by all life stages of, all covered salmonids prior to the existence of the road crossing, the project shall pass the life stages and covered salmonid species that historically did pass there. Retrofit culverts shall meet the fish passage criteria for the passage needs of the listed species and life stages historically passing through the site prior to the existence of the road crossing.
- 2) CDFW shall implement the following measures to minimize harm to listed salmonids resulting from road decommissioning activities:
 - a) Woody debris will be concentrated on finished slopes of decommissioned roads adjacent to stream crossings to reduce surface erosion; contribute to amounts of organic debris in the soil; encourage fungi; provide immediate

cover for small terrestrial species; and to speed recovery of native forest vegetation.

- b) Work sites shall be winterized at the end of each day to minimize the eroding of unfinished excavations when significant rains are forecasted. Winterization procedures shall be supervised by a professional trained in erosion control techniques and involve taking necessary measures to minimize erosion on unfinished work surfaces. Winterization includes the following: smoothing unfinished surfaces to allow water to freely drain across them without concentration or ponding; compacting unfinished surfaces where concentrated runoff may flow with an excavator bucket or similar tool, to minimize surface erosion and the formation of rills; and installation of culverts, silt fences, and other erosion control devices where necessary to convey concentrated water across unfinished surfaces, and trap exposed sediment before it leaves the work site.
- 3) Effective erosion control measures shall be in-place at all times during construction. Construction within the 5-year flood plain shall not begin until all temporary erosion controls (i.e., straw bales or silt fences that are effectively keyed-in) are in place down slope or down stream of project activities within the riparian area. Erosion control measures shall be maintained throughout the construction period. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided.
- 4) An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained onsite to facilitate a quick response to unanticipated storm events or emergencies.
- 5) Use erosion controls that protect and stabilize stockpiles and exposed soils to prevent movement of materials. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
- 6) When needed, instream grade control structures shall be utilized to control channel scour, sediment routing, and headwall cutting.
- 7) Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the

stream channel. Available sites at or near the project location shall be determined prior to the start of construction. If feasible, topsoil shall be conserved for reuse at project location or use in other areas.

- 8) For projects located within the USACE San Francisco District, an annual limit on the number of sediment-producing projects per HUC 10 watershed shall be implemented to ensure that potential sediment impacts will remain spatially isolated, thus minimizing cumulative turbidity effects. Sediment producing projects include instream habitat improvement, instream barrier removal, stream bank stabilization, fish passage improvement, upslope road work, and fish screen construction (unless the screen is located in a diversion ditch and is disconnected from the waterway). The limit of projects shall be as follows:

Square mile of HUC 10 watershed	Maximum number of instream and upslope projects per year
<50	2
51-100	3
101-150	4
151-250	5
251-350	6
351-500	9
>500	12

- 9) Each year, all instream projects shall be separated both upstream and downstream from other proposed instream projects by at least 1500 linear feet in fish bearing stream reaches. In non-fish bearing reaches, the distance separating sediment-producing projects will be 500 feet.
- 10) Upon project completion, all exposed soil present in and around the project site shall be stabilized within seven days. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.

- 11) Soil compaction shall be minimized by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed and less compaction of disturbed areas.
- 12) Disturbed soils shall be decompacted at project completion as heavy equipment exits the construction area.
- 13) At the completion of the project, soil compaction that is not an integral element of the design of a crossing should be de-compacted.

2.6 Hazards and Hazardous Materials

The project will not create a significant hazard to the public or the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant, or of an accidental spark from equipment igniting a fire. The potential for these impacts will be reduced to a less than significant level through implementation of the following mitigation measures:

- 1) Heavy equipment that will be used in these activities will be in good condition and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
- 2) When operating vehicles in wetted portions of the stream channel, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, the responsible party shall, at a minimum, do the following:
 - a) Check and maintain on a daily basis any vehicles to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat;
 - b) Take precautions to minimize the number of passes through the stream and to avoid increasing the turbidity of the water to a level that is deleterious to aquatic life; and
 - c) Allow the work area to “rest” to allow the water to clear after each individual pass of the vehicle that causes a plume of turbidity above background levels, resuming work only after the stream has reached the original background turbidity levels.
- 3) All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a Spill Prevention/Response plan to help avoid spills and allow a prompt and effective response should an accidental spill occur. All workers shall be informed of the importance of preventing spills. Operators

shall have spill clean-up supplies on site and be knowledgeable in their proper deployment.

- 4) All activities performed in or near a stream will have absorbent materials designed for spill containment and cleanup at the activity site for use in case of an accidental spill. In an event of a spill, work shall cease immediately. Clean-up of all spills shall begin immediately. The responsible party shall notify the State Office of Emergency Services at 1-800-852-7550 and the CDFW immediately after any spill occurs and shall consult with CDFW regarding clean-up procedures.
- 5) All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet (20 meters) from any riparian habitat or water body and place fuel absorbent mats under pump while fueling. The USACE and the CDFW will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the CDFW will ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- 6) Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action. To avoid contamination of habitat during restoration activities, trash will be contained, removed, and disposed of throughout the project.
- 7) Petroleum products, fresh cement, and other deleterious materials shall not enter the stream channel.
- 8) Stationary equipment such as motors, pumps, generators, compressors, and welders, located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans.
- 9) No debris, soil, silt, sand, bark, slash, spoils, sawdust, rubbish, cement, concrete or washings thereof, asphalt, paint, or other coating material; oil or petroleum products; or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area and disposed of in a lawful manner.
- 10) All internal combustion engines shall be fitted with spark arrestors.

- 11) The grantee shall have an appropriate fire extinguisher(s) and firefighting tools (shovel and axe at a minimum) present at all times when there is a risk of fire.
- 12) Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.
- 13) The grantee shall follow any additional rules the landowner has for fire prevention.
- 14) The potential for mercury contamination is largely predicted by the presence of historic hydraulic gold mines and mercury (cinnabar) mines (California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State, DOC 2000). Therefore, only a few limited areas within the geographic scope of this grant program have any potential for gravels contaminated with elemental mercury, they are: Middle Klamath River, Salmon River, Scott River, and the Lower Middle and Upper Trinity River. Though studies by the USGS failed to find significant levels of methyl mercury near these mines.
 - a) Given the limited geographical potential for encountering mercury contamination (from historic mining) within the geographic scope, and the limited number of projects within these areas that will either disturb the channel bottom or import gravels for instream restoration; the following avoidance and mitigation measure will be adhered to: any gravel imported from offsite shall be from a source known to not contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings.

2.7 Hydrology and water quality

- 1) Instream work shall be conducted during the period of lowest flow.
- 2) Before work is allowed to proceed at a site, CDFW shall inspect the site to assure that turbidity control measures are in place.
- 3) The wastewater from construction area shall be discharged to an upland location where it will not drain sediment-laden water back to stream channel.
- 4) For projects within the USACE San Francisco District, if instream work liberates a sediment wedge, 80% of the wedge shall be removed before the sediment is liberated. The required amount can be modified if NOAA or CDFW hydrologists or hydraulic engineers agree that removing a smaller amount will better protect and enhance fish habitat in the area of the project (e.g., leaving some sediment to replenish areas downstream that lack suitable substrate volume or quality).

- 5) To control erosion during and after project implementation, CDFW shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
- 6) Sediment-laden water caused by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area. Silt fences or other detention methods shall be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.
- 7) If CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.
- 8) Poured concrete shall be excluded from the wetted channel for a period of two weeks after it is poured. During that time the poured concrete shall be kept moist, and runoff shall not be allowed to enter flowing stream. Commercial sealants shall be applied to the poured concrete surface where concrete cannot be excluded from the stream flow for two weeks. If sealant is used, water shall be excluded from the site until the sealant is dry.
- 9) Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites shall be located in upland locations so that dirty wash water does not flow into the stream channel or adjacent wetlands.
- 10) Water conservation projects that include water storage tanks and a Forbearance Agreement, for the purpose of storing winter water for summer use, require registration of water use pursuant to the Water Code §1228.3, and require consultation with CDFW and compliance with all lawful conditions required by CDFW. Diversions to fill storage facilities during the winter and spring months shall be made pursuant to a Small Domestic Use Appropriation (SDU) filed with the State Water Resources Control Board (SWRCB). CDFW will review the appropriation of water to ensure fish and wildlife resources are protected. The following conditions shall then be applied:
 - a) Seasonal Restriction: No pumping is allowed when stream flow drops below 0.7 cubic feet per second (cfs) except as permitted by CDFW in the event of an emergency.
 - b) Bypass Flows: Pumping withdrawal rates shall not exceed 5% of stream flow. If CDFW determines that the streamflow monitoring data indicate that fisheries are not adequately protected, then the bypass flows are subject to revision by CDFW.

- c) Cumulative Impacts: Pumping days shall be assigned to participating landowner(s) when stream flows drop below 1.0 cfs to prevent cumulative impacts from multiple pumps operating simultaneously.
- d) Pump Intake Screens: Pump intake screens shall comply with the "2000 California Department of Fish and Game Screening Criteria"* for California streams that provide habitat for juvenile Coho Salmon, Chinook Salmon and steelhead trout. The landowner shall be responsible for annual inspection and maintenance of screens. Additionally, the landowner shall be responsible for cleaning screens as needed to keep them free of debris and ensure that screen function complies with the criteria specifications.
- e) These conditions do not authorize incidental take of any species, removal of riparian vegetation, or bed, bank, or channel alteration.
- f) CDFW shall be granted access to inspect the pump system. Access is limited to the portion of the landowner's real property where the pump is located and those additional portions of the real property which must be traversed to gain access to the pump site. Landowners shall be given reasonable notice and any necessary arrangements will be made prior to requested access including a mutually-agreed-upon time and date. Notice may be given by mail or by telephone with the landowner or an authorized representative of the landowner. The landowner shall agree to cooperate in good faith to accommodate CDFW access.

* Fish Screening Criteria are from "State of California Resources Agency Department of Fish and Game Fish Screening Criteria, June 19, 2000." The "approach velocity" shall be calculated according to Section 2C "Screens which are not Self Cleaning."

2.8 Noise

Personnel shall wear hearing protection while operating or working near noisy equipment (producing noise levels ≥ 85 dB, including chain saws, excavators, and back hoes). No other specific mitigation measures are required for noise.

2.9 Transportation

The project will not affect transportation/traffic, because erosion control and culvert replacement projects will occur in wildland/rural sites with very little use. There is a potential that culvert replacement at some work sites could temporarily interfere with emergency access. This potential impact will be avoided through implementation of the following mitigation measure at any sites where emergency access might be necessary:

During excavation for culvert replacement, the grantee shall provide a route for traffic around or through the construction site.

2.10 Wildfire

No specific mitigation measures are required for wildfire due to majority of project activities being conducted within instream and riparian habitats. However, the project will still implement minimization measures as an added safety precaution to further decrease any wildfire risks.

1. Project proponents using mechanized hand tools (e.g. chainsaws) shall have federal- and/or state-approved spark arrestors.
2. Project proponents shall require tree cutting crews to carry one fire extinguisher per chainsaw.
3. Project proponents shall require each vehicle to be equipped with one long handled shovel and one axe or Pulaski.
4. Parking areas shall be designated and kept free of dry vegetation both before and during construction. Where heavy equipment or generators are used, fire extinguishers shall be made available on, or near such equipment.
5. Smoking shall only be permitted in designated areas that are barren or cleared to mineral soil at least three feet in diameter.

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Mattole Salmon Group
c/o Hugh McGee
PO Box 114
Petrolia, CA 95558
hugh@nat-eco.net

To CDFW:

Department of Fish and Wildlife
Northern Region
1455 Sandy Prairie Court, Suite J
Attn: Lake and Streambed Alteration Program – Beatrijs deWaard
Notification #1600-2020-0250-R1
Beatrijs.dewaard@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the

Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with, or obtaining any other permits or authorizations that might be required under, other federal, state, or local laws or regulations before beginning the project or an activity related to it. For example, if the project causes take of a species listed as threatened or endangered under the Endangered Species Act (ESA), such take will be unlawful under the ESA absent a permit or other form of authorization from the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the Fish and Game Code including, but not limited to, Fish and Game Code sections 2050 *et seq.* (threatened and endangered species), section 3503 (bird nests and eggs), section 3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend

Lake or Streambed Alteration” form and include with the completed form payment of the corresponding amendment fee identified in CDFW’s current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). Submit the form and fee to the CDFW regional office that serves the area where the project is located.

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW “Request to Amend Lake or Streambed Alteration” form and include with the completed form payment of the minor amendment fee identified in CDFW’s current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). Submit the form and fee to the CDFW regional office that serves the area where the project is located.

EXTENSIONS

In accordance with Fish and Game Code section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement’s term. To request an extension, Permittee shall submit to CDFW a completed CDFW “Request to Extend Lake or Streambed Alteration” form and include with the completed form payment of the extension fee identified in CDFW’s current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with Fish and Game Code section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code § 1605, subd. (f)). Submit the form and fee to the CDFW regional office that serves the area where the project is located.

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW’s signature, which shall be: 1) after Permittee’s signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable Fish and Game Code section 711.4 filing fee listed at <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>.

TERM

This Agreement shall expire on June 1, 2025, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as Fish and Game Code section 1605, subdivision (a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

Exhibit A. Project Location Map

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

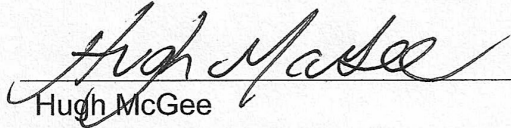
AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with Fish and Game Code section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR MATTOLE SALMON GROUP



Hugh McGee

Certified Ecological Restoration Practitioner

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Trevor Tollefson
Senior Environmental Scientist (Supervisor)

Date

Prepared by: Beatrijs deWaard
Environmental Scientist

Exhibit A. Project Location Map

