

Wood Creek - Felt Ranch Implementation Project

Project Permit Conditions and Permits

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Appendix A

Wood Creek–Felt Ranch Summary of Restoration Permit Conditions

Felt Ranch Restoration Permit Conditions

North Coast Regional Water Quality Control Board (NCRWQCB)– 401/SRGO Permit

NCRWQCB: GPM-1 Receipt and Copies of All Permits and Authorizations: Work will not begin until all necessary permits and authorizations have been received (e.g., USACE, USFWS, NMFS, State and Regional Boards, CDFW). The project proponent will ensure that a readily available copy of the applicable agency permits and authorizations (e.g., USFWS Biological Opinion, NMFS Biological Opinion, Section 404 permit, etc.) is maintained by the construction foreman/manager on the project site for the duration of project activities.

NCRWQCB: GPM-5 Environmental Monitoring. As required in the NOA, a resource specialist will ensure that all applicable protective measures are implemented during project construction. The resource specialist will have authority to stop any work if they determine that any permit requirement is not fully implemented. The resource specialist will prepare and maintain a monitoring log of construction site conditions and observations, which will be kept on file.

NCRWQCB: GPM-13 Trash Containment and Removal. During project activities all trash will be properly contained within sealed containers and removed from the work site and disposed of as necessary to maintain a trash-free work area (e.g., trash containers will not be used beyond capacity and fully close/seal).

NCRWQCB: GPM-15 Revegetate Disturbed Areas. All temporarily disturbed areas will be de-compacted and seeded/planted with an assemblage of native riparian, wetland, and/or upland plant species suitable for the area. The project proponent will develop a revegetation plan, including (as applicable) a schedule; plans for grading of disturbed areas to pre-project contours; planting palette with plant species native to the project area; invasive species management; performance standards; success criteria; and maintenance requirements (e.g., watering, weeding, and replanting). Plants for revegetation will come primarily from active seeding and planting; natural recruitment may also be proposed if site conditions allow for natural recruitment to reestablish vegetation and avoid potential negative risks associated with erosion and impacts to water quality. Plants imported to the restoration areas will come from local stock, and to the extent possible, local nurseries. Only native plants (genera) will be used for restoration efforts. Certified weed-free native mixes and mulch will be used for restoration planting or seeding. Revegetation activities within and adjacent to waters of the state will commence as soon as is practicable after construction activities at a site are complete.

NCRWQCB: WQHM-1 Staging Areas and Stockpiling of Materials and Equipment "Staging Areas and Stockpiling of Materials and Equipment. Staging, storage, and stockpile areas must be outside of waters of the state. To the extent feasible, staging will occur on access roads or other previously disturbed upland areas, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation, to avoid aquatic habitats and limit disturbance to surrounding habitats. Similarly, all maintenance equipment and materials (e.g., road rock and project spoil) will be restricted to the existing service roads, paved roads, or other determined designated staging areas. See GPM-10 for more details regarding protection measures for materials storage.

Staging areas will be established for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be located at least 100 feet from bodies of water unless site-specific circumstances do not provide such a setback, in such cases the maximum setback possible will be used. If an off-road site is chosen and if special-status species are potentially present, the Biological Monitor will survey the selected site to verify that no aquatic resources would be disturbed by staging activities.

Stockpiling of materials, portable equipment, vehicles and supplies (e.g., chemicals), will be restricted to the designated construction staging areas. If rain is predicted in the forecast during the dry season, and stockpiled soils will remain exposed and unworked for more than 7 days, then erosion and sediment control measures must be used. If there is a high-wind scenario (to be defined by the approving Water Board as appropriate for an individual project site), then soils will be covered at all times. During the wet season, no stockpiled soils will remain exposed, unless properly installed and maintained erosion and sediment controls are in place on and around the stockpile. Temporary stockpiling of material onsite will

be minimized. Stockpiled material will be placed in upland areas far enough away from aquatic habitats that these materials cannot discharge to a water of the state."

NCRWQCB: WQHM-3 Erosion and Sediment Control Measures "Erosion and Sediment Control Measures. For projects that do not require coverage under a NPDES permit per GPM WQHM-2, the project proponent will develop and implement erosion and sediment control measures (or plan), which will include appropriate BMPs to reduce the potential release of water quality pollutants to receiving waters. BMPs may include the following measures:

- Employ tackifiers, soil binders, or mulch as appropriate for erosion control.
- Install sediment control measures, such as straw bales, silt fences, fiber rolls, or equally effective measures, at repair areas adjacent to stream channels, drainage canals, and wetlands, as needed. Sediment control measures will be monitored during and after each storm event for effectiveness. Modifications, repairs, and improvements to sediment control measures will be made as needed to protect water quality.
- No sediment control products will be used that include synthetic or plastic monofilament or cross-joints in the netting that are bound/stitched (such as straw wattles, fiber rolls, or erosion control blankets), and which could trap snakes, amphibians, and other wildlife."

NCRWQCB: WQHM-4 Hazardous Materials Management and Spill Response Plan. As part of the SWPPP or Erosion Control Plan (WQHM-2 and WQHM-3), project proponent will prepare and implement a hazardous materials management and spill response plan. Project proponent will ensure that any hazardous materials are stored at the staging area(s) with an impermeable membrane between the ground and hazardous material and that the staging area is designed to prevent the discharge of pollutants to groundwater and runoff water. Project proponent will stop work, follow the spill response plan, and arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills. (See WQHM-6. Accidental Discharge of Hazardous Materials for accidental discharges of a reportable quantity of a hazardous material, sewage, or an unknown material.) Project proponent will notify regulatory agencies within 24 hours of any leaks or spills. Project proponent will properly contain and dispose of any unused or leftover hazardous products off-site. Project proponent will use and store hazardous materials, such as vehicle fuels and lubricants, in designated staging areas located away from stream channels and wetlands, according to local, state, and federal regulations, as applicable. Also see GPM-10: Equipment Maintenance and Materials Storage for more detail on spill prevention.

NCRWQCB: WQHM-6 Accidental Discharge of Hazardous Materials "Accidental Discharge of Hazardous Materials. Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271): As soon as (A) discharger has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then:

- first call – 911 (to notify local response agency)
- then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911
- Lastly, follow the required OES procedures as set forth in:
http://www.caloes.ca.gov/FireRescueSite/Documents/CalOESSpill_Booklet_Feb2014_FINAL_BW_Acc.pdf

Following notification to OES, the discharger will notify the State or Regional Board (and other agencies requiring notification in their respective permits), as soon as practicable (ideally within 24 hours). Notification may be via telephone, e-mail, delivered written notice, or other verifiable means."

NCRWQCB: IWW-1 Appropriate In-Water Materials. Selection and use of gravels, cobble, boulders, and instream woody materials in streams, and other materials (e.g., oyster shells, other substrates) for reef/bed restoration will be performed to avoid and/or minimize adverse impacts to aquatic resources, special-status aquatic species, and their habitats. On-site gravels will be screened and sorted; gravels imported from a commercial source will be clean-washed and of appropriate size. As necessary to protect aquatic species, placement will be overseen by an agency-approved Monitor; implementation timing will be determined based on the least amount of overlap, or impact on, all aquatic natural resources that may be affected and the timing of their use of the receiving area. Imported gravel from outside the project

watershed will not be from a source known to contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings. Materials that may foul or degrade spawning gravels, such as sand or soil eroding from sand bag or earthen dams will be managed to avoid release and exposure in salmonid streams. Oyster shells or other substrates for reef/bed restoration will be cured and inspected to be free of pathogens and/or non-native species.

NCRWQCB: IWW-5 Cofferdam Construction. Cofferdams may be installed both upstream and downstream, and along portions of the cross section of a channel or other waterway if necessary to isolate the extent of the work areas. When feasible, construction of cofferdams will begin in the upstream area and continue in a downstream direction, allowing water to drain and allowing fish and aquatic wildlife species to leave (under their own volition), from the area being isolated by the cofferdam, prior to closure. The flow will then be diverted only when construction of the upstream dam is completed and the work area has been naturally drained of flow, at this point, the downstream dam, if necessary, would be completed and then flow would be diverted around the work area. Cofferdams and stream diversion systems will remain in place and fully functional throughout the construction period. In order to minimize adverse effects to aquatic species, stream diversions will be limited to the shortest duration necessary to complete in-water work. In-water cofferdams will only be built from materials such as sandbags, plastic, clean gravel (possibly wrapped in impermeable material), rubber bladders, vinyl, steel, or earthen fill, in a manner that minimizes siltation and/or turbidity. Sandbags may only be used to build cofferdams upstream of spawning gravels when filled with clean gravel (or other material acceptable to the approving Water Board). Where possible, cofferdams should be pushed into place. If pile driving (sheet piles) is required, vibratory hammers should be used and impact hammer should be avoided. If necessary, the footing of the cofferdam will be keyed into the channel bed at an appropriate depth to capture the majority of subsurface flow needed to dewater the streambed. When cofferdams with bypass pipes are installed, debris racks will be placed at the bypass pipe inlet in a manner that minimizes the potential for fish impingement and/or entrapment. As needed and where feasible, bypass pipes will be monitored for accumulation of debris. All accumulated debris will be removed. When appropriate, cofferdams will be removed so surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than one inch per hour. Cofferdams in tidal waters should be removed during the lowest possible tide and in slack water to the extent feasible to minimize disturbance and turbidity. This will minimize the probability of fish and other aquatic species stranding as the area upstream becomes dewatered. All dewatering/diversion facilities will be installed such that natural flow is maintained upstream and downstream of project areas.

An area may need to be dewatered for long enough to allow special-status species to leave on their own before final clearance surveys and construction can begin.

NCRWQCB: IWW-6 Dewatering/Diversion. The area to be dewatered will encompass the minimum area necessary to perform construction activities. The project proponent will provide a dewatering plan with a description of the proposed dewatering structures, and appropriate types of BMPs for the installation, operation, maintenance, and removal of those structures. The period of dewatering/diversion will extend only for the minimum amount of time needed to perform the restoration activity and to allow special-status species time to leave on their own before final clearance surveys and construction can begin. Where feasible and appropriate, dewatering/diversion will occur via gravity-driven systems, and where water is pumped from within the construction area, it should be pumped to upland areas (where feasible) and to a location where it can infiltrate without return flows to the watercourse. Dewatering/diversion will be designed to avoid direct and preventable indirect mortality of fish and other aquatic species. If special-status fish species may be present in the area to be dewatered, a fish capture and relocation plan will be developed and implemented for review and approval by appropriate agencies (e.g., CDFW, NMFS, USFWS, as applicable). Stream flows will be allowed to gravity flow around or through the work site using temporary bypass pipes or culverts. Bypass pipes will be sized to accommodate, at a minimum, twice the expected construction-period flow, to not increase stream velocity, and will be placed at stream grade. Conveyance pipe outlet energy dissipaters will be installed to prevent scour and turbidity at the discharge location. When use of gravity-fed dewatering is not feasible and pumping is necessary to dewater a work site, a temporary siltation basin and/or use of silt bags may be required. Silt fences or mechanisms to avoid sediment input to the flowing channel will be installed adjacent to flowing water. Water pumped or removed from dewatered areas will be conducted in a manner that does not contribute turbidity to nearby receiving waters. Where possible, pumps will be refueled in an area well away from the stream channel. Fuel absorbent mats will be placed under the pumps while refueling. Equipment working in the stream channel or within 25 feet of a wetted channel will have a double (i.e., primary and secondary) containment system for diesel and oil fluids.

- All work will comply with the CDFW Fish Screening Criteria (CDFW 2001) and NMFS Fish Screening Criteria for Anadromous Salmonids (NMFS 1997). Pump intakes will be covered with mesh per the requirements of current fish screening criteria to prevent potential entrainment of fish or other aquatic species that could not be removed from the area to be dewatered. The pump intake will be checked periodically for impingement of fish or other aquatic species. Diverted flows must be of sufficient quality and quantity, and of appropriate temperature, to support existing fish and other aquatic life both above and below the diversion. Pre-project flows must be restored to the affected surface water body upon completion of work at that location. Where diversions are planned, contingency plans will be developed that include oversight for breakdowns, fueling, maintenance, leaks, etc."

NCRWQCB: IWW-7 Fish and Aquatic Species Exclusion While Installing Diversion Structures. Fish and other aquatic species will be excluded from occupying the area to be dewatered by blocking the stream channel above and below the area to be dewatered with fine-meshed block nets or screens while coffer dams and other diversion structures are being installed. Block net mesh will be sized to ensure aquatic species upstream or downstream do not enter the areas proposed for dewatering. Mesh will be no greater than 1/8-inch diameter. The bottom of the net must be completely secured to the channel bed. Block nets or screens must be checked at least twice daily at the beginning and end of the workday and cleaned of debris to permit free flow of water. Block nets or screens will be placed and maintained throughout the dewatering period at the upper and lower extent of the areas where aquatic species will be removed. Net placement is temporary and will be removed once dewatering has been accomplished or construction work is complete for the day.

NCRWQCB: VHDR-1 Avoidance of Vegetation Disturbance. The project proponent will minimize, to the greatest extent feasible, the amount of soil, terrestrial vegetation, emergent native vegetation, and submerged vegetation (e.g., eelgrass and kelp in marine areas, or submerged aquatic vegetation in brackish and freshwater areas) disturbed during project construction and completion and using methods creating the least disturbance to vegetation. Disturbance to existing grades and native vegetation, the number of access routes, the size of staging areas, and the total area disturbed by the project will be limited to the extent of all temporary and permanent impacts as defined by the final project design. All roads, staging areas, and other facilities will be placed to avoid and limit disturbance to waters of the state and other aquatic habitats (e.g., streambank or stream channel, riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/or work will be performed from the top of the creek banks or from barges on the waterside of the stream or levee bank, or dry gravel beds. Existing native vegetation will be retained as practicable, emphasizing the retention of shade-producing and bank stabilizing trees and brush with greater than 6-inch diameter branches or trunks. Where possible, vegetation disturbance and soil compaction will be minimized by using low ground-pressure (typically less than 13 to 20 pounds psi) equipment that exerts less pressure per square inch on the ground than other equipment. To minimize impacts to vegetation, select equipment with a greater reach.

NCRWQCB: VHDR-5 Revegetation Monitoring and Reporting. All revegetated areas will be maintained and monitored for a minimum of 2 years after replanting is complete and until success criteria are met, to ensure the revegetation effort is successful. The standard for success is at least 60% absolute cover compared to pre-project conditions at the project site or at least 60% cover compared to an intact, local reference site (or an available reference site accepted by the approving Water Board). If an appropriate reference site or pre-project conditions cannot be identified, success criteria will be developed for review and approval by the approving Water Board on a project-by-project basis based on the specific habitat impacted and known recovery times for that habitat and geography. The project proponent will prepare a summary report of the monitoring results and recommendations at the conclusion of each monitoring year.

United States Army Corps of Engineers (USACE) 404 Permit

General Conditions

1. The time limit for completing the work authorized ends on January 30, 2028. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. For your convenience, a copy of the water quality certification or waiver is attached. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

7. You understand and agree that, if future operations by the United States require the removal, relocation or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Special Conditions

1. The NMFS determined via email dated August 2, 2023 that the project would be covered under the NOAA Restoration Center's Programmatic BO No. WCRO-2021-02830, dated March 31, 2022. The USFWS determined by email dated August 1, 2023, that the project would be covered using the USFWS PBO (File Number: 2022_0005149-S7). All measures from these B.O.'s. and all work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

2. The Corps initiated consultation with the NMFS to address project related impacts to Essential Fish Habitat. The conservation recommendations outlined on page 87 of the NOAA Restoration Center and U.S. Army Corps of Engineers' Restoration Program for Northern California PBO shall be fully implemented as stipulated.

3. No debris, sand, silt, trash, concrete or washings thereof, oil or other petroleum products or washings thereof, or other foreign materials shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the U.S. Upon project completion, any and all excess construction materials, debris, and/or other excess project materials shall be removed to an appropriate upland disposal site.

4. Best management practices (BMP's) will be implemented including installation of silt fences, straw bales, gravel bags, and fiber rolls, if appropriate. Placement of these materials will control sediment discharge and minimize sediment release into receiving waters.

California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement (LSAA)

CDFW: 1.1 Documentation at Project Site. The 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.

CDFW: 1.2 Providing Agreement to Persons at Project Site. The 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 the Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

CDFW: 1.3 Change of Conditions and Need to Cease Operations. If conditions arise, or change, in such a manner as to be considered deleterious by CDFW to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken.

CDFW: 1.4 Adherence to Existing Authorizations. All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights.

CDFW: 1.5 Notification of Conflicting Provisions. The Permittee shall notify CDFW if the 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 the Permittee to resolve any conflict.

CDFW: 1.6 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.

CDFW: 1.7 CDFW Notification of Work Initiation and Completion. The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. Subsequently, the Permittee shall notify CDFW no later than seven (7) days after the project is fully completed.

CDFW: 1.8 Agreement Compliance. The proposed work shall comply with all measures included in this Agreement. Failure to comply with these measures may result in suspension or revocation of this Agreement.

CDFW: 2.1 Permitted Project Activities. Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Permittee Notification received on July 11, 2023, together with all maps, BMP's, photographs, drawings, and other supporting documents submitted with the Notification.

CDFW: 2.2 Incidental Take. This Agreement does not allow for the "take" or "incidental take" of any federal or State listed threatened or endangered listed species.

CDFW: 2.3 Work Period. All work, not including authorized diversion of water, shall be confined to the period June 1 through October 31 of each year. Work within the active channel of a stream shall be restricted to periods of dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease, and all necessary erosion control measures shall be implemented prior to the onset of precipitation.

CDFW: 2.4 Work Completion. The proposed work shall be completed by prior to the expiration of this Agreement's term. A notice of completed work, including photographs of each site, shall be submitted to CDFW within seven (7) days of project completion.

CDFW: 2.5 Extension of the Work Period. If weather conditions permit, and the Permittee wishes to extend the work period before June 1 or after October 31, a written request shall be made to CDFW at least five (5) working days before the proposed work period variance. Written approval (letter or e-mail) for the proposed time extension must be received from CDFW prior to activities beginning before June 1 or continuing past October 31.

CDFW: 2.6 Avoidance of Nesting Birds. Fish and Game Code sections 3503 and 3503.5 prohibits the taking or destroying of native bird's nests or eggs. To the extent feasible, vegetation maintenance or removal (e.g., clearing and grubbing) shall occur between August 16 and March 14. Removal areas should be managed once cleared to reduce nesting potential during the breeding season.

CDFW: 2.7 Nesting Bird Surveys. If vegetation maintenance or removal (e.g., clearing and grubbing) or other project-related activities must occur during the nesting season, typically March 15 to August 15 (and depending on species and habitat quality from mid-January to mid-September) a qualified Biologist shall survey for active bird nests within seven (7) days prior to the beginning of project-related activities. Surveys shall begin prior to sunrise and continue until vegetation, nesting behavior, and nests have been sufficiently observed. A report of the surveys shall be submitted to CDFW by email within three (3) business days of survey completion. The report shall include a description of the area surveyed, time and date of surveys, ambient conditions, species observed, active nests observed, evidence of breeding behaviors (e.g., courtship, carrying nesting material or food, etc.), and a description of any outstanding conditions that may have impacted survey results (e.g., weather conditions, excess noise, predators present, etc.). If an active nest is found, Permittee shall implement avoidance measures in consultation with CDFW. If a lapse in project-related work of seven (7) days or longer occurs, the qualified Biologist shall repeat surveys before project work can resume. This approach could result in project related delays because nesting birds are likely to be found by a qualified Biologist during the nesting season when habitat is present.

CDFW: 2.8 Minimum Vegetation Removal. Permittee shall limit the disturbance or removal of native vegetation to the minimum necessary to achieve design guidelines and standards for the Authorized Activity. Permittee shall take precautions to avoid damage to vegetation outside the work area.

CDFW: 2.9 Biological Monitor During Vegetation Removal (Designated Biologist). Before project activities begin, the Permittee shall retain a Designated Biologist to serve as the Biological Monitor immediately prior to major vegetation removal. Permittee shall obtain CDFW's written approval of the Designated Biologist before initiating project activities. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish, wildlife, and botanical resources potentially present at the project site. The Designated Biologist shall be responsible for monitoring all project activities and avoidance measures. The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this Agreement, and/or to order any reasonable measure to avoid the unauthorized take of Special Status Species. The designated Biologist shall be authorized to safely relocate species encountered during construction activities out of harm's way. Permittee shall submit detailed information regarding species that were relocated with the Work Completion notice.

CDFW: 2.10 Invasive Species Management for Ponds. Permittee shall implement an Invasive Species Management Plan (ISMP) prepared by a qualified Biologist. The plan shall include, at a minimum, annual seasonally appropriate surveys of invasive aquatic species (i.e., baseline surveys), focused on American bullfrog (*Lithobates catesbeianus*). The baseline surveys will form the basis to measure success of the ISMP. The qualified Biologist shall coordinate with CDFW to develop eradication measures appropriate for the identified invasive aquatic species based on site specific conditions. An annual monitoring report shall be prepared and submitted to CDFW.

CDFW: 2.10.1 Bullfrog Management Plan. If American bullfrogs are observed, they shall be appropriately controlled, with the goal of population eradication, including but not limited to, annual multi-effort direct removal of all life stages, using various techniques (e.g., air rifle, gigging, trapping, seining, and draining of reservoirs) to break reproduction. The bullfrog management plan must be site specific, and the goal shall be eradication of the population. If at any time additional invasive aquatic species are detected, Permittee shall submit an updated ISMP for Ponds to CDFW for review and approval.

CDFW: 2.11 Stream Protection. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other deleterious material from project activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the stream. All project materials and debris shall be removed from the project site and properly disposed of off-site upon project completion.

CDFW: 2.12 Equipment Maintenance. Refueling of machinery or heavy equipment, or adding or draining oil, lubricants, coolants, or hydraulic fluids shall not take place within stream bed, channel, and bank. All such fluids and containers shall be disposed of properly off-site. Heavy equipment shall not be stored within stream bed, channel, and bank.

CDFW: 2.13 Hazardous Spills. If at any time any material which could be hazardous or toxic to aquatic life enters a stream, the Permittee shall immediately notify the California Emergency Management Agency State Warning Center at 1-800-852-7550, and immediately initiate clean-up activities. Permittee shall

notify CDFW at 707-445-6493 and consulted regarding clean-up procedures as soon as practicable, but no later than 24 hours after the spill.

CDFW: 2.14.1 Stream Diversion. Only when work in a flowing stream is unavoidable (e.g., perennial streams), prior to the start of construction, Permittee shall isolate the work area from the flowing stream. To isolate the work area, water-tight cofferdams shall be constructed upstream and downstream of the work area, and water diverted through a suitably sized pipe. Water shall be diverted from upstream of the upstream cofferdam, and discharge downstream of the downstream cofferdam. Cofferdams and the stream diversion system shall remain in place and functional throughout the construction period. Cofferdams or stream diversions that fail for any reason shall be repaired immediately.

CDFW: 2.14.2 Maintain Aquatic Life. When any cofferdam or other artificial obstruction is being constructed, maintained, or placed in operation, Permittee shall allow sufficient water at all times to pass downstream to maintain aquatic life below the obstruction pursuant to Fish and Game Code §5937.

CDFW: 2.14.3 Stranded Aquatic Life. The Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include hand nets, dip nets, buckets, and/or by hand. Captured aquatic life shall be released immediately in the closest suitable aquatic habitat adjacent to the work site. Permittee shall submit detailed information regarding species that were stranded and relocated with the Project Inspection Report.

CDFW: 2.14.4 Minimize Turbidity and Siltation. Permittee shall use only clean (washed), non-erodible materials, such as rock or sandbags that do not contain soil or fine sediment, to construct any temporary stream flow bypass. Permittee shall divert stream flow around the work site in a manner that minimizes turbidity and siltation and does not result in erosion or scour downstream of the diversion.

CDFW: 2.14.5 Remove any Materials upon Completion. Permittee shall remove all materials used for the temporary stream flow bypass after the Authorized Activity is completed.

CDFW: 2.14.6 Restore Normal Flows. Permittee shall restore normal flows to the effected stream immediately upon completion of work at that location.

CDFW: 2.15 Runoff from Steep Areas. The Permittee shall ensure that runoff (concentrated flow) from steep, erodible surfaces will be slowed and diverted into stable areas with little erosion potential or contained behind erosion control structures. Erosion control structures such as straw bales and/or siltation control fencing shall be placed and maintained until the threat of erosion ceases. Frequent water bars shall be placed on dirt roads, heavy equipment tracks, or other work trails to control erosion.

CDFW: 2.16.1 If the project is located in a moderate to very high Fire Hazard Severity Zone as designated by CAL FIRE, culvert materials should consist of corrugated metal pipe (CMP). Use of High-Density Polyethylene (HDPE) pipe is not recommended.

CDFW: 2.16.2 Existing fill material in the crossing shall be excavated down vertically to the approximate original channel and outwards horizontally to the approximate crossing hinge points (transition between naturally occurring soil and remnant temporary crossing fill material) to remove any potential unstable debris and voids in the older fill prism.

CDFW: 2.16.3 Permanent culverts shall be sized to accommodate the estimated 100-year flood flow (i.e., ≥ 1.0 times the width of the bankfull channel width or the 100-year flood size, whichever is greater), including debris, culvert embedding, and sediment loads.

CDFW: 2.17 Project Inspection. The Project shall be inspected by a California licensed engineer, or other qualified professional with appropriate license or qualifications, to ensure the stream crossings, and other project component(s), were constructed as designed. A copy of the Project Inspection Report, including photographs of each site, shall be submitted to CDFW within 90 days of completion of this project.

CDFW: 2.18 Erosion Control. Permittee shall use erosion control measures throughout all work phases where sediment runoff could enter a stream, lake, or wetland (i.e., Waters of the State).

CDFW: 2.19 Seed and Mulch. Upon completion of construction operations and/or the onset of wet weather, Permittee shall stabilize exposed soil areas within the work area by applying mulch and seed. Permittee shall utilize vegetative (e.g., seeding) or other non-vegetative methods such as jute mat, coir mat, wood chip mat, straw mat or wattle, straw mulch, native duff (leaves, needles, fine twigs, etc.), or

lopped native slash to protect and stabilize soils. Straw mulching shall utilize at least 2 to 4 inches of clean straw (such as rice, barley, wheat) or weed-free straw. Seeding shall use regional native seed or non-native seed that is known not to persist or spread [e.g., barley (*Hordeum vulgare*), or wheat (*Triticum aestivum*)]. No known invasive grass seed such as annual or perennial ryegrass (*Lolium multiflorum* or *L. perenne*, which are now referred to as *Festuca perennis*), shall be used.

CDFW: 2.20 Erosion and Sediment Barriers. Permittee shall monitor and maintain all erosion and sediment barriers in good operating condition throughout the work period and the following rainy season, defined herein to mean October 31 through June 1. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged sediment fencing, coir logs, coir rolls, and/or straw bale barriers. If the sediment barrier fails to function as designed, Permittee shall employ corrective measures, and notify CDFW immediately.

CDFW: 2.21 Prohibition on Use of Monofilament Netting. To minimize the risk of ensnaring and strangling wildlife, Permittee shall not use any erosion control materials that contain synthetic (e.g., plastic or nylon) monofilament netting, including photo- or biodegradable plastic netting. Geotextiles, fiber rolls, and other erosion control measures shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves.

CDFW: 2.22 Site Maintenance. Permittee shall be responsible for site maintenance including, but not limited to, re-establishing erosion control to minimize surface erosion and ensuring drainage structures and stream banks remain sufficiently stable.

CDFW: 2.23 Cover Spoil Piles. Permittee shall have readily available erosion control materials such as wattles, natural fiber mats, or plastic sheeting, to cover and contain exposed spoil piles and exposed areas to prevent sediment from eroding into a stream, lake, or wetland (i.e., Waters of the State). Permittee shall apply and secure these materials prior to rain events to prevent loose soils from entering a stream, lake, or wetland (i.e., Waters of the State).

CDFW: 2.24 No Dumping. Permittee shall not deposit, permit to pass into, or place where it can pass into a stream, lake, or wetland (i.e., Waters of the State) any material deleterious to fish and wildlife, or abandon, dispose of, or throw away within 150 feet of a stream, lake, or wetland (i.e., Waters of the State) any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

CDFW: 3.1 Notice of Work Initiation. The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement (condition 1.7). Information to be disclosed shall include Agreement number, and the anticipated start date.

CDFW: 3.2 Work Completion. The proposed work shall be completed by prior to the expiration of this Agreement's term. A notice of completed work (condition 2.4), with supplemental photos, shall be submitted to CDFW within seven (7) days of project completion.

CDFW: 3.3 Project Inspection. The Permittee shall submit the Project Inspection Report (condition 2.17) to CDFW.

California Department of Fish and Wildlife (CDFW) Restoration Management Permit (RMP)

I. General Conditions of Approval

1. **Legal Compliance.** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this RMP or adopted thereafter.
2. **LSA Agreement Compliance.** The Project is authorized by a Lake or Streambed Alteration agreement (LSAA; EPIMS-HUM-39331-R1C). Permittee shall implement and adhere to the mitigation measures and conditions related to the Covered Species in the LSAA for the Project executed by CDFW pursuant to Fish and Game Code section 1600 et seq.
3. **ESA Compliance.** The National Marine Fisheries Service (NMFS) provided coverage under their programmatic biological opinion (Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson–Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the NOAA Restoration Center and U.S. Army Corps of Engineers’ Restoration Program for Northern California) (NMFS PBO) and incidental take statement (NMFS ITS) (WCRO-2021-02830) pursuant to the federal Endangered Species Act of 1973 (ESA), as amended. (16 U.S.C. §§ 1531-1544.). Additionally, the United States Fish and Wildlife Service (USFWS) also provided coverage under their programmatic biological opinion (Programmatic Biological and Conference Opinion California Statewide Programmatic Restoration Effort) (USFWS BO) and incidental take statement (USFWS ITS) (2022-0005149-S7) pursuant to the federal ESA, as amended. (16 U.S.C. §§ 1531-1544.). Permittee shall implement and adhere to the terms and conditions related to the Covered Species in NMFS PBO, NMFS ITS, USFWS PBO and USFWS ITS for the Project. For purposes of this RMP, where the terms and conditions in the federal authorization are less protective of the Covered Species or otherwise conflict with this RMP, the conditions of approval set forth in this RMP shall control.
4. **Compliance with Other Federal or State Permits or Authorizations.** Permittee shall implement and adhere to the terms and conditions of these permits and approvals: (a) U.S. Army Corps of Engineers, Section 404 Clean Water Act Permit; (b) North Coast Regional Water Quality Control Board - Notice of Applicability (NOA) for Coverage under the State Water Resources Control Board Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide Order WQ 2022-0048-DWQ.
5. **Project Area Access.** Permittee shall provide CDFW with reasonable access to the Project Area and shall cooperate fully with CDFW's efforts to verify compliance with or the effectiveness of this RMP.
6. **RMP Compliance.** Permittee shall make compliance with the terms, conditions, and requirements of this RMP a condition of all contracts and agreements that are made for the purpose of completing any Project-related activities. Permittee shall provide CDFW copies of any such contracts or agreements upon request.
7. **Permittee Responsible for Authorized Personnel.** Permittee, operating under the authority of this RMP, is responsible for the actions of non-permitted individuals assisting with management and monitoring activities as outlined in the Project description above.
8. **Documentation at Project Area.** Permittee or the Designated Biologist shall have a copy of this RMP in their possession when undertaking the permitted activities.
9. **Liability.** All terms and conditions of this RMP shall be binding upon Permittee and its authorized individuals engaged in the permitted activity. Notwithstanding California Civil Code section 1431 or any other provision of law, Permittee and its authorized individuals are jointly and severally liable for performance of all terms, conditions, and obligations of this RMP. Any failure by one or more persons to comply with any term, condition and obligation set forth in this RMP may, at CDFW's sole discretion, be deemed a failure to comply by Permittee.

10. **Designated Biologist.** The Permittee shall retain one or more Designated Biologist(s) with expertise in the areas of Covered Species biology, including handling, collecting, and relocating Covered Species, Covered Species habitat relationships, and biological monitoring of Covered Species in aquatic habitat. Permittee shall submit to CDFW in writing the name, qualifications, business address, telephone number, and email address of the Designated Biologist at least 30 days before commencing Project activities that could result in take of the Covered Species. CDFW shall provide written approval or denial of proposed Designated Biologist within seven business days of receiving this information. Permittee shall also obtain CDFW written approval in advance if the Designated Biologist must be changed. Permittee shall allow the Designated Biologist to communicate freely with CDFW. Permittee shall ensure that non-disclosure agreements or clauses that restrict communication with CDFW do not exist in any Designated Biologist's contracts or agreements related to the Project except as necessary to protect proprietary technology or proprietary information unrelated to fish and wildlife.

II. Restoration Work Conditions of Approval

1. **Restoration Work Monitoring.** The Designated Biologist shall be present and shall visually monitor the Project Area and offer pertinent advice to persons implementing Project activities prior to and during dewatering, exclusion, and aquatic species relocation work to ensure that incidental take to the Covered Species is minimized. The Designated Biologist shall be on site during all dewatering, exclusion, and aquatic species relocation work to capture, handle, and safely:
 - (a) translocate the Covered Species to suitable relocation habitat outside of the Project Area pursuant to an approved relocation plan; or
 - (b) move the Covered Species out of harm's way to another location in the Project Area if encountered during Project activities.
2. **Movement of Covered Species Out of Harm's Way.** This RMP authorizes the Designated Biologist to capture, temporarily possess, and relocate Covered Species to reduce harm or mortality in connection with otherwise lawful Project activities. When moving Covered Species out of harm's way, Permittee shall relocate the individuals of the Covered Species to a safe location on the Project Area as near as reasonably practicable to the location at which they are originally found. Relocation of Covered Species for the purposes of moving out of harm's way shall only be permitted pursuant to an authorized relocation plan to be approved by CDFW pursuant to this section.

Covered Species Dewatering, Exclusion, and Relocation Plan

1. Prior to any Project activities with the potential to result in take of the Covered Species, the Designated Biologist shall identify suitable habitat for the relocation of Covered Species.
2. In those specific cases where it is necessary to work in flowing water, the work area shall be isolated and all flowing water shall be temporarily diverted around the work site to maintain downstream flows during construction. The contiguous length of the dewatered stream channel, and the duration of any single dewatering event, shall be minimized to the greatest extent practicable.
3. Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed block nets or screens. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily, or more frequently as needed, and cleared of debris to permit free flow of water. Block nets shall be placed and maintained throughout the dewatering period at the upper and lower extent of the areas where fish will be removed. Net placement is temporary and will be removed once dewatering has been accomplished or construction work is complete for the day.
4. The Designated Biologist(s) shall capture and relocate listed species prior to construction of the water diversion structures (e.g., cofferdams). The Designated Biologist(s) shall note the number of

listed species observed in the affected area, the number and species of fish relocated, where they were relocated to, and the date and time of collection and relocation.

5. Prior to dewatering, the best means to bypass flow through the work area shall be determined to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates. Additionally, prior to dewatering a construction site, the Designated Biologist(s) shall capture and relocate fish and amphibians to avoid direct mortality and minimize adverse effects. Cofferdams and stream diversion systems shall remain in place and fully functional throughout the construction period.

Work Period

Relocation/movement out of harm's way of Covered Species shall only occur between June 1 and October 31 of each year. CDFW staff may approve changes to the work period without a formal amendment of this RMP. All approved changes shall be in writing.

Notify CDFW of Covered Species Relocation

The Permittee shall notify the CDFW contact for the RMP at least five business days prior to Covered Species relocation/movement out of harm's way.

3. **Mortality or Injury of Covered Species.** If any dead or injured individuals of the Covered Species are found, whether during relocation/movement out of harm's way, or otherwise, Permittee shall contact CDFW Environmental Scientist Nick Van Vleet by phone or email immediately at 707-298-4175 or Nicholas.VanVleet@wildlife.ca.gov. CDFW staff will coordinate with NMFS and USFWS to review the activities resulting in take and to determine if additional protective measures are required.

III. Monitoring and Reporting Conditions of Approval

1. **Monitoring of Ongoing Implementation.** Revegetation – Following construction, monitoring will occur for invasive species removal, plant re-establishment, and wetland recovery.
2. **Annual Report.** By mail or email, Permittee shall provide CDFW a written annual report of Project activities and results each year by January 15. The report shall include, at minimum:

Relocation – The report shall include a description of the location where Covered Species were removed and the release site, including:

Photographs, the date and time of the relocation effort.

A description of the equipment and methods used to collect, hold, and transport Covered Species. The number of individuals of the Covered Species relocated.

The number of Covered Species injured or killed.

A brief narrative of the circumstances surrounding listed Covered Species injuries or mortalities.

A description of any problems that arose during the relocation activities and a statement as to whether or not the activities had any unforeseen effects.

Monitoring – The report shall summarize annual monitoring activities and will include:

The number of all Covered Species captured.

The life stage of the Covered Species captured and/or tagged.

The number and species of Covered Species injured or killed.

A brief narrative of the circumstances surrounding Covered Species injuries or mortalities.

A description of any problems that arose during monitoring activities and a statement as to whether or not the activities had any unforeseen effects.

Take Table – Completed take tables from this RMP with the addition of added columns to include actual take and actual mortality. The form of the take table is included as Exhibit 3, which is attached hereto and incorporated herein by reference.

Field Survey Forms – California Native Species Field Survey forms for listed or rare species, including all information specified in CDFW’s Instructions for Submitting Data to the CNDDDB, available online:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>

3. **CDFW Contact for Reporting Requirements.** Permittee shall submit all required reports to the assigned CDFW contact: Nicholas Van Vleet
619 Second Street
Eureka, CA 95501
707-298-4175
Nicholas.VanVleet@wildlife.ca.gov

Failure to submit the information outlined above may result in suspension or revocation of this RMP, preclude renewal of this RMP, or impact the eligibility of responsible parties to renew or secure subsequent permits or approvals from CDFW.

NOAA Restoration Center Programmatic Biological Opinion

- 1. Notification.** Email notification two weeks prior to beginning fish removal activities
- 2. Relocation Site Approval.** NOAA will need to approve the fish relocation areas a week prior to removal and relocation.
- 3. Daily Communication.** Daily email or text updates during fish removal and relocation activities are required.

U.S. Fish and Wildlife Service Programmatic Biological Opinion

To Note: tasks for the USFWS-approved Biologist or Qualified Biologist are not the Contractor's responsibility

General Protection Measures

GPM-1, Receipt and Copies of All Permits and Authorizations. Already included in NCRWQCB 401/SRGO.

GPM-2, Construction Work Windows. Construction work windows may be required, depending on whether the project involves in-water construction and/or whether Covered Species have the potential to occur in the project area. Covered Species work windows are provided in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures.4*

GPM-3, Construction Hours. Construction activities will generally be limited to daylight hours, to the extent practicable. If nighttime construction is necessary, including in tidally influenced waters where tides may limit daylight access and work schedules, all project lighting (e.g., staging areas, equipment storage sites, roadway, and construction footprint) will be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. If the work area is near surface waters, the lighting will be shielded so that it does not shine directly into the water.

GPM-4, Environmental Awareness Training. For projects occurring where Covered Species are likely to be present, prior to engaging existing or new personnel in construction activities, new construction personnel will participate in environmental awareness training conducted by a Qualified Biologist. Construction personnel will be informed regarding the identification, potential presence, habitat requirements, legal protections, avoidance and minimization measures, and applicable protection measures for Covered Species with the potential to occur in or immediately adjacent to the project site. Construction personnel will be informed of the procedures to follow should a Covered Species be encountered during construction activities. For projects where the Qualified Biologist is not regularly on the project site, training may be provided in an online/virtual meeting. For projects that may continue over an extended duration and require excessive training events, a training video developed under the supervision of the Qualified Biologist may be used to train new personnel, as long as a Qualified Biologist is during construction.

GPM-5, Environmental Monitoring. Already included in NCRWQCB 401/SRGO.

GPM-6, Work Area and Speed Limits. Construction work and materials staging will be restricted to the smallest area practicable in designated work areas, routes, staging areas, temporary interior roads, or the limits of existing roadways. Prior to initiating construction or grading activities, brightly colored fencing or flagging or other practical means will be erected to demarcate the limits of the project activities, including the boundaries of designated staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones. Flagging or fencing will be maintained in good repair for the duration of project activities. Posted speed limits on public roadways will be adhered to and speeds will be limited to 20 miles per hour (mph) in the project area on unpaved surfaces and unpaved roads (to reduce dust and soil erosion), or in areas where Covered Species have the potential to occur. Speeds greater than 20 mph may be permitted in the project area where Covered Species are not expected to occur (e.g., in areas where Covered Species have been excluded) and there is no risk of generating excessive dust (e.g., surfaces are paved, saturated, or have been treated with other measures to prevent dust). Additional details are provided in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*, where applicable. See also IWW-4, *In-Water Staging Areas and Use of Barges*.

GPM-7, Environmentally Sensitive Areas and/or Wildlife Exclusion. Where appropriate, fencing, flagging, or biological monitoring will be used to minimize disturbance to environmentally sensitive areas and Covered Species habitat. If the project site is suitable for fencing, prior to the start of construction, environmentally sensitive area fencing (ESAF) and/or Wildlife Exclusion Fencing (WEF) will be installed between the active work area(s) and any suitable terrestrial habitat where Covered Species could enter the site. When fencing is not practicable due to project size, topography, soils, or other factors, monitoring by a Qualified Biologist during construction activities can be used to minimize impacts (see GPM-5, *Environmental Monitoring*).

- The Qualified Biologist will determine the location of the ESAF and/or WEF prior to the start of construction.
- WEF specifications (e.g., height, installation requirement, or materials) will be determined based on the species the fencing is intended to exclude. ESAF does not require such specifications and may include flagging or monitoring (see GPM-5, Environmental Monitoring).
- The ESAF and/or WEF will remain in place throughout the duration of the construction activities and will be inspected and maintained regularly by the Qualified Biologist until completion of the project. Repairs to the ESAF and/or WEF will be made within 24 hours of discovery. The fencing will be removed only when all construction equipment is removed from the site, the area is cleared of debris and trash, and the area is returned to natural conditions.

GPM-8, Prevent Spread of Invasive Species. The spread or introduction of nonnative, invasive plant and animal species will be avoided. When practicable, nonnative invasive plants in the project areas will be removed and properly disposed of in a manner that will not promote their spread. Equipment will be cleaned of any sediment or vegetation at designated wash stations before entering or leaving the project area, to avoid spreading pathogens or nonnative invasive species. Activities that create new habitat for nonnative invasive species will be avoided. Isolated infestations of nonnative invasive species identified in the project area will be treated with weed management methods at an appropriate time, to prevent further formation of seed and destroy viable plant parts and seed. Wash sites must be in confined areas that limit runoff to any surrounding habitat, and on a flat grade. Upland areas will use rice straw or invasive species-free local slash/mulch for erosion control; the remainder of the project area will use certified, weed-free erosion control materials. Mulch must be certified weed-free. The Project Proponent will follow the guidelines in the CDFW's California Aquatic Invasive Species Management Plan (CDFW 2008) and Aquatic Invasive Species Disinfection/Decontamination Protocols (CDFW 2016). Construction supervisors and managers will be educated on weed identification and the importance of controlling and preventing the spread of invasive weeds.

GPM-9, Practices to Prevent Pathogen Contamination. The Project Proponent will review and implement restoration design considerations and best management practices (BMPs) to help prevent pathogen contamination, as published by the "Working Group for *Phytophthoras* in Native Habitats" (www.calphytos.org), when there is a risk of introduction and spread of plant pathogens in site plantings. The Project Proponent will review and implement decontamination protocols to prevent the spread of pathogens among amphibians or other aquatic animals when working in aquatic habitats that may support native amphibians. Gear and equipment that may contact water will be cleaned and decontaminated to prevent the spread of chytrid fungus, following protocols in Aquatic Invasive Species Disinfection/Decontamination Protocols (CDFW 2016, or latest version). For additional guidance related to amphibians and chytrid fungus, see AMP-4 and AMP-10.

GPM-10, Equipment Maintenance and Materials Storage. Vehicle traffic will be confined to existing roads and the proposed access route(s). All machinery must be in good working condition, showing no signs of fuel or oil leaks. Oil, grease, or other fluids will be washed off at designated wash stations prior to entering the construction site. Inspection and evaluation for the potential for fluid leakage will be performed daily during construction. All fuel and chemical storage, servicing, and refueling will be done in an upland staging area or other suitable location (e.g., barges) with secondary containment to prevent spills from traveling to surface water or drains. Project Proponents will establish staging areas for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be at least 100 feet from waterbodies, unless site-specific circumstances do not provide such a setback; in such cases, the maximum setback possible will be used. Fluids will be stored in appropriate containers with covers and will be properly recycled or disposed of off-site. Machinery stored on site will have pans or absorbent mats placed underneath potential leak areas.

GPM-11, Material Disposal. All refuse, debris, unused materials, and supplies that cannot reasonably be secured will be removed daily from the project work area and deposited at an appropriate disposal or storage site. All construction debris will be removed from the work area immediately on project completion. The Water Quality and Hazardous Materials (Section 2.1.5.2, *Water Quality and Hazardous Materials*) measures will be implemented to ensure proper handling and disposal of hazardous materials.

GPM-13, Trash Removed Daily. Already included in NCRWQCB 401/SRGO.

GPM14, Project Cleanup after Completion. Work pads, temporary falsework, and other construction items will be removed from the 100-year floodplain by the end of the construction window. Removal of materials must not result in discharge to waterbodies.

GPM-15, Revegetate Disturbed Areas. Already included in NCRWQCB 401/SRGO.

Water Quality Protection Measures

WQHM-1, Staging Areas and Stockpiling of Materials and Equipment. Already included in NCRWQCB 401/SRGO.

WQHM-2, Storm Water Pollution Prevention Plan (Not applicable to this Project). All projects that are required to obtain coverage under the NPDES General Order for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Order) will prepare and implement a site-specific storm water pollution prevention plan (SWPPP), as required by the Construction General Order.

WQHM-3, Erosion Control Plans. Already included in NCRWQCB 401/SRGO.

WQHM-4, Hazardous Materials Management and Spill Response. Already included in NCRWQCB 401/SRGO.

General In-water Measures

IWW-1, Appropriate In-Water Materials. Already included in NCRWQCB 401/SRGO.

IWW-2, In-Water Vehicle Selection and Work Access. If work requires that equipment enter wetlands or below the banks of a Water of the US, equipment with low ground pressure will be used to minimize soil compaction. Low-ground-pressure heavy equipment mats will be used, if needed to lessen soil compaction. Hydraulic fluids in mechanical equipment working in the waters of the United States or any other aquatic habitat suitable for Covered Species will not contain organophosphate esters. The amount of time this equipment is stationed, working, or traveling in the waters of the United States or other aquatic habitat suitable for Covered Species will be minimized. All equipment will be removed from the aquatic feature during nonwork hours or returned to the staging area approved through the ESA Section 7(a)(2) Review Form process in the aquatic feature.

IWW3, In-Water Placement of Materials, Structures, and Operation of Equipment. Material used for bank stabilization or in-water restoration will minimize discharge sediment or other forms of waste to waters of the United States or other aquatic habitat suitable for Covered Species. Construction will occur from the top of the stream bank, on a ground protection mat underlain with filter fabric, or a barge. All materials placed in streams, rivers, or other waters will be nontoxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures will not contain coatings or treatments, or consist of substances toxic to aquatic organisms (e.g., zinc, arsenic, creosote, copper, other metals, pesticides, or petroleum-based products) that may leach into the surrounding environment in amounts harmful to aquatic organisms. Except for the following conditions, equipment must not be operated in standing or flowing waters without site-specific approval from the USFWS Field Office:

- All construction activities must be effectively isolated from water flows, to minimize the potential for runoff. This may be accomplished by working in the dry season or dewatering the work area in the wet season.
- When work in standing or flowing water is required, structures for isolating the in-water work area and/or diverting the water flow must not be removed until all disturbed areas are cleaned and stabilized. The diverted water flow must not be contaminated by construction activities.
- All open-flow temporary diversion channels must be lined with filter fabric or other appropriate liner material to prevent erosion. Structures used to isolate the in-water work area and/or divert the water flow (e.g., cofferdam or geotextile silt curtain) must not be removed until all disturbed areas are stabilized.

IWW-4, In-Water Staging Areas and Use of Barges. Where appropriate and practical, barges will be used to stage equipment and construct the project, to reduce noise, traffic disturbances, and effects on terrestrial vegetation. When barge use is not practical, construction equipment and plant materials will be staged in staging areas approved through the ESA Section 7(a)(2) Review Form process. Existing staging

sites, maintenance toe roads, and crown roads will be used for project staging and access to avoid affecting previously undisturbed areas. For projects that involve in-water work for which boats and/or temporary floating work platforms are necessary, buoys will be installed so that moored vessels will not beach on the shoreline and anchor lines will not drag. Moored vessels and buoys will not be within 25 feet of vegetated shallow waters.

IWW-5, Cofferdam Construction. Already included in NCRWQCB 401/SRGO.

IWW-6, Dewatering/Diversion. Already included in NCRWQCB 401/SRGO.

IWW-7, Fish and Aquatic Species Exclusion While Installing Diversion Structures. Already included in NCRWQCB 401/SRGO.

IWW-8, Removal of Diversion and Barriers to Flow. On completion of construction activities, any diversions or barriers to flow will be removed in a manner that will allow flow to resume with the least disturbance to the substrate. Alteration of creek beds will be minimized; any imported material that is not part of the project design will be removed from stream beds on completion of the project.

Vegetation/Habitat Disturbance and Revegetation

VHDR-1, Avoidance of Vegetation Disturbance. Already included in NCRWQCB 401/SRGO.

VHDR-2, Native and Invasive Vegetation Removal Materials and Methods. All invasive plant species (e.g., those rated as invasive by the Cal-IPC, or local problem species) will be removed from the project site as practicable, using locally and routinely accepted management practices. Invasive plant material will be destroyed using approved protocols and disposed of at an appropriate upland disposal or compost area. Invasive plant materials stockpiled at sites known to experience flash flooding outside the flood season will be removed within 15 days of the initial creation of the stockpile, to contain the potential spread of invasive plant material. Stockpiling of invasive plant materials is prohibited during the flood season (typically November to April).

Nonnative Plant Removal

1. When practicable, nonnative plants will be removed when flowers or seeds are not present. If flowers or seeds are present and have the potential for seed to be widely dispersed during removal (e.g., Spanish broom [*Spartium junceum*] and eupatory [*Ageratina adenophora*]), the flowering head will be removed and placed in a container for disposal prior to removal.
2. Whenever practicable, nontarget vegetation will be protected to minimize the creation of exposed ground and potential for re-colonization of nonnative plants. A botanist will be consulted prior to any restoration implementation and during preparation of restoration plans.
3. Where appropriate, barriers will be installed to limit illegal off-highway vehicle activity following removal of nonnative vegetation along roadways. Examples of barriers are large rocks, soil berms, and cut vegetation.

To the extent practicable, crews in known or assumed occupied habitat for Covered Species will minimize multiple stream crossings for nonnative plant removal from both streambanks simultaneously (e.g., during a work period, an individual will conduct activities along one streambank for the entire stretch before initiating activities on the opposing bank). Stream crossings will use existing features such as bridges and boulders to avoid boots in the water, as much as feasible.

VHDR-3, Revegetation Materials and Methods. On completion of work, site contours will be returned to preconstruction conditions or designed to provide increased biological and hydrological functions. Where disturbed, topsoil will be conserved for reuse during restoration, to the extent practicable. Native plant species comprising a diverse community structure (plantings of both woody and herbaceous species, if both are present) that follow a plant species palette approved through the ESA Section 7(a)(2) Review Form process will be used for revegetation of disturbed and compacted areas, as appropriate. See also GPM-15: Revegetate Disturbed Areas, which also allows for revegetation through natural recruitment (e.g., in tidal and managed wetlands and working landscapes where disturbed areas typically revegetate more quickly through natural recruitment than through seeding).

Any area barren of vegetation as a result of project implementation will be restored to a natural state by mulching, seeding, planting, or other means, with native trees, shrubs, willow stakes, erosion control native grass seed mixes, or herbaceous plant species, following completion of project construction. Restoration planning for these areas should include steps to prevent colonization by nonnative species, including recolonization by any nonnative plant species that occupied the site prior to project implementation. Irrigation may also be required to ensure survival of containerized shrubs or trees or other vegetation, depending on rainfall. If irrigation is used, all irrigation materials will be removed once no longer needed. Soils that have been compacted by heavy equipment will be decompacted by shallow or deep ripping, if necessary to allow for revegetation at project completion as heavy equipment exits the construction area.

VHDR-4, Revegetation Erosion Control Materials and Methods. If erosion control fabrics are used in revegetated areas, they will be slit in appropriate locations to allow for plant root growth. Only non-monofilament, wildlife-safe fabrics will be used. All exclusion netting/caging placed around plantings will be removed after 2 years or sooner.

VHDR-5, Revegetation Monitoring and Reporting. Already included in NCRWQCB 401/SRGO.

All Species Protection Measures

ASP-1, Qualifications of the Qualified Biologist and USFWS-Approved Biologist. Biological monitoring and construction oversight will be provided by biologists at two different experience levels, depending on the activity. These two levels are described in this measure, below. In general, the Qualified Biologist will complete many tasks across species for a Proposed Restoration Project, and the USFWS-Approved Biologist will only be required for specific tasks that require additional species expertise. In some cases, the Qualified Biologist(s) may work under the guidance, direction, or supervision of the USFWS-Approved Biologist. Unless otherwise indicated in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*, general site surveys and biological monitoring can be conducted by a Qualified Biologist. Because the qualifications for the USFWS-Approved Biologist exceed those for the Qualified Biologist, any activity indicated as appropriate for the Qualified Biologist may also be completed by a USFWS-Approved Biologist.

- **Qualified Biologist:** The Qualified Biologist is required to meet certain qualifications, as confirmed by the Project Proponent. Résumé review by the USFWS is not required for the Qualified Biologist. Minimum qualifications for the Qualified Biologist include a bachelor's degree in biological or environmental science, natural resources management, or related discipline; field experience in the habitat types that may occur at the project site; familiarity with the Covered Species (or closely related species) that may occur at the project site; and prior preconstruction survey, construction monitoring, or construction oversight experience (if and as relevant to the activity to be conducted).
- **USFWS-Approved Biologist:** For some Covered Species, additional qualifications may be required for biologists who would be responsible for species handling or relocation, or other activities (Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*). These activities would be completed by the USFWS-Approved Biologist when required by the protection measures. Résumé(s) for the USFWS-Approved Biologist(s) with experience in the identification of all life stages and ecology of the applicable Covered Species (or closely related species) and their critical habitat will be submitted to the USFWS Field Office for review and approval at least 30 days prior to any activity for which the protection measures indicate that a USFWS-Approved Biologist is required. Because species handling and relocation of some species for proposed restoration projects would be authorized by USFWS through issuance of the PBO and associated ITS, it may not be a requirement for the USFWS-Approved Biologist to hold a federal Section 10(a)(1)(A) Recovery Permit to implement this role on an approved project under this program. However, it is noted that some presence/absence surveys that may be performed by a USFWS-Approved Biologist may require that the person conducting those surveys hold a Section 10(a)(1)(A) Recovery Permit. For any surveys, securing/confirming necessary 10(a)(1)(A) permits and other authorizations should be coordinated with the respective USFWS Field Office or S7 Delegated Authority Program (DAP).

ASP-2, Preconstruction Surveys. If Covered Species and/or their habitat is present, where appropriate and based on project-specific requirements, a Qualified Biologist will conduct visual preconstruction surveys and implement additional protection measures within 5 days prior to beginning work to protect the

species and habitat from avoidable construction-related disturbance. The intent of the survey is to assess current species habitat and species use locations in the project area immediately prior to construction. The preconstruction survey is not intended to be a presence/absence or protocol-level survey; the potential for species presence would have already been evaluated prior to project approval. Pre-construction surveys may be phased across a construction site if construction in different areas will occur at different times; only areas where disturbance is imminent need be surveyed. If construction activities at a given location cease for more than 5 consecutive days, and there is potential for Covered Species to reoccupy habitat at that site, the Qualified Biologist will resurvey the project area prior to resuming construction and implement applicable protection measures. Additional guild- and species-specific preconstruction requirements are provided in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*, and may supersede this more GPM, as applicable.

ASP-3, Species Capture, Handling, and Translocation. Covered Species capture, handling, and translocation will only be conducted by a USFWS-Approved Biologist(s). The Project Proponent will prepare a Covered Species translocation plan and submit it to the local USFWS Field Office at the time of submitting the ESA Section 7(a)(2) Review Form or at least 60 days before construction to avoid project delays and facilitate timely USFWS review and approval. The plan will include capture and translocation methods, translocation site, and post translocation monitoring, if applicable. Additional measures are defined in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*. If capture, handling, and translocation are necessary due to dewatering activities, see IWW-6, *Dewatering/Diversion*, and follow the USFWS-Approved translocation plan. Additional guild- and species-specific capture, handling, and translocation requirements are described in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*, and may supersede this more GPM, as applicable.

ASP-4, Covered Species Entrapment Prevention. To prevent the accidental entrapment of Covered Species during construction, all excavated, steep-walled holes or trenches will be covered with appropriate covers (e.g., plywood, thick metal sheets, or similar materials) at the end of each workday. Covers will be placed so that trench edges are fully sealed with rock bags, sand, or other appropriate material. Alternatively, one or more escape ramps (e.g., fill dirt or wood planking) will be installed at an angle no greater than 30 degrees, to allow wildlife to escape. Before holes or trenches are filled, sealed, or collapsed, the holes or trenches will be thoroughly inspected for trapped animals. If pipes are stored on site or in associated staging areas, they will be capped when not in use or stored above ground level at an appropriate height to minimize species entrapment and will be inspected before being moved. Any animals discovered will be allowed to escape voluntarily or will be relocated by a USFWS-Approved Biologist. Additional guild- and species-specific entrapment prevention requirements are described in Section 2.1.5.3, *Guild- and Species-Specific Protection Measures*, and may supersede this more GPM, as applicable.

ASP-5, Airborne Noise Reduction (Not applicable to this Project). Equipment (including the noise abatement systems) will be maintained in good working order. If construction noise has the potential to adversely affect Covered Species, the Project Proponent shall include site-specific protection measures for construction activities in the Project ESA Section 7(a)(2) Review Form to minimize impacts. Muffler (or spark arrester) damage must be promptly remedied.

Potential adverse effects from project-related noise should be avoided or minimized to the maximum extent practicable by implementing sufficient disturbance buffers between noise-generating project activities and covered amphibian, bird, and mammal species habitat. When applicable, species-specific noise buffer distances are provided in Section 2.1.5.3, *Guild and Species-Specific Protection Measures*. Noise buffer distances are distinct from other indicated buffer distances in Section 2.1.5.3, which may relate to an area involving dispersal, visual disturbance, or other considerations; however, incorporating the larger of two buffer distances will provide buffer for both purposes. Noise buffer distances may be modified in coordination with the USFWS Field Office based on project specific characteristics or a Project Proponent/Action Agency may choose to submit their own analysis and buffer recommendations for the USFWS's consideration. If sufficient buffers cannot be implemented, the proposed activities may lead to adverse effects, including possible incidental take.

General Fish Protection Measures

To Note: tasks for the USFWS-approved Biologist are not the Contractor's responsibility

FISH-1, Habitat Disturbance Avoidance and Minimization. Disturbance to aquatic habitat for covered fish species will be avoided and/or minimized to the maximum extent practicable, unless the purpose of the project is to provide overall benefits to the species and the benefits are greater than any temporary impacts to habitat.

FISH-2, Habitat Assessment and Surveys. For projects that may result in impacts to aquatic habitat within the range of covered fish species, no less than 30 days prior to construction of the project, the Project Proponent will evaluate the potential for covered fish species to be present in the project area. The evaluation may be based on existing information if sufficiently available, or the Project Proponent may conduct a habitat assessment or focused survey for those species, if appropriate. An example where it may not be appropriate to conduct a survey is when electrofishing or seining could result in mortality (e.g., mortality of tidewater goby), and it is preferred to assume species presence. The habitat assessment and/or survey will be conducted in potentially suitable aquatic habitat within 300 feet of the proposed project. The Qualified Biologist will conduct the habitat assessment and/or fish survey and will adhere to the standards provided in the CDFW California Salmonid Stream Habitat Restoration Manual 4th Edition Volume I: Section IV (CDFW 2010). If Covered fish species are observed during the survey or the habitat is otherwise potentially occupied, based on the results of the habitat assessment or existing information, the Project Proponent will implement FISH-3, Fish Capture and Relocation, as described below.

FISH-3, Fish Capture and Relocation. For projects that require dewatering or other work in suitable habitat for the covered fish species (as identified in FISH-2), if fish capture and relocation would be the most protective approach to managing fish during construction, then a fish capture and relocation plan will be developed and submitted to the local USFWS Field Office concurrently with the ESA Section 7(a)(2) Review Form or at least 60 days before construction. Early submission facilitates timely USFWS review and approval and helps avoid project delays. The plan will describe the biologist's qualifications, capture methods, capture and relocation work areas, and reporting requirements, including details in the list below. If capture and relocation is not feasible or would not be the most protective approach to managing fish in the work area (e.g., if dewatering is not needed or appropriate; or if fish are in a large, unconfined waterbody), other methods to protect covered fish species (e.g., timing restrictions around season and tide, or bubble curtains) should be detailed in a plan and submitted to USFWS for approval.

- A. This plan will incorporate the latest USFWS and NMFS guidance relating to the capture and relocation of fish, as applicable.
- B. Procedures for decontamination of any equipment used in the capture and relocation of fish will be identified.
- C. Prior to the implementation of capture and relocation activities, relocation (or release) sites will be identified by the USFWS-Approved Biologist, based on proximity, access, habitat suitability, and potential to be affected by construction-related disturbance. Suitable habitat for relocation sites will be in the same watershed/subwatershed basin where fish were originally captured. One or more of the following methods will be used to capture protected fish species: electrofishing, dip net, seine, throw net, minnow trap, and hand.
- D. Fish relocation will only be conducted (or led) by a USFWS-Approved Biologist. If a USFWS-Approved Biologist is needed, the Project Proponent will submit the biologist's qualifications to the appropriate USFWS Office for approval 30 days prior to project construction. The USFWS-Approved Biologist will have knowledge and experience in fish biology and ecology; fish/habitat relationships; biological monitoring; handling, collecting, and relocating fish; or other relevant experience.
- E. Residual surface water associated with the diverted or dewatered habitat will be monitored or sampled for the presence of fish by a USFWS-Approved Biologist as soon as the waters are isolated. If a Covered Species of fish is observed in the isolated habitat, they will be immediately captured and relocated to the suitable habitat outside of the construction area, but in the same

water basin, by the USFWS-Approved Biologist, in accordance with the approved fish capture and relocation plan.

- F. The USFWS-Approved Biologist will relocate any stranded covered fish species to an appropriate place, depending on the life stage of the fish and consistent with the USFWS-Approved rescue and relocation plan.
- G. The USFWS-Approved Biologist will note the number of individuals observed in the affected area, the number of individuals relocated, the approximate size of individuals, the location of capture and release, any instances of injury or mortality, and the date and time of the collection and relocation. This information will be reported to the appropriate USFWS Office within 7 days of completion of the fish capture and relocation effort.

FISH-4, Reporting. The USFWS-Approved Biologist will provide a written summary of work performed (including biological survey and monitoring results), BMPs implemented (e.g., use of biological monitoring, flagging of work areas, or erosion and sedimentation controls), and supporting photographs of each stage to the appropriate USFWS Office. Furthermore, the documentation describing Covered Species surveys and relocation efforts (if appropriate) will be completed in accordance with the requirements of FISH-3, Fish Capture and Relocation.

Tidewater Goby Protection Measures

To Note: tasks for the USFWS-approved Biologist are not the Contractor's responsibility

TIGO-1, Capture and Relocation. Capture and relocation of tidewater goby will be conducted by a USFWS-Approved Biologist in accordance with the requirements of FISH-3, Fish Capture and Relocation. Fish rescue and relocation will be conducted as described in the USFWS-Approved fish rescue and relocation plan submitted by the Project Proponent to the local USFWS Field Office concurrently with the ESA Section 7(a)(2) Review Form or at least 60 days before construction. Early submission facilitates timely USFWS review and approval and helps avoid project delays. Gobies will be transported in separate containers from larger size class fish to avoid predation. Seining and dipnetting are the preferred methods of capturing fish, but electrofishing may be required to capture fish in complex habitats. For projects that do not require dewatering but cannot complete in-water work in one day, successive sets of block nets may be required each day, and subsequent surveys and capture/relocation may be performed accordingly. Once the block nets are secured, a USFWS-Approved Biologist will remove all tidewater gobies found between them, using a 1/8--inch seine and dip nets. The USFWS-Approved Biologist will then relocate tidewater gobies to suitable habitat downstream of the project area. Fish released from one day's work will not be released into areas projected to be excavated on successive days. Not to exceed the self-imposed take limit of no more than 10% of the individuals captured and relocated at any individual project site may be injured or killed. If this self-imposed take limit is reached, the Project Proponent will stop work in tidewater goby habitat and contact the USFWS Field Office.

General Reptile Protection Measures

To Note: tasks for the Qualified Biologist are not the Contractor's responsibility

REP-1, Preconstruction Survey. A Qualified Biologist will conduct preconstruction surveys for the target reptile species within 72 hours prior to any initial ground disturbance in all suitable habitat in or adjacent to the project site and accessible to the Project Proponent, to identify locations where covered reptiles may be present, evaluate current activity status in the project area, and protect the species and its habitat from avoidable construction-related disturbance. The intent of the survey is to assess current species habitat and use locations in the project area immediately prior to construction. The preconstruction survey is not intended to be a presence/absence or protocol-level survey; the potential for species presence would have already been evaluated prior to project approval. Preconstruction surveys may be phased across a construction site if construction in different area will occur at different times; only areas where disturbance is imminent need be surveyed. The project area will be reinspected by a Qualified Biologist whenever a lapse in construction activity of 5 days or greater has occurred.

REP-3, Clearing and Grubbing Vegetation. A Qualified Biologist will be present during all vegetation clearing and grubbing activities in areas where the Covered reptiles (as identified in Table 6) are confirmed to occur, or where measures are being implemented based on presence of suitable habitat. Before vegetation removal, the Qualified Biologist will thoroughly survey the area for these species. Vegetation in sensitive areas will be cleared by handheld motorized tools (e.g., weed eaters or chainsaws) or by hand pulling, unless alternate methods are proposed by the Project Proponent and approved by USFWS. Tree stumps and roots will be left in place to avoid any ground disturbance and preserve refugia habitat, with the exception of nonnative invasive plants that could propagate from remaining vegetative material. Native branches, leaf litter, mulch, woody debris, and other vegetative trimmings may be retained and spread on site to enhance habitat as appropriate.

REP-4, Prohibited Use of Rodenticides. No rodenticides will be used at the project site during construction in areas that support suitable habitat for the Covered reptiles.

REP-5, Species Observations and Encounters. Each Proposed Restoration Project with the potential to encounter a Covered Species of reptile will submit a rescue and relocation plan to the local USFWS Field Office concurrently with the ESA Section 7(a)(2) Review Form or at least 60 days before construction. Early submission facilitates timely USFWS review and approval and helps avoid project delays. General guidance to be considered during plan development is as follows: 1) leave the uninjured animal if it is not in danger; or 2) move the animal to a nearby location if it is in danger as described in *REP-6, Species Handling and Relocation*. These options are further described as follows:

- When a protected reptile is encountered in the project area, the priority is to stop all activities in the surrounding area that have the potential to result in the harm, injury, or death of the individual. The USFWS-Approved Biologist then needs to assess the situation to select the course of action that will minimize adverse effects to the individual.
- Avoid contact with the animal and allow it to move out of the project footprint and hazardous situation on its own, to a safe location. This guidance only applies to situations where an animal is encountered while moving through habitat and under conditions that will allow it to escape. This does not apply to animals that are uncovered or otherwise exposed or in areas where there is not enough adjacent habitat to support the life history of the protected reptiles if they move outside the construction footprint.
- Avoidance is the preferred option if the animal is not moving or is in some sort of burrow or other refugia. In this case, the area will be well marked for avoidance by construction equipment, and a USFWS-Approved Biologist will be assigned to the area when work is taking place nearby. If avoidance is not practicable or safe for the Covered reptile species, the Project Proponent will implement *REP6*.

REP-6, Species Handling and Relocation. A protected reptile will only be captured and relocated when that is the only option to prevent its death or injury, and after all attempts to avoid interaction of the species have been exhausted, as described in *REP-5, Species Observation and Encounters*. Project-specific rescue and relocation plans will be submitted by the Project Proponent to the local USFWS Field Office concurrently with the ESA Section 7(a)(2) Review Form or at least 60 days before construction. Early submission facilitates timely USFWS review and approval and helps avoid project delays. General guidance for handling and relocation is as follows:

- If appropriate habitat is immediately adjacent to the capture location, then the preferred option is short-distance relocation to that habitat. A snake will not be moved outside of the area where it could have traveled on its own. Captured snakes will be released in appropriate cover as close to their capture location as possible for their continued safety. Under no circumstances will an animal be relocated to another property without the property owner's written permission. It is the Project Proponent's responsibility to arrange for that permission.
- The release locations must be pre-identified in the Project-specific rescue and relocation plan approved by USFWS; they will depend on where the individual was found and the opportunities for nearby release. In most situations, the release location is likely to be into the mouth of a small burrow, other suitable refugia, or suitable habitat.
- Only a USFWS-Approved Biologist for the project can capture protected reptiles.

Northwest Pond Turtle Protection Measures

To Note: tasks for the Qualified Biologist are not the Contractor's responsibility

WPT-1, Habitat Avoidance. A Qualified Biologist will survey and flag the work area for suitable overwintering habitat (e.g. leaf litter layer under trees and shrubs) or nesting habitat to avoid. Any flagging used must be removed after work is completed. Project personnel will be advised to avoid disturbance in these areas unless site-specific conservation measures, such as pre-disturbance surveys and construction monitoring per WPT-4, allow work to be conducted in these areas to minimize or avoid disturbance.

To the extent feasible, logs or rocks larger than six inches will not be moved or otherwise disturbed to avoid impacts to turtles utilizing these objects as cover. If such features must be moved, the biologist will visually inspect these features prior to and during moving to ensure turtles are not present. The biologist will also ensure any work materials do not create dispersal barriers to pond turtle. If a pond turtle is found in the work area during construction, work will stop until the individual(s) leave the area on their own volition or until relocated by the Qualified Biologist per WPT-4. Workers should be vigilant to avoid turtles on roadways and be made aware of the potential for hatchling dispersal. Workers must also visually check for turtles (particularly hatchlings) under vehicles and equipment prior to moving them and allow the turtles to leave the area on their own volition before moving vehicles or equipment. Vehicles should stay on designated roads where feasible and if overland travel is needed in suitable habitat where there is a possibility of dispersing hatchlings, a monitor may be required.

WPT-2, Visual Encounter Surveys. Before construction activities occur, a Qualified Biologist will search all suitable aquatic habitat in the project area a minimum of three times during appropriate weather conditions (e.g. sunny periods between 8am to 12pm, and from 3pm until an hour before dusk; air temperatures 55.0-90.0 degrees Fahrenheit; wind speeds less than 12.0 mph). Surveys will occur when western pond turtles are most likely to be detected in aquatic habitat:

- For the northwestern pond turtle, the highest probability of detection is from April 1 to September 30 (May 1 to August 31 at elevations above 3,500 feet). If work will occur outside of this window, a Qualified Biologist will also search upland habitat between October 1 and March 31 (September 1 to April 30 at elevations above 3,500 feet).

In areas where western pond turtles are known to occur or could be present, follow current guidance for visual encounter surveys in the Visual Encounter Survey Protocol for Western Pond Turtles developed by the Oregon Native Turtle Working Group (ODFW 2020). If surveys are not conducted or do not follow USFWS-approved methods, assume western pond turtles are present in suitable aquatic and upland habitat. Inquire with local USFWS Field Office on western pond turtle data records and if surveys have been completed in the project area.

WPT-3, Work Windows. For project areas where the northwestern pond turtle or southwestern pond turtle are known or assumed to occur, avoid work during the following windows:

- For project activities that involve in-water/dewatering work, work will be avoided from October 31 to March 31.
- Backfilling of ditch features shall occur from June 15 to September 30.
- For project activities within 500 meters (1604.4 feet) of suitable nesting habitat (i.e. sunny, open grasslands and ruderal habitat or bare soil), avoid disturbing nesting adult females from May 15 to July 31 for the northwestern pond turtle (except May 1 to July 31 in the San Joaquin Valley) and May 1 to July 31 for the southwestern pond turtle unless a Qualified Biologist has conducted pre-construction clearance surveys for the area and is present to conduct Environmental Monitoring and Capture and Relocation Activities (see WPT-4 and WPT-5) during initial ground disturbance (i.e., prior to May 15 for the northwestern pond turtle (except prior to May 1 in the San Joaquin Valley) and prior to May 1 for the southwestern pond turtle).
- For project activities in overwintering habitat (e.g. muddy pond bottoms), work will be avoided from October 1 to March 31 (September 1 to April 30 above 3,500 feet elevation) unless a Qualified Biologist has conducted pre-construction clearance surveys for the area and is present to conduct Environmental Monitoring and Capture and Relocation Activities (see WPT-4 and WPT-5) during initial ground disturbance. A qualified biologist will also search all mammal burrows for overwintering western pond turtles and move them out of harm's way. The qualified biologist then may collapse the burrows to prevent their usage by overwintering western pond turtles.
- For project activities in aestivation habitat (e.g., upland habitat (e.g. leaf litter) within 500 meters (1,640.4 feet) of suitable aquatic habitat), work will be avoided when nearby seasonal aquatic habitat

is dry unless wildlife exclusion fencing has been installed around all suitable aestivation habitat within the proposed project footprint before nearby seasonal aquatic habitats dry up.

Work windows may be modified via completion of the ESA Section 7(a)(2) Review Form and local Field Office approval.

WPT-4, Environmental Monitoring. Environmental Monitoring and pre-construction clearance surveys for northwestern pond turtle will be conducted in lieu of wildlife exclusion fencing. A Qualified Biologist(s) will perform pre-construction clearance surveys for northwestern pond turtle in suitable aquatic habitat in conjunction with pre-construction fish surveys and dewatering activities. For work occurring within suitable upland habitat (i.e. nesting and/or overwintering habitat), a Qualified Biologist(s) will perform pre-construction clearance surveys within seven days prior to ground disturbing activities and will monitor construction activities during initial ground disturbance and removal of the top six inches of soil, and/or staging.

The Qualified Biologist will confirm that all applicable protection measures are implemented during project construction. The Qualified Biologist will have the authority to stop any work if they determine that any permit requirement is not fully implemented or if it is necessary to protect Covered Species, consistent with the information provided in a signed ESA Section 7(a)(2) Review Form by the USFWS Field Office to cover the proposed project by the PBO. The Qualified Biologist will prepare and maintain a biological monitoring log of construction site conditions and observations, which will be kept on file.

WPT-5, Capture and Relocation. Western pond turtles will only be captured and relocated when it is the only option to prevent injury or mortality, and after all attempts to avoid interaction with the species have been used. If necessary to avoid injury or mortality, relocation of western pond turtles will be conducted by a Qualified Biologist in accordance with the requirements of *REP-6, Species Handling and Relocation*. Western pond turtle relocation will be conducted as described in a USFWS-approved reptile relocation plan submitted by the Project Proponent to the local USFWS Field Office concurrently with the ESA Section 7(a)(2) Review Form or at least 60 days before construction. Early submission facilitates timely USFWS review and approval and helps avoid project delays.

- Avoid and minimize transfer of diseases (e.g. turtle-shell disease, respiratory disease). The Qualified Biologist will wear disposable nonlatex or rubber gloves when handling individual turtles to inhibit transmission of disease. Any suspected observations of disease such as respiratory or turtle-shell disease in western pond turtles or any other species of turtle at the project site will be reported to the USFWS within 24 hours and before relocating any western pond turtle. If any western pond turtle or other turtle species in the project site test positive or are suspected of turtle-shell disease, then all turtles at the project site will be considered to be potentially infected. All equipment and clothing will be decontaminated and dried completely prior to and after use at an aquatic project site to prevent disease transmission between water bodies.
- Western pond turtles will be released within a few hours of capture. Individuals will be kept in containers with high sides, such as 5-gallon (18.9 liter) plastic buckets or 10-gallon (37.9 liter) storage tubs. Place a lid or piece of cloth over the top to darken the container. Keep captured western pond turtles out of direct sunlight because overheating is possible in a short time.
- The Qualified Biologist will capture and relocate the western pond turtle the shortest distance possible to a location that contains similar suitable habitat and that will not be affected by activities associated with the project. No western pond turtles will be relocated more than 500 meters or to a different watershed to prevent disorientation and the spread of diseases.
- If a western pond turtle found in upland habitat is suspected of traveling to an overwintering/aestivation or nesting site and voids its bladder upon handling, then the western pond turtle will be returned to aquatic habitat.
- Nesting or gravid female western pond turtles will be avoided to the greatest extent practicable. If an adult female western pond turtle is gravid or post-nesting, the Qualified Biologist will determine if she will be relocated to suitable undisturbed nesting habitat or suitable aquatic habitat outside of the work area. All possible precautions will be taken to allow her to continue to nest and to avoid nest failure.

Refer to the 2024 Northwestern Pond Turtle Avoidance and Minimization Measures (USFWS 2024a) and Southwestern Pond Turtle Avoidance and Minimization Measure Recommendations (USFWS 2024b) for more details on relocation of western pond turtles.

WPT-6, No Net Loss of Basking Habitat. Maintain existing basking structures (e.g. logs, rocks, shorelines, emergent vegetation, algal mats, and substrate adjacent to aquatic habitat whenever possible.

Avoid planting trees and shrubs that would shade suitable basking habitat and maintain an open riparian canopy to allow sufficient solar exposure for basking. Install basking structures as necessary for any basking habitat that is removed.

WPT-7, Avoid Excessively Shading Nesting Habitat. Avoid planting trees and shrubs that would shade suitable nesting habitat if nesting habitat is limited near the project area.

Appendix B

USACE Clean Water Act Section 404 Individual Permit



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: North Coast Regional Land Trust (POC: Dan Ehresman (707) 822-2242), P.O. Box 398, Bayside, California 95524

PERMIT NO.: SPN-2008-00077

ISSUING OFFICE: San Francisco District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below:

PROJECT DESCRIPTION: The Project will create off-channel rearing habitat by restoring the historical connectivity and function of the existing freshwater wetlands to the tidal channels of lower Wood Creek and Freshwater Slough. One main channel and four tributary channels will be created through the project area beginning downstream of the Freshwater Creek overflow bridge and extending to immediately downstream of the Felt Ranch cattle crossing. The existing Wood Creek will be rerouted out of a roadside ditch to drain into Felt Slough and the new Felt channel network. Wood Creek downstream of the Felt Road culvert crossing will be divided into a lower reach and an upper reach with a freshwater pond between the two reaches. Portions of Felt Ranch ditch will be filled using existing spoil piles. The lower ditch will be filled by planting hummocks to allow waters to connect with the tidal channel reaches of Felt Slough. Sections of the previously constructed Phase II channel will be regrading and widened, and one tidal sill will be removed. Large wood will be installed within the new channel network and hummocks planted along the edge of the channels.

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction that will impact Section 404 waters includes Impacts resulting from the above-mentioned improvements. The conversion of 4.4 Acres of freshwater wetlands to former salt marsh habitat through the excavation and installation of approximately 23,680 cubic yards of native soil and large wood. Realigning the Wood Creek channel upstream of Felt Road will require filling approximately 30 feet of existing channel and constructing a new, approximately 70-foot-long channel that will connect with the new culvert crossing. All work shall be completed in accordance with the plans and drawings titled: "USACE File ID SPN-2008-00077, Wood Creek Phase III Felt Ranch Off-Channel Rearing Habitat Project, Humboldt County," dated September 28, 2023, in 18 sheets, provided as enclosure 1.

PROJECT LOCATION: The Project is in the unincorporated community of Freshwater Corners and bisected by Myrtle Avenue, with Freshwater Farms Reserve on the north side and Felt Ranch on the south side, and east of Felt Road, approximately 2.5 miles east of the City of Eureka in Humboldt County, California at Latitude; 40.7815129°, longitude: -124.088983°.

PERMIT CONDITIONS:

GENERAL CONDITIONS:

1. The time limit for completing the work authorized ends on January 30, 2028. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. For your convenience, a copy of the water quality certification or waiver is attached. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
7. You understand and agree that, if future operations by the United States require the removal, relocation or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

SPECIAL CONDITIONS:

1. The NMFS determined via email dated August 2, 2023 that the project would be covered under the NOAA Restoration Center's Programmatic BO No. WCRO-2021-02830, dated

March 31, 2022. The USFWS determined by email dated August 1, 2023, that the project would be covered using the USFWS PBO (File Number: 2022_0005149-S7). All measures from these B.O.'s. and all work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

2. The Corps initiated consultation with the NMFS to address project related impacts to Essential Fish Habitat. The conservation recommendations outlined on page 87 of the NOAA Restoration Center and U.S. Army Corps of Engineers' Restoration Program for Northern California PBO shall be fully implemented as stipulated.
3. No debris, sand, silt, trash, concrete or washings thereof, oil or other petroleum products or washings thereof, or other foreign materials shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the U.S. Upon project completion, any and all excess construction materials, debris, and/or other excess project materials shall be removed to an appropriate upland disposal site.
4. Best management practices (BMP's) will be implemented including installation of silt fences, straw bales, gravel bags, and fiber rolls, if appropriate. Placement of these materials will control sediment discharge and minimize sediment release into receiving waters.

FURTHER INFORMATION:

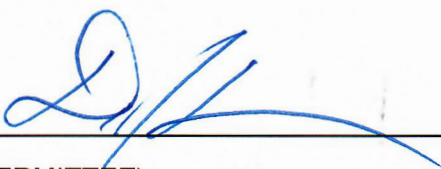
1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (x) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403).
 - (x) Section 404 of the Clean Water Act (33 U.S.C. Section 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. Section 1413).
2. Limits of this authorization:
 - a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
- 4.** Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
- 5.** Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate. (See Item 4 above.)
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

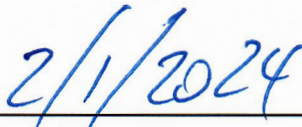
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 C.F.R. § 325.7 or enforcement procedures such as those contained in 33 C.F.R. §§ 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 C.F.R. § 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

- 6.** Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.




(PERMITTEE)



(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



William Connor
North Branch Chief, Regulatory Division
San Francisco District
U.S. Army Corps of Engineers

February 5, 2024

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

Appendix C

North Coast Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification

North Coast Regional Water Quality Control Board

August 23, 2023

Dan Ehresman
Northcoast Regional Land Trust
P.O. Box 398
Bayside, CA 95524
d.ehresman@ncrlt.org

Dear Dan Ehresman:

Subject: Notice of Applicability (NOA) for Coverage under the State Water Resources Control Board Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide Order WQ 2022-0048-DWQ

File: Wood Creek Phase 3 - Felt Ranch Off-Channel Rearing Habitat Project CW-889375; WDID No. 1B23103WNHU

This letter is to certify coverage of the Felt Ranch Off-Channel Rearing Habitat Project (Project) under the Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide (Order); Order WQ 2022-0048-DWQ. The Project will develop off-channel rearing habitat on Wood Creek and reroute the stream to move it out of the existing road ditch and onto Felt Ranch, where the restored stream can be constructed with appropriate width, depth, and sinuosity, as well as having a well-defined riparian corridor.

Background

On July 5, 2023, the North Coast Regional Water Quality Control Board (Regional Water Board) received a Notice of Intent (NOI) from Dan Ehresman, Northcoast Regional Land Trust (Applicant) to comply with the terms of, and obtain project coverage under, the Order for the Project. On July 28, 2023, additional information was provided, and the NOI was deemed complete.

Pre-consultation Meeting and Public Notice

A pre-consultation meeting to discuss permitting options for the Project occurred on November 2, 2022. The Regional Water Board provided 21-day public notice of the application pursuant to Title 23, California Code of Regulations, Section 3858 on July 18, 2023, on the Regional Water Board's website. No comments were received.

Project Location

The Project is located along Wood Creek, within the Eureka Plain Hydrologic Unit 110.00. The coordinates of the Project are 40.783654° N, 124.090859° W.

Project Description

This Project will develop off-channel rearing habitat on Wood Creek. Wood Creek has a small drainage area of 0.2 square miles but flows year-round. Wood Creek drains through an undersized culvert under Wood Gulch Road and then flows down the western ditch line of Felt Road before crossing under Myrtle Avenue and into the tidal channels on the Northcoast Regional Land Trust Freshwater Farms Reserve. The Project includes moving Wood Creek to cross under Felt Road rather than Wood Gulch Road. This will move the stream out of the existing road ditch and onto Felt Ranch, where the restored stream can be constructed with appropriate width, depth and sinuosity, as well as having a well-defined riparian corridor. The realigned channel would drain into the new Felt Slough, which will flow under the Freshwater Creek Overflow Bridge and into the head of the existing Wood Creek Phase II channel. Moving the channel addresses conflicts that arise with presence of Endangered Species Act (ESA) listed salmonids in the ditch and the frequent need for ditch maintenance due to sedimentation and resulting flooding of the road and adjacent driveways.

The Project will construct a new channel network through the Project area, referred to as Felt Slough. The main Felt Slough channel will be approximately 3,815 feet in length, beginning downstream of the Freshwater Creek Overflow Bridge on Myrtle Avenue and extending to immediately downstream of the cattle crossing on Felt Ranch. Portions of the Felt Ranch Ditch will be filled to route flow into the new Felt Slough channel. The measured tidal mean higher high water (MHHW) backwater will extend approximately 1,280 feet upstream of the Freshwater Creek Overflow Bridge. Groundwater sources will provide freshwater inflows to the new channel in the form of seeps and springs.

The most downstream end of the Project will tie into the Wood Creek Phase II channel located just downstream of the Freshwater Creek Overflow Bridge at an elevation of 4.5 feet. Approximately 300 feet of the main Phase II tidal channel will be regraded and widened, and one tidal sill would be removed. The northern Phase II channel will remain unaltered, serving only as a high-flow channel. Moving upstream, the new channel will be routed under the Freshwater Creek Overflow Bridge and then head south to cross through the existing Felt Ranch Ditch. The new slough channel would run along the eastern toe of the Wood Creek alluvial fan before turning west, along the base of the adjacent hillslope. The Felt Slough channel profile includes a series of long pools and short riffles.

Four secondary channels will be tributaries to the main channel. The three lower secondary channels will be within regular tidal elevations and will have brackish conditions during the dry season. During storm events the channels will temporarily transition to freshwater conditions. These channels will constitute the majority of tidal prism generated by the Project. Secondary channel "S1" will route to the mainstem channel nearest the bridge. It is designed to capture and route some of the Freshwater Creek overland flow into the downstream Phase II channels. This has the advantage of more rapidly draining floodwaters off the adjacent grazing pastures as well as to help reduce fish stranding in the field. The head of the S1 channel will tie into existing ground at approximately elevation 7.8 feet, which will be at approximately the head of tide during spring tide events. Secondary channel "S2" will begin upstream of the Freshwater Creek Overflow bridge and extend along the north side of the existing Felt

Ranch Ditch. The S2 channel will be approximately 400 feet long, with most of its length being at elevations that fall within tidal influence. It will contain a long three-foot-deep tidal pool through much of its length and a tidal sill at its downstream end with an elevation of 5.8 feet. Secondary channel "S3" is the largest secondary channel. It will begin upstream of the bridge and extend along the north side of the existing Felt Ranch Ditch. The Felt Ranch Ditch will be modified to route flow into the S3 secondary channel. The S3 secondary channel will include three long pools, each graded to an approximate depth of three feet. Near the upstream end of the Felt Slough, the channel will diverge into two branches (main channel and secondary channel S4). The northern branch will traverse through the cattail dominated wetland. The S4 branch will be routed further south before reconnecting to the main channel just downstream of the cattle bridge.

Project channels will intersect the existing Felt Ranch Ditch at three locations. The Ditch will be filled or graded in some locations to reduce potential bullfrog breeding habitat and to better facilitate routing of Freshwater Creek floodwaters. The Felt Ranch Ditch downstream of the existing cattle bridge (upstream limit of Project) will be filled for a length of approximately 1,200 feet. The Ditch will be filled, in part, with the existing spoils piles that create artificial berms along both sides. These berms prevent overbank Freshwater Creek floodwaters from flowing into Ditch and the vast wetland to the west. Instead, floodwaters are trapped in the existing pasture, reducing productivity. Removing the berms and filling this section of Ditch will restore the natural hydrology of the floodplain and routing of overbank flows. To create habitat for multiple species of herpetofauna, five shallow ponds will be graded into the filled Ditch. The ponds will be roughly 40 feet long and 20 feet wide, with a depth of approximately two feet. The shallow depth is intended to have the ponds dry by mid-summer to prevent bullfrog colonization. The lower Ditch will be plugged by a planting hummock in two locations to allow waters within these sections of Ditch to be connected to the tidal channel reaches of Felt Slough. The tie-in with the head of the S2 secondary channel will also allow overbank flows from the east to be routed into the slough channels and under Myrtle Avenue. Because these tie-in locations with the Ditch are within the intertidal range, the remaining Ditch sections will be brackish during the summer, providing habitat for Tidewater Goby and preventing bullfrog breeding.

Wood Creek currently routes along Felt Road via an inboard drainage ditch. The existing Wood Creek culvert will be realigned under Felt Road to route the stream into the new Felt Ranch channel network instead of the roadside drainage ditch. The replacement culvert will better convey Wood Creek and stormwater runoff from the roadway. The crossing structure will meet the following design recommendations of the CDFW stream simulation design approach (CDFG, 2009), and will provide conveyance of the 100-year flow with the headwater below the inlet soffit; span the bankfull channel width; embed the invert a minimum of one-foot below the low vertical adjustment potential profile to ensure a natural substrate bottom persists; and consider minimum cover requirements and minimize any adjustments to the road profile given adjacent intersection and driveway.

Rerouting the channel upstream of Felt Road will require filling approximately 30 feet of existing channel and constructing a new approximately 70-foot-long channel that

connects to the new crossing. The alignment of the channel will have a gentle bend that guides the flow to the crossing while avoiding any bends in the channel at the crossing inlet. At the upstream end of the realigned section the existing channel will be plugged. To protect the newly constructed bank in this location, which is on the outside of a gentle bend, a rootwad deflector will be placed against the bank, with the stem buried into the bank. Given the limited amount of fill over the stem, it may be necessary to use soil anchors attached to the stem to resist buoyancy. Planting around the rootwad will occur to add root strength to the bank as the rootwad decays.

The rerouting of Wood Creek will result in the abandonment of its current channel, which is the Felt Ranch roadside ditch. Most of this currently consists of a roadside ditch with seasonal flows from existing springs and seeps. West of the Freshwater Creek Overflow Bridge on Myrtle Avenue, Wood Creek currently flows through a willow thicket before draining under the road through a culvert. This area is above tide and in a hollow that appears to receive groundwater and spring flow from the adjacent hillslope in addition to Wood Creek flows. Even with the loss of the current Wood Creek flows to this area, the willows are anticipated to persist and the soils to remain seasonally saturated. The outlet scour pool downstream of the Myrtle Avenue culvert is slightly above tidal influence. It will likely remain predominately fresh during the wet season but become brackish from groundwater seepage during the summer.

Two alcoves associated with the drainage from the seeps captured along Felt Road are proposed. The head of each will be located at the outfall of existing culverts to route the perennial flows from the seeps on the opposite side of Felt Road into the new alcoves. At a third drainage culvert with perennial flow from seeps, the water will be routed directly into a four-foot-deep pool within the main Felt Slough channel.

Wood Creek downstream of the proposed Felt Road culvert crossing will be divided into two distinct reaches; a lower reach and an upper reach. The lower reach will be a low gradient highly sinuous channel with low confinement at the upper end of tidal influence. The lower reach of Wood Creek will be approximately 425 feet long with one-foot deep pools, draining into a pool in the main Felt Slough channel. The upper reach will be less sinuous and follow the overall slope of the valley. Several different types of channel spanning wood structures will be installed to help maintain the stable channel grade, simulating the wood and root forcing features in the channel bed upstream of Felt Road. Additionally, bank based rootwad structures will be placed on the outside of bends to protect the bank, provide cover for fish, and create scour that maintains pools.

A freshwater pond fed by Wood Creek will be located between the two reaches, along with a secondary high flow channel draining out of the pond. At its deepest, the pond will have a depth of 5.8 feet. The pond will provide slow freshwater habitat for rearing salmonids and other aquatic organisms. Large wood cover structures will be installed throughout the pond. The pond would also serve as a long-term passive sediment basin, collecting delivered sediments from Wood Creek. Over time, the head of the pond would fill with sediment. The collection of delivered sediments will help minimize sedimentation within the downstream Felt Slough channel and the channels in Wood Creek Phase II. The overall sediment storage capacity is approximately 500 cubic yards, which could take more than a decade to fill. Once the pond is full, sediment will

begin depositing across the riparian area, restoring the stream's historical alluvial fan processes.

Approximately 72 planting hummocks are proposed to run along the edge of the Felt Slough main and secondary channels. Planting hummocks will create an elevated surface above the saturated soils to provide conditions suitable for planting riparian vegetation, including conifers that can eventually provide canopy that shades the channel. These features are intended to restore the microtopography of a tidally influenced "forested swamp" that supports the diverse shrub and tree species on islands among standing water and tidal channels. This morphology and habitat type is thought to have once occupied much of the Project Area. The number, spacing, and size of hummocks may be modified in order to balance cut and fill volumes to avoid transporting material over far distances across soft and difficult terrain within the existing wetland.

The hummocks are proposed to be constructed to approximately two feet above existing ground with side slopes no steeper than four-to-one. The top widths of the hummocks range from a typical width of 25 to 30 feet with some reaching approximately 70 feet wide in the upstream areas. Gaps between the hummocks along the channel banks are generally 20 to 25 feet. Soils used to build the hummocks will originate from the adjacent channel excavation and grubbing around the hummocks; some settlement is anticipated due to the soil composition. Hummocks are anticipated to maintain wetland soil characteristics.

The area around the hummocks, the hummocks, riparian areas around the rerouted Wood Creek, and upland areas will be planted with native plants and native seed mixes. The total area designated for plantings is approximately 23.6 acres. Planting would occur in the fall and winter following construction.

Large wood features are proposed throughout the Project channels. Much of the wood would be placed to serve as cover structures for fish. In Wood Creek these structures will also be placed to help scour and maintain pools and to create forcing features to help control the overall channel profile. Additionally, avian perches and logs placed on the ground are proposed in the floodplain. All of the placed large wood would be anchored to prevent it from floating downstream.

A substantial portion of the excavated material for construction of the channels will be incorporated into planting hummocks. However, an excess of material is anticipated, requiring disposal. All excavated materials will remain on-site. The Project wetland delineation identified two upland areas along Felt Road on the Felt Ranch suitable for spreading of this material (GHD 2022). Spoils Disposal Areas on the upland areas are set back a minimum of 25 feet from the wetland boundary. Spoils Disposal Area 1 is approximately 0.42 acres and outside of the Northcoast Regional Land Trust Wetland Reserve Easement and Spoils Disposal Area 2 is approximately 0.91 acres within the Easement. The placed spoils would be graded with gentle slopes to make them suitable for revegetation and/or grazing. The maximum depth of placed spoils will be limited to three feet.

The Project will construct small gravel pads in each of these two upland areas along Felt Road to provide year-round locations for vehicles to park when conducting revegetation installation, maintenance and monitoring, as well as other Project monitoring activities.

General Protection Measures

The Project will adhere to and apply the following protection measures, as described in the Order, including General Protection Measures GPM-1 through GPM-5, GPM-13, and GPM-15; Water Quality and Hazardous Materials Protection Measures WQHM-1, WQHM-3, WQHM-4, and WQHM-6; In-Water Protection Measures IWW-1, IWW-5, IWW-6, and IWW-7; and Vegetation/Habitat Disturbance and Revegetation Protection Measures VHDR-1 and VHDR-5.

Project Size and Impacts to Waters of the State

The total project size is approximately 44.3 acres and 5,700 linear feet. The impacts to waters of the state associated with the Project are approximately 15.2 acres and 5,700 linear feet.

Benefits to Waters of the State

The Project will restore approximately 15.2 acres and 8,515 linear feet of stream and wetland habitat.

Project Associated Discharge

Approximately 49,130 cubic yards of soil, 350 pieces of large woody material, one culvert (size to be determined), native plantings necessary to implement the Project's revegetation plan, and various erosion control materials will be discharged to waters of the state.

Project Time Frame

Project implementation will commence once funding is available and is anticipated to take approximately 120 workdays. Construction may span multiple seasons. The work season will be limited to June 15 through October 15, annually, with the possibility of modification or extension with written authorization from the Regional Water Board.

Agency Permits

The Applicant has applied for a Clean Water Act section 404 Permit from the U.S. Army Corps of Engineers and for a Streambed Alteration Agreement from the California Department of Fish and Wildlife.

Notice of Applicability & CEQA Determination

Regional Water Board staff has determined that the proposed activities as described in the NOI may proceed under the Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide: Order WQ 2022-0048-DWQ.

On June 13, 2023, the Director of the California Department of Fish and Wildlife concurred with the lead agency determination by the Humboldt County Department of Public Works that the Project qualifies as a statutorily exempt restoration project under the California Environmental Quality Act (Pub. Resources Code, § 21080.56, subd. (e).)

Receiving Water: Wood Creek, within the Eureka Plain Hydrologic Unit 110.00

Project Size: Approximately 44.3 acres and 5,700 linear feet

Benefits to Waters of the State: Approximately 15.2 acres and 8,515 linear feet

Project Impacts: Approximately 15.2 acres and 5,700 linear feet

Latitude/Longitude: 40.783654° N, 124.090859° W

Expiration Date: **August 23, 2028**

Reporting and Notification Requirements

The Applicant included a Wetland Habitat Mitigation and Monitoring Plan for the Felt Ranch Restoration Project (July 3, 2023), which meets the requirements outlined in section XIII.B of the Order. Project proponents with projects authorized under this Order shall follow notification and reporting requirements described in section XIII.B and those found in Attachment D of this Order. This Order and its associated monitoring and technical reporting provisions are also adopted pursuant to California Water Code sections 13383 and 13267, subdivision (b)(1). The requirements for the content of the reports and notification types required under this Order are detailed in Attachment D, including specifications for photo and map documentation. Written reports and notifications must be submitted using the Reporting and Notification Cover Sheet located in Attachment D, which must be signed by an authorized representative who meets the signatory requirements specified in Attachment E. Please include the project name and WDID number with all future inquiries and document submittals. Document submittals shall be made electronically to NorthCoast@waterboards.ca.gov.

The Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide; Order WQ 2022-0048-DWQ can be found at [Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide](#).

Please call Jake Shannon at (707) 576-2673 if you have any questions.

Sincerely,

Valerie Quinto
Executive Officer

230823_JJS_feltranch_NOA

Copy: Andrea Hilton, GHD Inc.
Andrea.Hilton@ghd.com
Nic VanVleet, California Department of Fish and Wildlife
Nicholas.VanVleet@Wildlife.ca.gov

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State Water Resources Control Board
Stateboard401@waterboards.ca.gov
Jennifer Siu, EPA Region 9
Siu.Jennifer@epa.gov

Appendix D

California Department of Fish and Wildlife Streambed Alteration Agreement

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

REGION 1 – NORTHERN REGION
619 2nd Street
Eureka, CA 95501



LAKE OR STREAMBED ALTERATION AGREEMENT

NOTIFICATION NO. EPIMS-HUM-39331-R1C
Wood Creek, Tributary to Freshwater Creek, Tributary Humboldt Bay
and the Pacific Ocean

Douglas Page
Wood Creek Phase III – Felt Ranch Off-Channel Rearing Habitat
Project
Two Encroachments

This Lake or Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Douglas Page, representative for the Northcoast Regional Land Trust (Permittee).

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, the Permittee initially notified CDFW on July 11, 2023, that the Permittee intends to complete the project described herein.

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

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

PROJECT LOCATION

The project to be completed is located within the Freshwater Creek watershed, approximately two miles east of the City of Eureka, County of Humboldt, State of California. The project is located in Sections 29 and 32, T05N, R01E, Humboldt Base and Meridian; in the Arcata South U.S. Geological Survey 7.5-minute quadrangle; latitude 40.78156 N and longitude 124.09024 W.

PROJECT DESCRIPTION

The project is limited to two (2) encroachments. The first encroachment is for replacing an existing undersized culvert on Wood Creek. The existing crossing is located on

Wood Gulch Road and consists of two different culvert types. The inlet of the existing crossing is a 3-foot diameter reinforced concrete pipe (RCP) and the outlet section is a 3-foot by 3-foot reinforced concrete box (RCB) culvert. The existing culvert on Wood Gulch Road will be plugged, and the channel will be rerouted through a new crossing on Felt Road, which is directly adjacent to the existing crossing. The new crossing on Felt Road will be a partially embedded 8-foot by 8-foot RCB culvert.

The second encroachment is for rerouting Wood Creek, constructing a new channel network, installing large wood features, constructing perennial alcoves, filling an existing agricultural drainage ditch, creating seasonal ponds, and revegetating with native species. Wood Creek will be rerouted under Felt Road to drain into the newly constructed Felt Slough channel network. The Felt Slough channel will consist of one main channel and four smaller secondary channels. Large wood features will be incorporated into the new channels and upland areas to create habitat for fish and wildlife species. Multiple alcoves will be constructed throughout the Felt Slough channel to capture water flowing from perennial freshwater seeps. Portions of the existing Felt Ranch Ditch, which is a straight and relatively deep drainage feature, will be filled to reduce habitat quality for invasive species such as American bullfrog (*Lithobates catesbeianus*). Additionally, shallow ponds will be graded into the existing Felt Ranch Ditch footprint to create seasonal habitat for native herpetofauna. Riparian planting hummocks will be revegetated with native species including conifers that will provide future sources of shade and large wood for fish and wildlife habitat.

Table 1. Project Encroachments with Description

ID	Latitude/Longitude	Description
Culvert Replacement	40.780906, -124.092252	Replace existing hybrid 3' diameter RCP and 3'x3' RCB culvert 8' x 8' RCB
Channel Modifications	40.783575, -124.091505	Reroute Wood Creek, construct a new channel network, install large wood features, construct alcoves, fill agricultural drainage ditch, create seasonal ponds, and plant native species

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include Chinook Salmon (*Oncorhynchus tshawytscha*), Coho Salmon (*O. kisutch*), Steelhead Trout (*O. mykiss*), Western Brook Lamprey (*Lampetra richardsoni*), Pacific Lamprey (*Entosphenus tridentata*), Coastal Giant Salamander (*Dicamptodon tenebrosus*), Northern Red-legged Frog (*Rana aurora*), Northwest Pond Turtle (*Actinemys marmorata*) amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

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

Impacts to water quality:

- Temporary increase in fine sediment transport;

Impacts to bed, channel, or bank and direct effects on fish, wildlife, and their habitat:

- Direct impacts on benthic organisms due to dewatering and rerouting Wood Creek;

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

- Temporary diversion of flow from activity site;
- Direct and/or incidental take;
- Temporary impediment of up- or down-stream migration during construction;
- Temporary water quality degradation; and
- Temporary damage to aquatic habitat and function.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

The Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. The 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. The 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 the Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Change of Conditions and Need to Cease Operations. If conditions arise, or change, in such a manner as to be considered deleterious by CDFW to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken.
- 1.4 Adherence to Existing Authorizations. All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights.
- 1.5 Notification of Conflicting Provisions. The Permittee shall notify CDFW if the 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 the Permittee to resolve any conflict.

- 1.6 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.
- 1.7 CDFW Notification of Work Initiation and Completion. The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. Subsequently, the Permittee shall notify CDFW no later than seven (7) days after the project is fully completed.
- 1.8 Agreement Compliance. The proposed work shall comply with all measures included in this Agreement. **Failure to comply with these measures may result in suspension or revocation of this Agreement.**

2. Avoidance and Minimization Measures

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

- 2.1 Permitted Project Activities. Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Permittee Notification received on July 11, 2023, together with all maps, BMP's, photographs, drawings, and other supporting documents submitted with the Notification.
- 2.2 Incidental Take. This Agreement does not allow for the "take" or "incidental take" of any federal or State listed threatened or endangered listed species.

Project Timing

- 2.3 Work Period. All work, not including authorized diversion of water, shall be confined to the period **June 1 through October 31** of each year. Work within the active channel of a stream shall be restricted to periods of dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease, and all necessary erosion control measures shall be implemented prior to the onset of precipitation.
- 2.4 Work Completion. The proposed work **shall be completed by prior to the expiration of this Agreement's term**. A notice of completed work, including photographs of each site, shall be submitted to CDFW within seven (7) days of project completion.
- 2.5 Extension of the Work Period. If weather conditions permit, and the Permittee wishes to extend the work period before June 1 or after October 31, a written request shall be made to CDFW at least five (5) working days before the **proposed work period variance. Written approval (letter or e-mail) for the**

proposed time extension must be received from CDFW prior to activities beginning before June 1 or continuing past October 31.

- 2.6 Avoidance of Nesting Birds. Fish and Game Code sections 3503 and 3503.5 prohibits the taking or destroying of native bird's nests or eggs. To the extent feasible, vegetation maintenance or removal (e.g., clearing and grubbing) shall occur between August 16 and March 14. Removal areas should be managed once cleared to reduce nesting potential during the breeding season.

Vegetation Management

- 2.7 Nesting Bird Surveys. If vegetation maintenance or removal (e.g., clearing and grubbing) or other project-related activities must occur during the nesting season, typically March 15 to August 15 (and depending on species and habitat quality from mid-January to mid-September) a qualified Biologist shall survey for active bird nests within seven (7) days prior to the beginning of project-related activities. Surveys shall begin prior to sunrise and continue until vegetation, nesting behavior, and nests have been sufficiently observed. A report of the surveys shall be submitted to CDFW by email within three (3) business days of survey completion. The report shall include a description of the area surveyed, time and date of surveys, ambient conditions, species observed, active nests observed, evidence of breeding behaviors (e.g., courtship, carrying nesting material or food, etc.), and a description of any outstanding conditions that may have impacted survey results (e.g., weather conditions, excess noise, predators present, etc.). If an active nest is found, Permittee shall implement avoidance measures in consultation with CDFW. If a lapse in project-related work of seven (7) days or longer occurs, the qualified Biologist shall repeat surveys before project work can resume. **This approach could result in project related delays because nesting birds are likely to be found by a qualified Biologist during the nesting season when habitat is present.**
- 2.8 Minimum Vegetation Removal. Permittee shall limit the disturbance or removal of native vegetation to the minimum necessary to achieve design guidelines and standards for the Authorized Activity. Permittee shall take precautions to avoid damage to vegetation outside the work area.
- 2.9 Biological Monitor During Vegetation Removal (Designated Biologist). Before project activities begin, the Permittee shall retain a Designated Biologist to serve as the Biological Monitor immediately prior to major vegetation removal. Permittee shall obtain CDFW's written approval of the Designated Biologist before initiating project activities. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish, wildlife, and botanical resources potentially present at the project site. The Designated Biologist shall be responsible for monitoring all project activities and avoidance measures. The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this Agreement, and/or to order any reasonable measure to

avoid the unauthorized take of Special Status Species. The designated Biologist shall be authorized to safely relocate species encountered during construction activities out of harm's way. Permittee shall submit detailed information regarding species that were relocated with the Work Completion notice.

Pond and Alcove Management

2.10 Invasive Species Management for Ponds. Permittee shall implement an Invasive Species Management Plan (ISMP) prepared by a qualified Biologist. The plan shall include, at a minimum, annual seasonally appropriate surveys of invasive aquatic species (i.e., baseline surveys), focused on American bullfrog (*Lithobates catesbeianus*). The baseline surveys will form the basis to measure success of the ISMP. The qualified Biologist shall coordinate with CDFW to develop eradication measures appropriate for the identified invasive aquatic species based on site specific conditions. An annual monitoring report shall be prepared and submitted to CDFW.

2.10.1 Bullfrog Management Plan. If American bullfrogs are observed, they shall be appropriately controlled, with the goal of population eradication, including but not limited to, annual multi-effort direct removal of all life stages, using various techniques (e.g., air rifle, gigging, trapping, seining, and draining of reservoirs) to break reproduction. The bullfrog management plan must be site specific, and the goal shall be eradication of the population. If at any time additional invasive aquatic species are detected, Permittee shall submit an updated ISMP for Ponds to CDFW for review and approval.

Stream Protection

2.11 Stream Protection. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other deleterious material from project activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the stream. All project materials and debris shall be removed from the project site and properly disposed of off-site upon project completion.

2.12 Equipment Maintenance. Refueling of machinery or heavy equipment, or adding or draining oil, lubricants, coolants, or hydraulic fluids shall not take place within stream bed, channel, and bank. All such fluids and containers shall be disposed of properly off-site. Heavy equipment shall not be stored within stream bed, channel, and bank.

2.13 Hazardous Spills. If at any time any material which could be hazardous or toxic to aquatic life enters a stream, the Permittee shall immediately notify the California Emergency Management Agency State Warning Center at 1-800-852-7550, and immediately initiate clean-up activities. Permittee shall notify CDFW at 707-445-

6493 and consulted regarding clean-up procedures as soon as practicable, but no later than 24 hours after the spill.

2.14 Dewatering.

2.14.1 Stream Diversion. Only when work in a flowing stream is unavoidable (e.g., perennial streams), prior to the start of construction, Permittee shall isolate the work area from the flowing stream. To isolate the work area, water-tight cofferdams shall be constructed upstream and downstream of the work area, and water diverted through a suitably sized pipe. Water shall be diverted from upstream of the upstream cofferdam, and discharge downstream of the downstream cofferdam. Cofferdams and the stream diversion system shall remain in place and functional throughout the construction period. Cofferdams or stream diversions that fail for any reason shall be repaired immediately.

2.14.2 Maintain Aquatic Life. When any cofferdam or other artificial obstruction is being constructed, maintained, or placed in operation, Permittee shall allow sufficient water at all times to pass downstream to maintain aquatic life below the obstruction pursuant to Fish and Game Code §5937.

2.14.3 Stranded Aquatic Life. The Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include hand nets, dip nets, buckets, and/or by hand. Captured aquatic life shall be released immediately in the closest suitable aquatic habitat adjacent to the work site. Permittee shall submit detailed information regarding species that were stranded and relocated with the Project Inspection Report.

2.14.4 Minimize Turbidity and Siltation. Permittee shall use only clean (washed), non-erodible materials, such as rock or sandbags that do not contain soil or fine sediment, to construct any temporary stream flow bypass. Permittee shall divert stream flow around the work site in a manner that minimizes turbidity and siltation and does not result in erosion or scour downstream of the diversion.

2.14.5 Remove any Materials upon Completion. Permittee shall remove all materials used for the temporary stream flow bypass after the Authorized Activity is completed.

2.14.6 Restore Normal Flows. Permittee shall restore normal flows to the effected stream immediately upon completion of work at that location.

2.15 Runoff from Steep Areas. The Permittee shall ensure that runoff (concentrated flow) from steep, erodible surfaces will be slowed and diverted into stable areas

with little erosion potential or contained behind erosion control structures. Erosion control structures such as straw bales and/or siltation control fencing shall be placed and maintained until the threat of erosion ceases. Frequent water bars shall be placed on dirt roads, heavy equipment tracks, or other work trails to control erosion.

2.16 Culvert Installation.

2.16.1 If the project is located in a moderate to very high Fire Hazard Severity Zone as designated by CAL FIRE, culvert materials should consist of corrugated metal pipe (CMP). Use of High-Density Polyethylene (HDPE) pipe is not recommended.

2.16.2 Existing fill material in the crossing shall be excavated down vertically to the approximate original channel and outwards horizontally to the approximate crossing hinge points (transition between naturally occurring soil and remnant temporary crossing fill material) to remove any potential unstable debris and voids in the older fill prism.

2.16.3 Permanent culverts shall be sized to accommodate the estimated 100-year flood flow (i.e., ≥ 1.0 times the width of the bankfull channel width or the 100-year flood size, whichever is greater), including debris, culvert embedding, and sediment loads.

2.17 Project Inspection. The Project shall be inspected by a California licensed engineer, or other qualified professional with appropriate license or qualifications, to ensure the stream crossings, and other project component(s), were constructed as designed. A copy of the **Project Inspection Report**, including photographs of each site, shall be submitted to CDFW within 90 days of completion of this project.

Erosion Control and Pollution

2.18 Erosion Control. Permittee shall use erosion control measures throughout all work phases where sediment runoff could enter a stream, lake, or wetland (i.e., Waters of the State).

2.19 Seed and Mulch. Upon completion of construction operations and/or the onset of wet weather, Permittee shall stabilize exposed soil areas within the work area by applying mulch and seed. Permittee shall utilize vegetative (e.g., seeding) or other non-vegetative methods such as jute mat, coir mat, wood chip mat, straw mat or wattle, straw mulch, native duff (leaves, needles, fine twigs, etc.), or lopped native slash to protect and stabilize soils. Straw mulching shall utilize at least 2 to 4 inches of clean straw (such as rice, barley, wheat) or weed-free straw. Seeding shall use regional native seed or non-native seed that is known not to persist or spread [e.g., barley (*Hordeum vulgare*), or wheat (*Triticum aestivum*)]. No known

invasive grass seed such as annual or perennial ryegrass (*Lolium multiflorum* or *L. perenne*, which are now referred to as *Festuca perennis*), shall be used.

- 2.20 Erosion and Sediment Barriers. Permittee shall monitor and maintain all erosion and sediment barriers in good operating condition throughout the work period and the following rainy season, defined herein to mean **October 31 through June 1**. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged sediment fencing, coir logs, coir rolls, and/or straw bale barriers. If the sediment barrier fails to function as designed, Permittee shall employ corrective measures, and notify CDFW immediately.
- 2.21 Prohibition on Use of Monofilament Netting. To minimize the risk of ensnaring and strangling wildlife, Permittee shall not use any erosion control materials that contain synthetic (e.g., plastic or nylon) monofilament netting, including photo- or biodegradable plastic netting. Geotextiles, fiber rolls, and other erosion control measures shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves.
- 2.22 Site Maintenance. Permittee shall be responsible for site maintenance including, but not limited to, re-establishing erosion control to minimize surface erosion and ensuring drainage structures and stream banks remain sufficiently stable.
- 2.23 Cover Spoil Piles. Permittee shall have readily available erosion control materials such as wattles, natural fiber mats, or plastic sheeting, to cover and contain exposed spoil piles and exposed areas to prevent sediment from eroding into a stream, lake, or wetland (i.e., Waters of the State). Permittee shall apply and secure these materials prior to rain events to prevent loose soils from entering a stream, lake, or wetland (i.e., Waters of the State).
- 2.24 No Dumping. Permittee shall not deposit, permit to pass into, or place where it can pass into a stream, lake, or wetland (i.e., Waters of the State) any material deleterious to fish and wildlife, or abandon, dispose of, or throw away within 150 feet of a stream, lake, or wetland (i.e., Waters of the State) any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

3. Reporting Measures

Permittee shall meet each reporting requirement described below. All reports shall be submitted by e-mail to CDFW at EPIMS.R1C@wildlife.ca.gov.

- 3.1 Notice of Work Initiation. The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement (condition 1.7). Information to be disclosed shall include Agreement number, and the anticipated start date.

- 3.2 Work Completion. The proposed work **shall be completed by prior to the expiration of this Agreement's term**. A notice of completed work (condition 2.4), with supplemental photos, shall be submitted to CDFW **within seven (7) days** of project completion.
- 3.3 Project Inspection. The Permittee shall submit the **Project Inspection Report** (condition 2.17) to CDFW.

CONTACT INFORMATION

Written communication the Permittee or CDFW submits to the other shall be delivered to the address below unless the Permittee or CDFW specifies otherwise.

To Permittee:

Douglas Page
PO Box 398
Bayside, CA 95524
707-298-3548
d.page@ncrlt.org

To CDFW:

Department of Fish and Wildlife
Northern Region
619 Second Street
Eureka, California 95501
EPIMS.R1C@wildlife.ca.gov
Nicholas.VanVleet@wildlife.ca.gov
Attn: Lake and Streambed Alteration Program
Notification #EPIMS-HUM-39331-R1C

LIABILITY

The Permittee shall be solely liable for any violation of the Agreement, whether committed by the Permittee or any person acting on behalf of the 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 the Permittee to proceed with the project. The decision to proceed with the project is the Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety this Agreement if it determines that the Permittee or any person acting on behalf of the 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 the 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 the Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to the 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 the 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 the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from 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.

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

Nothing in the Agreement authorizes the Permittee or any person acting on behalf of the 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.

The Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and the Permittee. To request an amendment, the 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).

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 the 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, the 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).

EXTENSIONS

In accordance with FGC section 1605(b), the 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, the 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 FGC 1605(b) through (e).

If the Permittee fails to submit a request to extend the Agreement prior to its expiration, the Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after the Permittee signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall **expire five years** from date of execution, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. The Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

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

AUTHORIZATION

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

CONCURRENCE

Through the electronic signature by the permittee or permittee's representative as evidenced by the attached concurrence from CDFW's Environmental Permit Information Management System (EPIMS), the permittee accepts and agrees to comply with all provisions contained herein.

The EPIMS concurrence page containing electronic signatures must be attached to this agreement to be valid.

Appendix E

National Oceanic and Atmospheric Administration Fisheries Restoration Center's Programmatic Biological Opinion

From: [Bob Pagliuco - NOAA Federal](#)
To: [Andrea Hilton](#)
Cc: [Bey, Ryan A. @Waterboards](#); [Ryan, Stephen O CIV USARMY CESP \(USA\)](#); [NorthCoast](#); [CESPN-RG-Submittal](#); [Berg, Nathan](#); [Kristen Orth-Gordinier](#); [Katharine Howard](#); [Christie Moore](#); [d.page@ncrlt.org](#); [Dan Ehresman](#); [Sara Moriarty-Graves](#); [Jeffrey Jahn](#)
Subject: Re: Felt Ranch Permit Submittal: CWA 401/404 and Programmatic BOs + NOAA Coastal Consistency Determination
Date: Wednesday, August 2, 2023 10:22:28 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[PBO-monitoring_2022_final.pdf](#)

Andrea,

The NOAA Restoration Center (RC) has reviewed the North Coast Land Trust's application to the NOAA Restoration Center and U.S. Army Corps of Engineers' Restoration Program for Northern California and has determined that the Wood Creek Phase III - Felt Ranch Off-Channel Rearing Habitat Project fits within the scope of this program and will be covered under Section 7a2 of the ESA using your Army Corps 404 permit as the Federal nexus. This coverage will also require updates and a final report described in the BO and BA and the attached monitoring form to ensure compliance with the terms of this PBO. Please let me know if you have any questions and let me know when you have received your USACE 404 permit. Please provide me with an email 2 weeks prior to beginning fish removal activities and let me know if you have any questions. I will also need to approve the fish relocation areas a week prior to removal and relocation and will need daily email or text updates during fish removal and relocation activities.

Thanks,

Bob

On Wed, Jul 5, 2023 at 3:10 PM Andrea Hilton <Andrea.Hilton@ghd.com> wrote:

Dear Regional Board, USACE, NOAA Restoration Center, and USFWS,

Below please find applications to your agencies for the Felt Ranch Restoration Project. Please let us know if you have any questions or require additional information. **Links expire in 14 days.**

Regional Board and USACE 401/404	https://ghd.sendthisfile.com/KUBdHOaBVmi1QySzlXSiR7AT	Note to Ryan: Please forward to Jake Shannon if preferred. The project used the new CDFW Statutory Exemption for Restoration Projects (SERP) for CEQA. That documentation is also included. The pre-application meeting was completed virtually on December 2, 2022.
USFWS ESA Section 7 Programmatic	https://ghd.sendthisfile.com/KpuDpp4GrJtqe0sTJEvK0aVu	

Biological Opinion		
NOAA Restoration Center ESA Section 7 Programmatic Biological Opinion and Coastal Consistency Determination	https://ghd.sendthisfile.com/M8BjW0AIFozh67ywQW2aKOTm	

Andrea Hilton

Technical Director – Environmental Planning

GHD

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718 Third Street Eureka CA 95501 USA

Effective immediately, please use our new PO Box for all US Postal Service mail.

Office Mailing Address – PO Box 1010, Eureka, CA 95502 USA

D 707 267 2262 E andrea.hilton@ghd.com

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--

Bob Pagliuco

he/him/his

Marine Habitat Resource Specialist

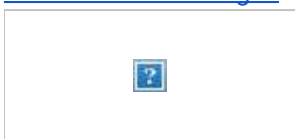
Office of Habitat Conservation, Restoration Center

NOAA Fisheries | U.S. Department of Commerce

(707) 825-5166 Office

(707) 217-7176 Cell

www.fisheries.noaa.gov



Appendix F

U.S. Fish and Wildlife Service's Programmatic Biological Opinion

From: [Andrea Hilton](#)
To: [Kristen Orth-Gordinier](#)
Subject: FW: SPN-2008-00077_ Felt Ranch Restoration Project application for PBO inclusion
Date: Sunday, July 30, 2023 8:59:38 PM
Attachments: [enclosure. Felt Ranch USFWS PBO Application-signed.pdf](#)

Please make sure this gets saved in our files, USACE has signed the application to USFWS.

Andrea Hilton
Technical Director – Environmental Planning

GHD

D 707 267 2262 E andrea.hilton@ghd.com

From: Ryan, Stephen Q CIV USARMY CESPN (USA) <Stephen.Q.Ryan@usace.army.mil>
Sent: Friday, July 28, 2023 11:25 AM
To: Nissen, Bradley D <bradley_nissen@fws.gov>
Cc: Andrea Hilton <Andrea.Hilton@ghd.com>; Kristen Orth-Gordinier <Kristen.Orth-Gordinier@ghd.com>
Subject: SPN-2008-00077_ Felt Ranch Restoration Project application for PBO inclusion

Dear Mr. Nissen:

The Corps received an application for a Department of the Army Permit from the Northcoast Regional Land Trust on July 19, 2023, concerning Department of the Army (DA) authorization for the Freshwater Creek Habitat Enhancement Project Phase II. The project would restore hydrological connectivity and increase fish habitat quality and extent in the Freshwater Creek watershed. The project will achieve hydrological connectivity between Felt Ranch wetland habitats and the Wood Creek Phase I and II projects. This project involves dewatering a section of the Phase II channels, for a total of approximately 655 feet. The Wood Creek culvert outlet under Myrtle Avenue would also be dewatered. The project extends 300 feet into the main Wood Creek Phase II channel on Northcoast Regional Land Trust property just downstream of the bridge to increase its width and remove one of the tidal sills. The project leaves the northern channel unaltered, serving only as a highflow channel. The planform layout of the regraded section of channel would match existing, leaving the south bank intact. The channel will tie into the exiting channel at elevation 4.5 feet. The next downstream tidal sill from the tie-in location, which will control the water elevation at low tide, is at elevation 5.0 feet. Approximately 300 feet of the main Phase II tidal channel would be regraded and widened, and one tidal sill would be removed. The Corps believes this project meets the criteria for inclusion to THE USFWS Programmatic Biological Opinion for Restoration Projects in California. ESA consultation for the 2022 NLAA Program was completed via a USFWS letter of concurrence to the Corps July 2022.

Project details are as follows:

Project Name: Freshwater Creek Habitat Enhancement Project Phase II

Corps File Number: SPN-2008-00077

Location: Wood Creek / Freshwater Creek (Freshwater Slough, unincorporated community of Freshwater Corners, CA; Latitude 40.782377°, Longitude -124.09049° (NAD83))

County: Humboldt County

Waterbody: Wood Creek, tributary to the tidally influenced Freshwater Slough and includes the stream-estuary ecotone.

Road: Freshwater Road

Project Type: Aquatic Habitat Enhancement

Anticipated Start Date: July 1, 2025

Description: The Felt Ranch property is largely pasture with areas of freshwater marsh that are not currently connected to Wood Creek. The goal of this project is to restore the connectivity of Wood Creek across Myrtle Avenue to create a continuum of aquatic habitats ranging from fully freshwater marsh on the Felt Ranch to brackish and fully tidal marsh habitats in lower Wood Creek. Fish rearing habitat will be created and extended throughout the Project Area. All work shall be performed during the dry season and within the Programmatic NLAA work window Humboldt Bay: July 1 through October 15.

-

Species (*Critical Habitat) Present:

- Tidewater Goby (*Eucyclogobius newberryi*)

Effects Determination and Rationale: The Corps has determined the project would affect but is not likely to adversely affect the above-listed species or their critical habitat. No work is proposed within designated critical habitat, which is limited to Freshwater Slough. However, work is proposed upstream in the Wood Creek channel complex and could result in a short-term increase in turbidity. Due to the distance between the channel disturbance in Wood Creek and Freshwater Slough downstream, turbidity impacts are unlikely to affect downstream critical habitat in Freshwater Slough. With implementation of seasonal work windows, isolation of aquatic habitat, and erosion control requirements, the Project may affect but is not likely to adversely affect federally designated critical habitat for federally listed fish species.

The project area may contain Tidewater Goby. The Corps has determined that the proposed project meets the relevant criteria for Establishment, Restoration and Enhancement of Tidal, Subtidal and Freshwater Wetlands and Riparian Restoration and Protection listed in the 2022 NLAA Program and request your concurrence with this determination.

Please let me know if you need additional information or have any questions.

Sincerely,
Stephen Ryan

Regulatory Project Manager
U.S. Army Corps of Engineers
San Francisco District, Eureka Field Office
601 Startare Dr. Box 13
Eureka, CA. 95501
(707) 443-0855
stephen.q.ryan@usace.army.mil

From: [Ryan, Stephen Q CIV USARMY CESPN \(USA\)](#)
To: [Kerry McNamee](#)
Cc: [Dan Ehresman](#); [Nissen, Bradley D](#)
Subject: RE: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures
Date: Thursday, May 29, 2025 11:43:06 AM
Attachments: [FeltRanch_NWPT_USFWS_PBOApplication_NRLT.pdf](#)

Hi Kerry,

Please see the attached, signed USFWS PBO application for NWPT.

Thanks,
Stephen

Stephen Ryan
Regulatory Project Manager
U.S. Army Corps of Engineers
San Francisco District, Eureka Field Office
601 Startare Dr. Box 13
Eureka, CA. 95501
Office: (707) 443-0855
Cell: (707) 684-1630
stephen.q.ryan@usace.army.mil

From: Kerry McNamee <Kerry.McNamee@ghd.com>
Sent: Thursday, May 29, 2025 8:45 AM
To: Ryan, Stephen Q CIV USARMY CESPN (USA) <Stephen.Q.Ryan@usace.army.mil>
Cc: Dan Ehresman <d.ehresman@nrlt.org>; Nissen, Bradley D <bradley_nissen@fws.gov>
Subject: [Non-DoD Source] FW: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Stephen,

I'm reaching out on behalf of Northcoast Regional Land Trust. Please review and sign (as Action Agency) page 22 of the attached USFWS Programmatic Biological Opinion form for their Wood Creek Phase III Felt Ranch Off-Channel Rearing Habitat Project (SPN-2008-00077).

This is coming before you because the Northwestern Pond Turtle (NWPT) was listed as an ESA candidate species after completing initial ESA consultation on this project last year. Due to the unknowns of whether the species would be listed during construction, it was decided to get coverage for the NWPT through the USFWS PBO. GHD, NRLT and USFWS have met and discussed this coverage and the measures to be included in the project to protect the NWPT. The last step is for the USACE to sign the attached form – page 22 as the Action Agency. Please let me know if you'd like to discuss further.

Thank you,

Kerry McNamee

GHD

D 707 267 2207 | E kerry.mcnamee@ghd.com

From: Nissen, Bradley D <bradley_nissen@fws.gov>
Sent: Tuesday, May 27, 2025 7:14 AM
To: Kerry McNamee <Kerry.McNamee@ghd.com>
Cc: Dan Ehresman <d.ehresman@ncrlt.org>; Miles Hartnett <Miles.Hartnett@ghd.com>; Michael Love <mlove@h2odesigns.com>
Subject: Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Kerry,

This revised form looks good to me! Please send this on to the Corps for their signature, and then once they sign, send it back to us and I'll route it through our leadership for signature.

Thanks, hope you had a nice long weekend!

Best,
Brad

~~~~~

Brad Nissen

*Fish & Wildlife Biologist*

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

---

**From:** Kerry McNamee <[Kerry.McNamee@ghd.com](mailto:Kerry.McNamee@ghd.com)>  
**Sent:** Friday, May 23, 2025 3:12 PM  
**To:** Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)>  
**Cc:** Dan Ehresman <[d.ehresman@ncrlt.org](mailto:d.ehresman@ncrlt.org)>; Miles Hartnett <[Miles.Hartnett@ghd.com](mailto:Miles.Hartnett@ghd.com)>; Michael Love <[mlove@h2odesigns.com](mailto:mlove@h2odesigns.com)>  
**Subject:** RE: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Brad,

Following up on our discussion, the requested information is attached. See below for my comments in red.

Thanks and have a nice holiday weekend,

**Kerry McNamee**

**GHD**

D 707 267 2207 | E [kerry.mcnamee@ghd.com](mailto:kerry.mcnamee@ghd.com)

---

**From:** Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)>

**Sent:** Thursday, May 15, 2025 12:45 PM

**To:** Kerry McNamee <[Kerry.McNamee@ghd.com](mailto:Kerry.McNamee@ghd.com)>; Michael Love <[mlove@h2odesigns.com](mailto:mlove@h2odesigns.com)>

**Cc:** Miles Hartnett <[Miles.Hartnett@ghd.com](mailto:Miles.Hartnett@ghd.com)>; Dan Ehresman <[d.ehresman@ncrlt.org](mailto:d.ehresman@ncrlt.org)>

**Subject:** Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Kerry,

I'm so sorry - this is a technical error that came to my attention earlier, I mentioned it to our regional office and they fixed it but I forgot to send you the latest version of the form. So, I am now attaching the latest version of the form, which has this fixed. I went ahead and mostly filled it out for you, but it will need to be resigned by Dan before it comes back to us.

A couple other things that need to be addressed in the form before anyone signs:

1. We need to include the estimate take for NWPT habitat in the take section, including temporary modification of nesting habitat. Please include acreage of impacts in that take section, and if possible send me a shapefile of those possible nesting areas that will be temporarily impacted by the project. As I recall, those potential areas will be used for staging materials and then will be available for nesting again after the project is completed. If I'm wrong about that, maybe we should chat again to make sure I'm clear. It would also be necessary to have a shapefile of the areas of potential nesting habitat that will be disturbed by the project for our files. **As discussed on the phone, the two parking lots would be paved (20x30 ft each / 0.028 ac). All other upland areas are considered temporary disturbance and computed in the application. Shapefiles attached**
2. Can you attach the project description again (I recognize it is unchanged) and then check all those boxes (or at least check all the boxes) so that this latest version of the form shows that those materials were submitted with this coverage. Mostly just for record keeping purposes as this will over-write the earlier form in our system. **Attached and boxes checked.**
3. In the general species measures, ASP-4 and ASP-5 were both considered "not applicable", but they are indeed applicable to pond turtle. Please update the form by checking those boxes too (if you want to discuss this further, no problem). **Updated.**

4. Lastly, all the General Reptile measures were checked as "not applicable" - I think that was just a mistake, please check all of those as "Will be implemented" too, please. **The General Reptile measure boxes have been updated to be checked with the exception of REP-2 which has the modified measure box checked. This project will not be using wildlife exclusion fencing and instead will utilize environmental monitoring (see modified measure WPT-4). Thus the REP-2 measure would be replaced by the modified WPT-4 measure.**

That should do it - thanks for your patience on this! Updated form attached.

Cheers,  
Brad

~~~~~

Brad Nissen

Fish & Wildlife Biologist

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

From: Kerry McNamee <Kerry.McNamee@ghd.com>

Sent: Thursday, May 15, 2025 10:24 AM

To: Nissen, Bradley D <bradley_nissen@fws.gov>; Michael Love <mlove@h2odesigns.com>

Cc: Miles Hartnett <Miles.Hartnett@ghd.com>; Dan Ehresman <d.ehresman@ncrlt.org>

Subject: RE: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Brad,

Attached is the PBO form. I'm having a tech issue with the form in the animal grouping categories: I've toggled the correct Yes/No boxes, however some of them revert back to the opposite Yes/No. Please assume the following:

- Amphibians: No
- Reptiles: Yes
- Birds: No
- Mammals: No
- Invertebrates: No

- Fish: Yes
- Plants: No

Please let me know if you need anything else on this. I think we're all squared away.

Thanks for your help with this – good to have this coverage in case the NWPT gets listed in the next two years.

Kerry McNamee

GHD

D 707 267 2207 | E kerry.mcnamee@ghd.com

From: Nissen, Bradley D <bradley_nissen@fws.gov>

Sent: Monday, May 12, 2025 9:28 AM

To: Kerry McNamee <Kerry.McNamee@ghd.com>; Michael Love <mlove@h2odesigns.com>

Cc: Miles Hartnett <Miles.Hartnett@ghd.com>; Dan Ehresman <d.ehresman@ncrlt.org>

Subject: Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Kerry, sounds great - thanks!

Brad

~~~~~

Brad Nissen

*Fish & Wildlife Biologist*

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

---

**From:** Kerry McNamee <[Kerry.McNamee@ghd.com](mailto:Kerry.McNamee@ghd.com)>

**Sent:** Monday, May 12, 2025 8:38 AM

**To:** Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)>; Michael Love <[mlove@h2odesigns.com](mailto:mlove@h2odesigns.com)>

**Cc:** Miles Hartnett <[Miles.Hartnett@ghd.com](mailto:Miles.Hartnett@ghd.com)>; Dan Ehresman <[d.ehresman@ncrlt.org](mailto:d.ehresman@ncrlt.org)>

**Subject:** RE: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Great – thanks Brad. I'll get the form sent over shortly. No elements of the Project have changed regarding the need for a new PD.

**Kerry McNamee**

**GHD**

D 707 267 2207 | E [kerry.mcnamee@ghd.com](mailto:kerry.mcnamee@ghd.com)

---

**From:** Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)>  
**Sent:** Friday, May 9, 2025 5:09 PM  
**To:** Kerry McNamee <[Kerry.McNamee@ghd.com](mailto:Kerry.McNamee@ghd.com)>; Michael Love <[mlove@h2odesigns.com](mailto:mlove@h2odesigns.com)>  
**Cc:** Miles Hartnett <[Miles.Hartnett@ghd.com](mailto:Miles.Hartnett@ghd.com)>; Dan Ehresman <[d.ehresman@ncrlt.org](mailto:d.ehresman@ncrlt.org)>  
**Subject:** Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Kerry et al.,

These modified measures are satisfactory to our office. You can move forward with submitting the updated Section 7(a) form for this project (attached), no need to resubmit previous project description documents unless anything has changed. Just want to make sure we have an updated version of this on file with the NWPT boxes checked and all required signatures. Let me know if you have any questions or would like me to review the form before it is signed. Thanks!

Have a good weekend as well,  
Brad

~~~~~

Brad Nissen

Fish & Wildlife Biologist

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

From: Kerry McNamee <Kerry.McNamee@ghd.com>
Sent: Friday, May 9, 2025 1:21 PM
To: Nissen, Bradley D <bradley_nissen@fws.gov>; Michael Love <mlove@h2odesigns.com>
Cc: Miles Hartnett <Miles.Hartnett@ghd.com>; Dan Ehresman <d.ehresman@ncrlt.org>
Subject: RE: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Hi Brad,

Here is the updated measure modification doc ("Rev1") which states that ditch backfilling would occur from June 15 to Sept 30th (Measure WPT-3).

Please let us know when you anticipate the final approvals of this.

Thanks and have a good weekend.

Kerry McNamee

GHD

D 707 267 2207 | E kerry.mcnamee@ghd.com

From: Nissen, Bradley D <bradley_nissen@fws.gov>

Sent: Monday, May 5, 2025 5:04 PM

To: Michael Love <mlove@h2odesigns.com>

Cc: Miles Hartnett <Miles.Hartnett@ghd.com>; Kerry McNamee <Kerry.McNamee@ghd.com>; Dan Ehresman <d.ehresman@ncrlt.org>

Subject: Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Mike,

That extra condition on restricting the timing of the infilling of the ditch would be fantastic, thanks very much! If you all could please add that to the measures that would be much appreciated.

Thanks,
Brad

~~~~~

Brad Nissen

*Fish & Wildlife Biologist*

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

---

**From:** Michael Love <[mlove@h2odesigns.com](mailto:mlove@h2odesigns.com)>

**Sent:** Monday, May 5, 2025 10:54 AM

**To:** Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)>

**Cc:** Miles Hartnett <[Miles.Hartnett@ghd.com](mailto:Miles.Hartnett@ghd.com)>; Kerry McNamee <[Kerry.McNamee@ghd.com](mailto:Kerry.McNamee@ghd.com)>; Dan Ehresman <[d.ehresman@ncrlt.org](mailto:d.ehresman@ncrlt.org)>

**Subject:** Re: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

Brad

In October the inwater work would be similar to what occurs in preceding months, with excavation of the new Felt Slough channel, construction of hummocks, and possibly completion of the culvert construction and rewatering of the new Wood Creek channel. Conditions on backfilling of the Felt Ditch could easily be included to restrict this work activity to between June 15th and September 30th without any impacts to project schedule/cost. Should we add that to the measures?

Thanks for your timely review.

Mike

On Wed, Apr 30, 2025 at 11:57 AM Nissen, Bradley D <[bradley\\_nissen@fws.gov](mailto:bradley_nissen@fws.gov)> wrote:

Miles,

Thanks again for this document. I just had one follow-up question about the proposed modifications. On our call on 4/21 we discussed getting some additional information on what type of in-water work would occur in October (the expanded work window time period) and where it would occur? I'm particularly interested in the proposed timing of the ditch-filling that is proposed as part of the project, to be sure that occurs during the active season and not in October.

Once that's clarified, I think we'll be all set, but I am running this by a couple other folks internally too to make sure I'm not missing anything.

Thanks,

Brad

~~~~~

Brad Nissen

Fish & Wildlife Biologist

Ecological Services | US Fish & Wildlife Service

Arcata FWO

707-825-5117

From: Miles Hartnett <Miles.Hartnett@ghd.com>

Sent: Friday, April 25, 2025 12:27 PM

To: Nissen, Bradley D <bradley_nissen@fws.gov>

Cc: Kerry McNamee <Kerry.McNamee@ghd.com>; Dan Ehresman <d.ehresman@ncrlt.org>; Mike Love (mlove@h2odesigns.com) <mlove@h2odesigns.com>

Subject: [EXTERNAL] Wood Creek Phase III (Felt Ranch)- NWPT conference measures

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Good afternoon Brad,

Please see the attached memo detailing the proposed conservation measures for NWPT to be implemented for the Wood Creek Phase III Restoration Project.

We appreciate your time and guidance in conferencing for the NWPT.

Please let us know if you have any further edits or suggestions as well as next steps for obtaining coverage under the PBO.

Best,

Miles

Miles Hartnett

Wildlife Biologist

GHD

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718 Third Street Eureka CA 95501 USA

Effective immediately, please use our new PO Box for all US Postal Service mail.

Office Mailing Address – PO Box 1010, Eureka, CA 95502 USA

D 707 267 2224 **E** miles.hartnett@ghd.com

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Michael Love, P.E.

Principal Engineer

Michael Love & Associates, Inc.

707-822-2411 Ext. 1/ mlove@h2odesigns.com

Office: Jacoby Storehouse, 791 8th Street, Suite R, Arcata CA

Mail: PO Box 4477 Arcata, CA 95518

MLA Website: <http://h2odesigns.com>

Appendix G

California Coastal Commission Consistency Determination

From: [Barrera, Alexis@Coastal](mailto:Barrera,Alexis@Coastal)
To: [Bob Pagliuco - NOAA Federal](#)
Cc: mail=joe.pecharich@noaa.gov; [Andrea Hilton](#); [Kristen Orth-Gordinier](#)
Subject: RE: Wood Creek Phase III Felt Ranch Project
Date: Friday, September 22, 2023 2:48:32 PM
Attachments: [image001.png](#)

Some people who received this message don't often get email from alexis.barrera@coastal.ca.gov. [Learn why this is important](#)

Hi Bob,

Great timing, I just got the final approval from Cassidy yesterday. Please see our written response below:

The Commission staff reviewed the information you submitted on the Wood Creek Phase III Felt Ranch Project in Humboldt County, proposed by the NOAA Restoration Center for implementation in 2023. The goals of this project are to restore the historical connectivity and function of the existing freshwater wetlands on the Felt Ranch property to the tidal channels of lower Wood Creek and Freshwater Slough. The project would construct off-channel rearing habitat on Wood Creek, rerouting Wood Creek out of a road ditch to drain into Felt Slough, plant riparian vegetation, and install large wood features.

The Commission staff agrees with your determination that the proposed project complies with the provisions of CD-0006-22, the general consistency determination concurred with by the Commission in December 2022 for habitat improvement projects in the coastal zone of northern and central California (Del Norte through San Luis Obispo County), and which is designed to primarily benefit threatened and endangered salmonid species. The proposed project falls within the "Improvements to stream crossings and fish passage", "Riparian restoration and protection", "Restoration and enhancement of off-channel and side-channel habitat", "Floodplain restoration", and "Restoration and enhancement of tidal, subtidal, and freshwater wetlands" project categories in CD-0006-22. The NOAA-RC will provide the Commission with information on implementation of this project in its 2023 Annual Report, which will cover projects started and completed in 2023 and multi-year projects started in 2023 or earlier.

Please contact me should you have any questions regarding this matter.

Best,

Alexis Barrera

California Coastal Commission

[Environmental Scientist: Energy, Ocean Resources and Federal Consistency](#)

455 Market Street, Suite 300

San Francisco, California 94105

alexis.barrera@coastal.ca.gov

From: Bob Pagliuco - NOAA Federal <bob.pagliuco@noaa.gov>

Sent: Thursday, September 21, 2023 7:54 AM

To: Barrera, Alexis@Coastal <Alexis.Barrera@coastal.ca.gov>

Cc: mail=joe.pecharich@noaa.gov <joe.pecharich@noaa.gov>; Andrea Hilton <Andrea.Hilton@ghd.com>; Kristen Orth-Gordinier <Kristen.Orth-Gordinier@ghd.com>
Subject: Re: Wood Creek Phase III Felt Ranch Project

Hello Alexis,

Just checking in. Do you have an update on the processing of this application?

Thanks!

Bob

On Fri, Aug 18, 2023 at 5:43 AM Bob Pagliuco - NOAA Federal <bob.pagliuco@noaa.gov> wrote:

Alexis,

The NOAA Restoration Center has played a key role in developing restoration efforts on Wood Creek to restore freshwater and brackish habitats since 2009. We put the Wood Creek Phase II project under the 2013 NOAA/CCC CD and it has resulted in a multitude of species utilizing the restored wetland habitat.

I am pleased to submit the Wood Creek Phase III Felt Ranch Project for inclusion under our recently renewed CCC CD. This project fits within the program and will restore the historical connectivity and function of the existing freshwater wetlands on the Felt Ranch property to the tidal channels of lower Wood Creek and Freshwater Slough, thus expanding the existing stream-estuary ecotone of Freshwater Creek and Humboldt Bay. The project meets the following project types: (1) Improvements to stream crossings and fish passage; (4) Riparian restoration and protection; (5) Restoration and enhancement of off-channel and side-channel habitat; (6) Floodplain restoration; and (7) Restoration and enhancement of tidal, subtidal, and freshwater wetlands.

I have been working with the Buckeye Conservancy, CDFW, North Coast Regional Land Trust, GHD and others on this project for the past 4 years and Kristen (copied here) is the contact for any further questions. The team hopes to implement the project next summer/fall or the following year, depending on funding availability. The application and materials are quite large so I sent the materials as a google drive link. Please let me know if you have any questions or concerns.

Thanks,

Bob

--

Bob Pagliuco [Felt Ranch NOAA CD Application Package-FINAL.pdf](#) Error! Filename not
he/him/his

Marine Habitat Resource Specialist
Office of Habitat Conservation, Restoration Center
NOAA Fisheries | U.S. Department of Commerce
(707) 825-5166 Office
(707) 217-7176 Cell
www.fisheries.noaa.gov

--

Bob Pagliuco
he/him/his
Marine Habitat Resource Specialist
Office of Habitat Conservation, Restoration Center
NOAA Fisheries | U.S. Department of Commerce
(707) 825-5166 Office
(707) 217-7176 Cell
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Appendix H

California Department of Fish and Wildlife Restoration Management Permit

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

Northern Region
601 Locust Street
Redding, CA 96001

**RESTORATION MANAGEMENT PERMIT
NO. RMP 2023-0007-R1
WOOD CREEK PHASE III – OFF-CHANNEL REARING HABITAT PROJECT**

This Restoration Management Permit (RMP) is issued to the Northcoast Regional Land Trust (Permittee) by the California Department of Fish and Wildlife (CDFW) for the Wood Creek Phase III – Off-Channel Rearing Habitat Project (Project) pursuant to Fish and Game Code section 2081. This RMP authorizes Permittee, and its authorized individuals, to take¹ the Covered Species (as defined below) when such take results from the restoration, management, and monitoring activities described below (defined later in this RMP as Covered Activities) in accordance with the terms and conditions set forth below:

Permittee: Northcoast Regional Land Trust
Mailing Address: Dan Ehresman, Executive Director
PO Box 398, Bayside, CA 95524
707-822-2242
d.ehresman@ncrlt.org

Take Authorization for California Endangered Species Act Listed Species

The California Endangered Species Act (CESA) prohibits the take of any species designated by the Fish and Game Commission as an endangered, threatened, or candidate species, except as authorized under the Fish and Game Code. (Fish & G. Code, §§ 2080, 2085). Fish and Game Code section 2081, subdivision (a), allows CDFW to authorize take and possession of endangered, threatened, and candidate species for scientific, educational, or management purposes. “Management,” as used in Section 2081, subdivision (a), has the same meaning as “scientific resources management” in Fish and Game Code section 2061, and includes, among other activities, habitat acquisition, restoration and maintenance, propagation, live trapping, transplantation, and regulated taking, as needed to recover threatened and endangered species. (*San Bernardino Valley Audubon Society v. City of Moreno Valley* (1996) 44 Cal.App.4th 593, 604-605; *Planning & Conservation League v. Department of Fish & Game* (1997) 55 Cal.App.4th 479, 489-490.)

Covered Species Subject to Take Authorization

¹ Fish and Game Code section 86 defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

This RMP authorizes take of the species listed below in Table 1 (Covered Species) subject to the terms and conditions of this RMP.

Table 1. Covered Species

Common Name	Scientific Name	Protected Status	Source of Take Authorization
Coho Salmon	<i>Oncorhynchus kisutch</i>	CESA threatened species (Fish & G. Code, § 2050 et seq.; Cal Code Regs., tit. 14, § 670.5, subd. (b)(2)(D))	Fish & G. Code, § 2081, subd. (a)
Longfin Smelt	<i>Spirinchus thaleichthys</i>	CESA threatened species (Fish & G. Code, § 2050 et seq.; Cal Code Regs., tit. 14, § 670.5, subd. (b)(2)(E))	Fish & G. Code, § 2081, subd. (a)

Summary of Project Activities

The Project includes restoration, management, operations, maintenance, and monitoring activities designed to benefit the Covered Species and other species. These activities, to the extent they result in take of the Covered Species, may be authorized pursuant to Fish and Game Code section 2081. The Project is expected to build on previous restoration efforts located immediately downstream in Wood Creek, and will improve overall ecological function and restore natural processes within important habitat for the Covered Species and other native fish and wildlife species. CDFW has determined and expects that the Project will benefit, aid the conservation of, and assist in the recovery of the Covered Species.

Project Location:

The Project is located on Wood Creek, which is a tributary of lower Freshwater Creek. The Project is located in the County of Humboldt, State of California; Latitude 40.782393 and Longitude -124.090846; Assessor's Parcel Number 403-071-060-000. The project area (Project Area) is depicted in Exhibit 1, which is attached hereto and incorporated herein by this reference.

Project Description:

The Project is designed to improve overall ecological function and restore natural processes in Wood Creek within both freshwater and estuarine habitat. The Project includes rerouting and reconfiguring Wood Creek, creating and connecting off-channel habitat, installing large wood features, and planting native species. The Project intends to restore 45 acres of terrestrial and aquatic habitat. Project components (collectively, Covered Activities) include:

1. Channel Modifications - The Project will reroute Wood Creek from its current alignment under Wood Gulch Road to a new alignment under Felt Road (via a newly constructed culvert). Once realigned, Wood Creek will drain into the newly constructed Felt Slough, which will then flow into a previous phase of restoration (Wood Creek Phase II). Felt Slough will consist of one main channel and four smaller secondary channels. Multiple alcoves will be constructed to capture water flowing from perennial freshwater seeps. An on-channel pond will be created to provide high quality rearing habitat for salmonids and other native species. Portions of the existing Felt Ranch Ditch, which is a straight and relatively deep drainage feature, will be filled. Additionally, five shallow ponds will be graded into the existing Felt Ranch Ditch footprint to create seasonal breeding habitat for herpetofauna.
2. Large Wood Installation – The Project will install large wood features in aquatic and terrestrial habitat. The installation of large wood will provide instream habitat for fish, and upland habitat for native wildlife.
3. Revegetation - Riparian planting hummocks will be revegetated with native species including conifers that will provide future sources of shade and large wood for fish and wildlife habitat.

Take of individuals of the Covered Species in the form of mortality (“kill”) may occur as a result of Covered Activities such as instream work conducted during channel modifications. Take of individuals of the Covered Species may also occur as a result of Covered Activities in the form of pursue, catch, or capture, or attempt to do so from instream work conducted during channel modifications.

Authorized Take Level

The Project is authorized to take, in the form of mortality AND/OR capture and relocation, individuals of the Covered Species as follows:

Table 2. Authorized Take Level

Common Name	Authorized Take	Take Mechanism
Coho Salmon	1000 Juveniles	Pursue, catch, capture (1000) Kill (30)

Longfin Smelt	50 Adults 50 Juveniles	Pursue, catch, capture (50 adults) Kill (5 adults) Pursue, catch capture (50 juveniles) Kill (5 juvenile)
---------------	---------------------------	--

Permittee shall not engage in any Project-related activities that will result in take that is in excess of the estimates shown above. If Permittee anticipates it will exceed one or more take estimates in this RMP, Permittee shall cease all Project-related activities that could result in take and consult with CDFW. If CDFW determines, in its discretion, that the take estimates should be increased, it shall amend the RMP accordingly.

Conditions of Approval

CDFW's issuance of this RMP and the authorization to take and possess Covered Species are subject to Permittee's compliance with and implementation of the following conditions of approval:

I. General Conditions of Approval

1. Legal Compliance. Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this RMP or adopted thereafter.
2. LSA Agreement Compliance. The Project is authorized by a Lake or Streambed Alteration Agreement (LSAA; EPIMS-HUM-39331-R1C). Permittee shall implement and adhere to the mitigation measures and conditions related to the Covered Species in the LSAA for the Project executed by CDFW pursuant to Fish and Game Code section 1600 et seq.
3. ESA Compliance. The National Marine Fisheries Service (NMFS) provided coverage under their programmatic biological opinion (Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson–Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the NOAA Restoration Center and U.S. Army Corps of Engineers' Restoration Program for Northern California) (NMFS PBO) and incidental take statement (NMFS ITS) (WCRO-2021-02830) pursuant to the federal Endangered Species Act of 1973 (ESA), as amended. (16 U.S.C. §§ 1531-1544.). Additionally, the United States Fish and Wildlife Service (USFWS) also provided coverage under their programmatic biological opinion (Programmatic Biological and Conference Opinion California Statewide Programmatic Restoration Effort) (USFWS BO) and incidental take statement (USFWS ITS) (2022-0005149-S7) pursuant to the federal ESA, as amended. (16 U.S.C. §§ 1531-1544.). Permittee shall implement and adhere to the terms and conditions related to the Covered Species in NMFS PBO, NMFS ITS, USFWS PBO and USFWS ITS for the Project. For purposes of this RMP, where the terms and conditions for the Covered Species in the federal authorization are less protective of the Covered Species or otherwise conflict with this RMP, the conditions of approval set forth in this RMP shall control.

4. Compliance with Other Federal or State Permits or Authorizations. Permittee shall implement and adhere to the terms and conditions of these permits and approvals:
 - a. U.S. Army Corps of Engineers, Section 404 Clean Water Act Permit (In Progress)
 - b. North Coast Regional Water Quality Control Board - Notice of Applicability (NOA) for Coverage under the State Water Resources Control Board Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide Order WQ 2022-0048-DWQ
5. Project Area Access. Permittee shall provide CDFW with reasonable access to the Project Area and shall cooperate fully with CDFW's efforts to verify compliance with or the effectiveness of this RMP.
6. RMP Compliance. Permittee shall make compliance with the terms, conditions, and requirements of this RMP a condition of all contracts and agreements that are made for the purpose of completing any Project-related activities. Permittee shall provide CDFW copies of any such contracts or agreements upon request.
7. Permittee Responsible for Authorized Personnel. Permittee, operating under the authority of this RMP, is responsible for the actions of non-permitted individuals assisting with management and monitoring activities as outlined in the Project description above.
8. Documentation at Project Area. Permittee or the Designated Biologist shall have a copy of this RMP in their possession when undertaking the permitted activities.
9. Liability. All terms and conditions of this RMP shall be binding upon Permittee and its authorized individuals engaged in the permitted activity. Notwithstanding California Civil Code section 1431 or any other provision of law, Permittee and its authorized individuals are jointly and severally liable for performance of all terms, conditions, and obligations of this RMP. Any failure by one of more persons to comply with any term, condition and obligation set forth in this RMP may, at CDFW's sole discretion, be deemed a failure to comply by Permittee.
10. Designated Biologist(s). The Permittee shall retain one or more Designated Biologist(s) with expertise in the areas of Covered Species biology, including handling, collecting, and relocating Covered Species, Covered Species habitat relationships, and biological monitoring of Covered Species in aquatic habitat. Permittee shall submit to CDFW in writing the name, qualifications, business address, telephone number, and email address of the Designated Biologist at least 30 days before commencing Project activities that could result in take of the Covered Species. CDFW shall provide written approval or denial of proposed Designated Biologist within seven business days of receiving this information. Permittee shall also obtain CDFW written approval in advance if the Designated Biologist must be changed. Permittee shall allow the Designated Biologist to communicate freely with CDFW. Permittee shall ensure that non-disclosure

agreements or clauses that restrict communication with CDFW do not exist in any Designated Biologist's contracts or agreements related to the Project except as necessary to protect proprietary technology or proprietary information unrelated to fish and wildlife.

II. Restoration Work Conditions of Approval

1. Restoration Work Monitoring. The Designated Biologist shall be present and shall visually monitor the Project Area and offer pertinent advice to persons implementing Project activities prior to and during dewatering, exclusion and aquatic species relocation work to ensure that incidental take to the Covered Species is minimized. The Designated Biologist shall be on site during all dewatering, exclusion and aquatic species relocation work to capture, handle, and safely: (a) translocate the Covered Species to suitable relocation habitat outside of the Project Area pursuant to an approved relocation plan; or (b) move the Covered Species out of harm's way to another location in the Project Area if encountered during Project activities.
2. Movement of Covered Species Out of Harm's Way. This RMP authorizes the Designated Biologist to capture, temporarily possess, and relocate Covered Species to reduce harm or mortality in connection with otherwise lawful Project activities. When moving Covered Species out of harm's way, Permittee shall relocate the individuals of the Covered Species to a safe location on the Project Area as near as reasonably practicable to the location at which they are originally found. Relocation of Covered Species for the purposes of moving out of harm's way shall only be permitted pursuant to an authorized relocation plan to be approved by CDFW pursuant to this section.
 - a. Covered Species Dewatering, Exclusion, and Relocation Plan.
 - i. Prior to any Project activities with the potential to result in take of the Covered Species, the Designated Biologist shall identify suitable habitat for the relocation of Covered Species.
 - ii. In those specific cases where it is deemed necessary to work in flowing water, the work area shall be isolated and all flowing water shall be temporarily diverted around the work site to maintain downstream flows during construction. The contiguous length of the dewatered stream channel, and the duration of any single dewatering event, shall be minimized to the greatest extent practicable.
 - iii. Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed block nets or screens. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily, or more frequently as needed, and cleaned of debris to permit free flow of

water. Block nets shall be placed and maintained throughout the dewatering period at the upper and lower extent of the areas where fish will be removed. Net placement is temporary and will be removed once dewatering has been accomplished or construction work is complete for the day.

- iv. The Designated Biologist(s) shall capture and relocate listed species prior to construction of the water diversion structures (e.g., cofferdams). The Designated Biologist(s) shall note the number of listed species observed in the affected area, the number and species of fish relocated, where they were relocated to, and the date and time of collection and relocation.
 - v. Prior to dewatering, the best means to bypass flow through the work area shall be determined to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates. Additionally, prior to dewatering a construction site the Designated Biologist(s) shall capture and relocate fish and amphibians to avoid direct mortality and minimize adverse effects. Cofferdams and stream diversion systems shall remain in place and fully functional throughout the construction period.
- b. Work Period. Relocation/movement out of harm's way of Covered Species shall only occur between June 1 and October 31 of each year. CDFW staff may approve changes to the work period without a formal amendment of this RMP. All approved changes shall be in writing.
 - c. Notify CDFW of Covered Species Relocation. The Permittee shall notify the CDFW contact for the RMP at least five business days prior to Covered Species relocation/movement out of harm's way.
3. Mortality or Injury of Covered Species. If any dead or injured individuals of the Covered Species are found, whether during relocation/movement out of harm's way, or otherwise, Permittee shall contact CDFW Environmental Scientist Nick Van Vleet by phone or email immediately at 707-298-4175 or Nicholas.VanVleet@wildlife.ca.gov. CDFW staff will coordinate with NMFS and USFWS to review the activities resulting in take and to determine if additional protective measures are required.

III. Monitoring and Reporting Conditions of Approval

1. Monitoring of Ongoing Implementation.
 - a. Revegetation - Following construction, monitoring will occur for invasive species removal, plant re-establishment, and wetland recovery.
2. Annual Report. By mail or email, Permittee shall provide CDFW a written annual report of Project activities and results each year by January 15. The report shall

include, at minimum:

- a. Relocation. The report shall include a description of the location where Covered Species were removed and the release site, including: photographs; the date and time of the relocation effort; a description of the equipment and methods used to collect, hold, and transport Covered Species; the number of individuals of the Covered Species relocated; the number of Covered Species injured or killed; a brief narrative of the circumstances surrounding listed Covered Species injuries or mortalities; and a description of any problems which arose during the relocation activities and a statement as to whether or not the activities had any unforeseen effects.
 - b. Monitoring. The report shall summarize annual monitoring activities and will include the number of all Covered Species captured; the life stage of the Covered Species captured and/or tagged; the number and species of Covered Species injured or killed; a brief narrative of the circumstances surrounding Covered Species injuries or mortalities; and a description of any problems which arose during monitoring activities and a statement as to whether or not the activities had any unforeseen effects.
 - c. Take Table. Completed take tables from this RMP with the addition of added columns to include actual take and actual mortality. The form of the take table is included as Exhibit 3, which is attached hereto and incorporated herein by this reference.
 - d. Field Survey Forms. California Native Species Field Survey forms for listed or rare species, including all information specified in CDFW's *Instructions for Submitting Data to the CNDDDB*, available online:
<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>
3. CDFW Contact for Reporting Requirements. Permittee shall submit all required reports to the following CDFW contact:

Nicholas Van Vleet
619 Second Street
Eureka, CA 95501
707-298-4175
Nicholas.VanVleet@wildlife.ca.gov

Failure to submit the information outlined above may result in suspension or revocation of this RMP, preclude renewal of this RMP, or impact the eligibility of responsible parties to renew or secure subsequent permits or approvals from CDFW.

Contacts

Permittee:

Dan Ehresman
PO Box 398
Bayside, CA 95524
707-822-2242
d.ehresman@ncrlt.org

California Department of Fish and Wildlife:

Nicholas Van Vleet
619 Second Street
Eureka, CA 95501
707-298-4175
Nicholas.VanVleet@wildlife.ca.gov

Effective Date and Termination

The effective date of this RMP shall be the date of execution, and unless renewed, amended, or revoked, this RMP will terminate five years from the effective date (Termination Date).

Renewal

If Permittee is unable to complete the Project activities described in this RMP by the Termination Date, Permittee may request in writing that CDFW renew the RMP without any change in the terms and conditions, which request CDFW may grant in its reasonable discretion. A written request to renew the RMP must be received by CDFW at least sixty days prior to termination of the original RMP. If CDFW determines renewal is warranted, it shall approve the renewal by reissuing the RMP without any change in the terms and conditions and with a new Termination Date.

Amendment

Other than an extension of the Termination Date pursuant to the renewal provisions of this RMP, no change in the terms and conditions of this RMP shall be effective unless it complies with this section.

1. Amendment by Mutual Agreement. This RMP may be amended by CDFW and the Permittee and shall become effective when a written amendment is signed by both CDFW and the Permittee. This RMP may also be amended to transfer the permit to a new permittee and shall become effective when a written amendment is signed by CDFW, the Permittee, and the proposed new permittee. Any signed written amendment shall be appended to this RMP.
2. Unilateral Amendment or Termination by CDFW. CDFW may amend or terminate this RMP without the concurrence of Permittee: (a) as required by law; (b) if it

determines that continued implementation of the Project as authorized by this RMP would jeopardize the continued existence of the Covered Species; or (c) If there are substantial changes in conditions, including changes in species status or changes in conditions that may affect other fish and wildlife resources.

Suspension and Revocation

CDFW may issue a written decision to suspend or revoke this RMP if Permittee fails to complete the Project as described in the Project Description, fails to comply with any term or condition of this RMP, or fails to commence Project activities within four years from the effective date.

Disclaimer

The Permittee understands and recognizes that this RMP does not constitute or imply compliance with other applicable state or federal laws and regulations and does not create an entitlement to proceed with the Project.

CDFW shall incur no fiscal obligation under this RMP.

California Environmental Quality Act (CEQA) Compliance

The Humboldt County Department of Public Works submitted a request for concurrence to the CDFW Director pursuant to Public Resources Code section 21080.56, subdivision (e), on May 9, 2023. The Lead Agency received concurrence from the CDFW Director that the Project meets the qualifying criteria set forth in subdivisions (a) to (d), inclusive, of the same section of the Public Resources Code. The Lead Agency filed a Notice of Exemption with the State Clearinghouse on June 14, 2023. CDFW, in its independent judgement, has also determined that the proposed Project complies with the statutory exemption for restoration projects pursuant to CEQA (Pub. Resources Code, § 21080.56).

Findings Pursuant to CESA:

These findings are intended to document CDFW's compliance with CESA. This RMP authorizes the take of CESA Covered Species. (Fish & G. Code § 2081, subd. (a).)

CDFW finds based on the results of site visits, and the administrative record of proceedings, that issuance of this RMP complies with and is consistent with CESA:

(1) Issuance of this RMP is consistent with and furthers the state policies to:

- a. Conserve, protect, restore, and enhance endangered and threatened species and the habitat on which they depend, as set forth in Fish and Game Code sections 2052 and 2055;
- b. Encourage the preservation, conservation, and maintenance of wildlife resources under the jurisdiction and influence of the state, as set forth in Fish and Game Code sections 1801 and 1802; and

- c. Ensure that CDFW use ecosystem-based management informed by credible science in all resource management decisions to the extent feasible, as set forth in Fish and Game Code sections 43 and 703.3.
- (2) Take of CESA Covered Species as defined in this RMP is for “scientific, educational, or management purposes” within the meaning of Fish and Game Code section 2081, subdivision (a); specifically, take of CESA Covered Species is for restoration management purposes;
- (3) The measures required by this RMP are roughly proportional in extent to any impact on the CESA Covered Species that is caused by the Project (Fish & G. Code, § 2052.1);
- (4) The measures required by this RMP maintain Permittee’ project purpose to the greatest extent possible (Fish & G. Code, § 2053); and
- (5) Issuance of this RMP will not jeopardize the continued existence of the CESA Covered Species. (Fish & G. Code, § 2053.) Moreover, CDFW’s finding is based, in part, on CDFW’s express authority to amend the terms and conditions of this RMP without concurrence of Permittee as necessary to avoid jeopardy and as required by law.

CDFW finds this RMP and the Project will further the interests of the public and the State of California, and not impair the public trust or substantially interfere with trust resources, uses, or values. CDFW further finds it has duly exercised its responsibility as the State’s designated trustee for fish and wildlife, and in consideration of its public trust obligations generally, CDFW finds the Project will benefit, further the conservation of, and assist in the recovery of the CESA Covered Species.

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

DocuSigned by:
Tina Bartlett
1D82ADF7303A474

Tina Bartlett, Regional Manager
Northern Region
California Department of Fish and Wildlife
Redding, California

Date: 12/15/2023

Exhibits:

- 1. Map Depicting Project Area
- 2. Take Table Template

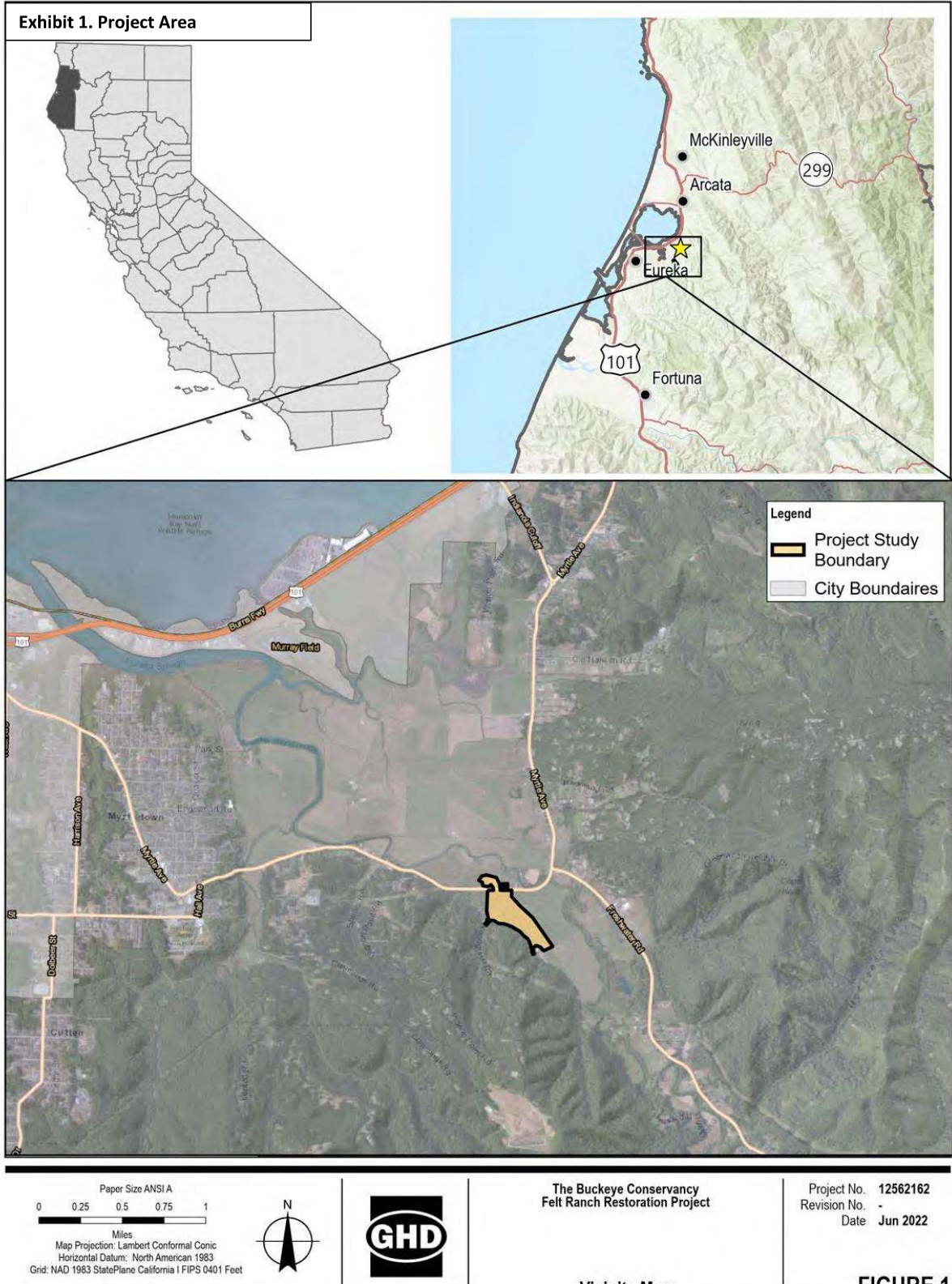


Exhibit 2**Table 3. Take Table**

Common Name	Expected Take	Authorized Take Mechanism	Actual Take (Capture)	Actual Take (Kill)	Comments
Coho Salmon	1000	Pursue, catch, capture (1000) Kill (30)			
Longfin Smelt	50 Adults 50 Juveniles	Pursue, catch, capture (50 adults) Kill (5 adults) Pursue, catch capture (10 juveniles) Kill (1 juvenile)			

Appendix I

Humboldt County Conditional Use Permit

**RESOLUTION OF THE ZONING ADMINISTRATOR
OF THE COUNTY OF HUMBOLDT**

Resolution Number 23-

Record Number: PLN-2023-18261

CONDITIONAL USE PERMIT APPROVAL

**ASSESSOR PARCEL NUMBER(S) 403-061-034, 403-071-046, 403-071-052,
403-071-056, 403-071-058, 403-071-060, 403-071-061, 402-241-009, and 402-291-015**

**MAKING THE REQUIRED FINDINGS FOR CERTIFYING COMPLIANCE
WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND
CONDITIONALLY APPROVING THE NORTH COAST REGIONAL LAND
TRUST CONDITIONAL USE PERMIT**

WHEREAS, the owners of the involved properties submitted an application and evidence in support of approving a Conditional Use Permit for watershed restoration and enhancement activities; and

WHEREAS, the County Planning Division has reviewed the submitted application and evidence and has referred the application and evidence to involved reviewing agencies for site inspections, comments and recommendations; and

WHEREAS, the Planning Division, the lead Department pursuant to Section 202 of Resolution No. 77-29 of the Humboldt County Board of Supervisors, has received information showing that the project has been found to be exempt from environmental review pursuant to section 21080.56 of the California Environmental Quality Act (CEQA) which provides a statutory exemption for certain restoration projects (SERP). A concurrence determination was made by the Director of the California Department of Fish & Wildlife (CDFW) on June 13, 2023 (Concurrence No. 21080.56-2023-028-R1); and

WHEREAS, Attachment 2 in the Planning Division staff report includes evidence in support of making all of the required findings for approving the proposed project for which a Conditional Use Permit has been requested (Case Number PLN-2023-18261); and

WHEREAS, the Humboldt County Zoning Administrator held a duly-noticed public hearing on December 21, 2023, and reviewed, considered, and discussed the application for a Conditional Use Permit and reviewed and considered all evidence and testimony presented at the hearing.

NOW, THEREFORE, be it resolved, determined, and ordered that the Zoning Administrator makes the following findings:

PROJECT DESCRIPTION

- 1. FINDING:** A Conditional Use Permit (CUP) for watershed restoration and enhancement activities along Wood Creek, a tributary to Freshwater Slough. Though the watershed is small the creek flows year-round draining lands on the east side of Pigeon Point Road. Project activities are proposed on several parcels within the Freshwater area located near the intersection of Myrtle Avenue and Felt Road. The current project includes the third phase of restoration activities. Earlier phases completed in 2009 and 2016 involved estuary restoration through tidegate removal and channel realignment on property now owned and operated by the Northcoast Regional Land Trust (NRLT). Through channel and wetland enhancement and development, the project seeks to improve habitat for juvenile salmonids by enlarging the tidal influence on lower portions of Wood Creek while reducing flooding in nearby agricultural areas. The current phase of the project proposes to reroute Wood Creek to the east side of Felt Road by installing a new culvert on Felt Ranch Road and creation of new primary and secondary channels on lower portions of the Felt Ranch property. In its new alignment Wood Creek will cross under Myrtle Avenue at the Freshwater Creek overflow bridge and then connect to portions of Felt Slough on the NRLT property that were developed during earlier phases of the project. Additional project activities include grading and excavation throughout the project area, fencing, hauling of material to/from/within the project area, revegetation and planting of hummocks and riparian areas along the edge of Felt Slough main and secondary channels, and placement of large woody debris features anchored throughout the project channels to help scour and maintain pools and serve as cover structures for fish.

EVIDENCE: a) Project File: PLN-2023-18261

CEQA

- 2. FINDING:** CEQA. The requirements of the California Environmental Quality Act have been met. The Humboldt County Zoning Administrator has considered the project and finds the proposal is statutorily exempt from environmental review.

EVIDENCE: a) The project has been found to be exempt from environmental review pursuant to section 21080.56 of the California Environmental Quality Act (CEQA) which provides a statutory

exemption for certain restoration projects (SERP). A concurrence determination was made by the Director of the California Department of Fish & Wildlife (CDFW) on June 13, 2023 (Concurrence No. 21080.56-2023-028-R1). A Mitigated Negative Declaration and Addendum were prepared and adopted (SCH# 200882028) during consideration of the two previous phases of the project.

Community Plan Findings – Humboldt Bay Area Plan (HBAP)

Section 3.17 Hazards

- 3. FINDING:** The proposed development is consistent with the provisions of the Humboldt Bay Area Plan (HBAP) governing Hazards.
- EVIDENCE:**
- a) The entirety of the project is located within the outer limits of land vulnerable to inundation from tsunami run-up following a local great Cascadia Subduction Zone earthquake event. The project would not expose additional people or infrastructure to risk during a tsunami event. Wildlife management and habitat restoration are explicitly authorized uses that may occur within areas below the 100-year tsunami run-up elevation.
 - b) According to the latest FEMA mapping, nearly the entirety of the project is located within the flood zone. The project would not expose additional people or infrastructure to risk during flood events. The Basis of Design Report provided by applicant includes information from hydraulic modeling of existing and proposed conditions. Modeling was used to evaluate the pre and post-project tidal prism, tidal channel hydraulics and tidal muting, and king tide inundation while accounting for projected Sea Level Rise. The results of the analysis show that flood water depths are expected to decrease following implementation of the project together with modest decreases in the magnitude and peak water velocities during high tides. During King tide events, outer dikes along Freshwater Slough are overtopped. Factoring in sea level rise under the high projection scenario (1.9 feet by 2050) the study concludes that upper portions of the Phase III project area remain above/outside of tidal influence. Given the results of this modeling and analysis, the project is not expected to exacerbate existing flooding that occurs during periods of high rainfall and ground saturation and/or king tide events. Instead, modest reductions in flood water depths and peak velocities during king tide events are anticipated.

- c) With regards to the tsunami run-up risk faced by existing residential development on the property, the closest refuge / evacuation point is accessible via an established trail through a private undeveloped parcel situated immediately across the street from the parcel being divided. This 9-acre parcel hosts a tall dune feature approximately 46 feet in elevation above sea level approximately 450 feet from the two residences on the property.

Section 3.18 Archaeological and Paleontological Resources

4. FINDING: The proposed development is consistent with the provisions of the Humboldt Bay Area Plan (HBAP) governing protection of Archaeological and Paleontological Resources.

EVIDENCE: a) A Cultural Resources Survey of the project area was performed in July 2022 by Roscoe, Salisbury and Hughes. Tribal Historic Preservation Officers (THPO's) of the Wiyot Tribe, Blue Lake Rancheria, and Bear River Band of the Rohnerville Rancheria were all contacted during preparation of the survey. These same tribes were again contacted by the Planning Division during circulation of project referrals in August of 2023. THPO's for the Wiyot Tribe and Blue Lake Rancheria agree that no cultural resources are known of within the project area. No requests for consultation were received from any of the three tribes. The project Conditions of Approval include an Informational Note identifying addressing protocol in the event of the inadvertent discovery of cultural resources during project ground disturbance activities.

Section 3.24 Agriculture

5. FINDING: The proposed development is consistent with the Agriculture Policies and Standards of the Humboldt Bay Area Plan (HBAP).

EVIDENCE: a) Both management for watershed and management for fish and wildlife habitat are uses considered compatible with agricultural operations. The project will result in the conversion of approximately 14-acres of land from seasonal pasture to brackish marsh. Though much of the project area is planned and zoned for agricultural uses, mapping, technical investigations and a recent site visit by staff all confirm that the majority of the site is characterized by wetland conditions. Soils within the majority of the area affected by the project are classified as Swainslough, 0 to 2% slopes under the latest

NRCS soil survey. The Swainslough map unit is considered a hydric soil found on salt marshes, backswamps, depressions, and flood plain steps. These soils are considered ‘non-prime’ and very poorly drained with a depth to water table of 0-4 inches. Occasional flooding, frequent ponding, and very slightly saline to strongly saline conditions are known to exist within this map unit.

- b) Though the project results in the conversion of transitional agricultural lands to wetland and riparian areas, the creation of new drainage and slough channels for the Wood Creek – Freshwater Creek estuary will help lessen flooding and saltwater intrusion pressure on other agricultural areas in the immediate vicinity, thus improving the resiliency and productivity of these areas.

Section 3.30 Natural Resources Protection Policies and Standards

6. FINDING:

The proposed development is consistent with the Natural Resources Policies and Standards of the Humboldt Bay Area Plan (HBAP).

EVIDENCE:

- a) Lower reaches of Freshwater Slough (near its confluence with Ryan Slough) are mapped as one of several Wetland Restoration Study Areas. The project area is primarily planned as Farmed Wetlands (FW). Section 3.30(5)a of the HBAP notes that wetland restoration is allowed in any of the approximately 6,000 acres of farmed wetlands found within the planning area, noting that restoration projects should only take place when there is a willing seller, and where the project will not interfere with adjacent operations.

The Natural Resources Conservation Service has already secured several easements on the Felt Ranch to allow restoration activities and for the property to be managed as wetlands within the Wetland Easement Reserve program while also allowing limited ongoing seasonal grazing within portions of the property east of the project area. The Wetland Reserve Easement allows no agricultural uses; cattle are excluded from the easement area and no grazing is allowed. The creation of new drainage and slough channels for the Wood Creek – Freshwater Creek estuary will help lessen flooding and saltwater intrusion pressure on other agricultural areas in the

immediate vicinity, thus improving the resiliency and productivity of these areas.

Section 3.40 Visual Resource Protection Policies and Standards

7. FINDING: The proposed development is consistent with the Visual Resource Protection Policies and Standards of the Humboldt Bay Area Plan (HBAP).

EVIDENCE: a) There are no mapped Coastal View or Coastal Scenic areas in the vicinity of the project. The project would develop new slough channels and realign drainage courses to enlarge and enhance the estuary associated with Wood Creek, a tributary to Freshwater slough. The project includes revegetation of bermed areas using native plants and materials. In addition to providing habitat and improving watershed function, the plantings will help serve to naturalize the areas that will be disturbed during project implementation.

FINDINGS APPLICABLE TO ALL PERMITS

8. FINDING: The proposed development is in conformance with the County General Plan.

LAND USE DESIGNATIONS

Agriculture Exclusive – AE (Coastal Zone)

The purpose of the AE designation is to protect prime and non-prime agricultural lands for long term productive agricultural use. Production of food, fiber or plants is the principal use. Watershed management and management for fish and wildlife habitat and recreation are among the conditionally permitted uses.

Agriculture Exclusive – AE (Inland)

The AE designation applies to bottomland farms and lands that can be irrigated; also used in upland areas to retain agricultural character. Typical uses include dairy, row crops, orchards, specialty agriculture, and horticulture. Allowable Natural Resource uses include Fish & Wildlife Habitat Management, Watershed Management, and Wetland Restoration.

Natural Resources – NR (Coastal Zone)

The purpose of the NR designation is to protect and enhance valuable fish and wildlife habitats and provide for public and private use of their resources. Management for fish and wildlife

habitat is the principal use. Wetland restoration and improvement of boating facilities in estuaries are among the conditionally permitted uses.

Rural Residential – RR (Coastal Zone)

The purpose of the RR designation is to allow residential use of rural lands not permanently designated for resource protection and not suitable for rural community neighborhood development.

Residential Agriculture – RA (Inland)

The RA designation applies to large lot residential uses that typically rely upon on-site water and wastewater systems. Allowable non-residential uses include Fish & Wildlife Management, General Agriculture, and Intensive Agriculture.

EVIDENCE: a) The project involves activities to protect and enhance brackish water habitat for various fish species and is designed to balance these watershed restoration and enhancement goals with existing and future nearby residential and agricultural uses.

Fish and Wildlife Habitat is among the list of conditional and principal uses allowed across all land use designations. Although unclear in the language of the Rural Residential land use designation, which focuses primarily on residential uses, section 30240 of the Coastal Act prioritizes Environmentally Sensitive Habitat Areas (ESHA) requiring that adjacent development be sited and designed to prevent impacts to these areas. The proposal will benefit, enhance, and enlarge existing ESHA associated with the lower reaches of Wood Creek and neighboring wetlands, and undo damage from past reclamation activities that disrupting natural hydrological processes and resulted in the loss and reduction of estuary function as a tradeoff for creating new agricultural lands out of former tideland.

9. FINDING:

The proposed development is consistent with the purposes of the various zoning districts (Agriculture Exclusive – AE, Rural Residential Agriculture – RA, and Natural Resources – NR) where planned development activities are proposed.

PRINCIPAL ZONING DISTRICTS

Agriculture Exclusive – AE (Coastal Zone)

The AE Zone is intended to protect prime and non-prime agricultural lands for long term productive agricultural use.

Agriculture Exclusive – AE (Inland)

The Agriculture Exclusive or AE Zone is intended to be applied in fertile areas in which agriculture is and should be the desirable predominant use and in which the protection of this use from encroachment from incompatible uses is essential to the general welfare.

Rural Residential Agriculture – RA (Coastal Zone)

The RA Zone is intended to allow residential and compatible agricultural use of rural lands.

Natural Resources – NR (Coastal Zone)

The NR Zone is intended to protect and enhance valuable fish and wildlife habitats, and provide for public and private use of their resources, including hunting, fishing, and other forms of recreation.

SPECIAL AREA COMBINING ZONES

Flood Hazard Areas – F (Coastal Zone)

The purpose of these regulations is to minimize public and private losses due to flood and tsunami conditions in specific areas of the County.

Transitional Agricultural Lands – T (Coastal Zone)

The purpose of these regulations is to permit agricultural use as a principal permitted use while providing that development in transitional agricultural lands is conducted in such a manner as to maintain long-term wetland habitat values and minimize short-term habitat degradation within these environmentally sensitive habitat areas.

Coastal Wetlands - W (Coastal Zone)

The purpose of these provisions is to establish regulations to provide that any development in coastal wetlands will not degrade the wetland, but will maintain optimum populations of marine or freshwater organisms and, where feasible, will enhance wetland resources.

Streams and Riparian Corridor Protection – R (Inland)

The purpose of these regulations is to provide for the maintenance, enhancement, and, where feasible, restoration of water resources by restricting development, and by minimizing adverse effects of runoff, interference with surface waterflow, and alteration of natural streams, and by protecting riparian habitats.

- EVIDENCE:** a) The project involves activities to protect and enhance brackish water habitat for various fish species and is designed to balance these watershed restoration and enhancement goals with existing and future nearby residential and agricultural uses.

The project proposes realignment of the existing creek together with development of new slough channels to reintroduce tidewater to a broader range of areas consistent with historical drainage patterns that existed prior to the onset of aggressive land reclamation activities completed in this area between 1895 and 1900, following the purchase of over a thousand acres of swamp and overflow land by Gross and Sinclair. Gross and Sinclair began leasing their tract to George and Henry Hanson in 1899 –which consisted of 1,000 acres enclosed by three separate dikes. Prior to this, lands on the west side of Myrtle Avenue/Old Arcata Road consisted primarily of wetlands and salt marsh. By re-establishing outlets for tidewater lost during past reclamation activities, the project will have a modest reduction in flood risk to agricultural and rural residential development on neighboring properties while achieving major improvements in the biological health and function of these estuarine portions of the Freshwater Creek watershed.

- b) The Basis of Design Report provided by applicant includes information from hydraulic modeling of existing and proposed conditions. Modeling was used to evaluate the pre and post-project tidal prism, tidal channel hydraulics and tidal muting, and king tide inundation while accounting for projected Sea Level Rise. The results of the analysis show that flood water depths are expected to decrease following implementation of the project together with modest decreases in the magnitude and peak water velocities during high tides. During King tide events, outer dikes along Freshwater Slough are overtopped. Factoring in sea level rise under the high projection scenario (1.9 feet by 2050) the study concludes that upper portions of the Phase III project area remain above/outside of tidal influence. Given the results of this modeling and analysis, the project is not expected to exacerbate existing flooding that occurs during periods of high rainfall and ground saturation and/or king tide events. Instead, modest reductions in flood water depths and peak velocities during king tide events are anticipated.
- c) The project will result in the conversion of approximately 14-acres of land from seasonal pasture to brackish marsh. Though much of the project area is planned and zoned for agricultural uses,

mapping, technical investigations and a recent site visit by staff all confirm that the majority of the site is characterized by wetland conditions. Soils within the majority of the area affected by the project are classified as Swainslough, 0 to 2% slopes under the latest NRCS soil survey. The Swainslough map unit is considered a hydric soil found on salt marshes, backswamps, depressions, and flood plain steps. These soils are considered ‘non-prime’ and very poorly drained with a depth to water table of 0-4 inches. Occasional flooding, frequent ponding, and very slightly saline to strongly saline conditions are known to exist within this map unit. The Natural Resources Conservation Service has already secured several easements on the Felt Ranch to allow restoration activities and for the property to be managed as wetlands within the Wetland Easement Reserve program while also allowing limited ongoing seasonal grazing within portions of the property east of the project area. The Wetland Reserve Easement allows no agricultural uses; cattle are excluded from the easement area and no grazing is allowed. Therefore, regardless of whether the project proceeds, grazing of the wetland areas will remain prohibited under the terms of the NRCS easement. Lastly, though the project results in the conversion of transitional agricultural lands to wetland and riparian areas, the creation of new drainage and slough channels for the Wood Creek – Freshwater Creek estuary will help lessen flooding and saltwater intrusion pressure on other agricultural areas in the immediate vicinity, thus improving the resiliency and productivity of these areas.

10. FINDING:

The proposed development conforms with all applicable standards and requirements of these regulations applicable to the type of development proposed and zoning districts in which the project is located.

PRINCIPAL ZONING DISTRICTS

Agriculture Exclusive – AE (Coastal Zone)

Agriculture Exclusive – AE (Inland)

Rural Residential Agriculture – RA (Coastal Zone)

Natural Resources – NR (Coastal Zone)

SPECIAL AREA COMBINING ZONES

Flood Hazard Areas – F (Coastal Zone)

Transitional Agricultural Lands – T (Coastal Zone)

Coastal Wetlands – W (Coastal Zone)

Streams and Riparian Corridor Protection - R (Coastal Zone)

EVIDENCE: a) The proposed fish & wildlife enhancement and wetland restoration activities are both permissible and in conformance with applicable standards of the Principal Zoning Districts and Special Area Combining Zones which permit these uses.

312-18 & 312-30 SUPPLEMENTAL AGRICULTURAL USE
TYPE FINDINGS – *Conditionally Permitted Uses in an AE Zone*

11. FINDING: The proposed use will not impair the continued agricultural use on the subject property or on adjacent lands or the economic viability of agricultural operations on the site.

EVIDENCE: a) Both management for watershed and management for fish and wildlife habitat are uses considered compatible with agricultural operations. The project will result in the conversion of approximately 14-acres of land from seasonal pasture to brackish marsh. Though much of the project area is planned and zoned for agricultural uses, mapping, technical investigations and a recent site visit by staff all confirm that the majority of the site is characterized by wetland conditions. Soils within the majority of the area affected by the project are classified as Swainslough, 0 to 2% slopes under the latest NRCS soil survey. The Swainslough map unit is considered a hydric soil found on salt marshes, backswamps, depressions, and flood plain steps. These soils are considered ‘non-prime’ and very poorly drained with a depth to water table of 0-4 inches. Occasional flooding, frequent ponding, and very slightly saline to strongly saline conditions are known to exist within this map unit.

b) Though the project results in the conversion of transitional agricultural lands to wetland and riparian areas, the creation of new drainage and slough channels for the Wood Creek – Freshwater Creek estuary will help lessen flooding and saltwater intrusion pressure on other agricultural areas in the immediate vicinity, thus improving the resiliency and productivity of these areas.

SUPPLEMENTAL COASTAL RESOURCE PROTECTION
IMPACT FINDINGS

312-39.1 *Anadromous Fish Streams*

12. FINDING: The project will comply with all of the following findings applicable to Anadromous Fish Streams:

39.1.1 Minimum stream flows necessary to protect the

anadromous stream population will be maintained;

39.1.2 Environmentally sensitive habitat areas will be protected against any significant disruption of habitat values; and

39.1.3 Channelizations, dams, or other substantial alterations of rivers and streams will incorporate the best mitigation measures feasible.

EVIDENCE: a) The project will provide off-channel rearing habitat benefitting anadromous and non-anadromous fish populations by enlarging and enhancing estuarine areas and associated habitat. Although Wood Creek does not provide salmonid spawning habitat, fish monitoring activities over the past 15 years have demonstrated the importance tidal wetlands of Wood Creek for non-natal rearing habitat for juvenile salmonids; primarily Coho Salmon. No reduction in stream flows or adverse impacts to environmentally sensitive habitat areas are expected to result from the proposal. The project design has been developed in coordination with State & Federal agencies and includes a Habitat Mitigation and Monitoring Plan designed to address temporary project impacts jurisdictional wetlands, ditches, and riparian areas, as well as temporary impacts during construction of the hummocks. The plan also includes measures for revegetation of disturbed areas, as well as invasive species management, and monitoring and reporting.

312-39.4 *Coastal Streams and Riparian Areas*

13. FINDING: The project will comply with all of the following findings applicable to Coastal Streams and Riparian Areas:

39.4.1 There are no significant adverse affects on habitat areas;

39.4.2 There is no less environmentally damaging feasible alternative; and

39.4.3 The best mitigation measures feasible have been provided to minimize adverse environmental effects.

EVIDENCE: a) No adverse impacts to environmentally sensitive habitat areas are expected to result from the proposal. The project design has been developed in coordination with State & Federal agencies and includes a Habitat Mitigation and Monitoring Plan designed to address temporary project impacts jurisdictional wetlands, ditches, and riparian areas, as well as temporary impacts during construction of the hummocks. The plan also includes measures for revegetation of disturbed areas, as well as invasive species

management, and monitoring and reporting.

312-39.8 *Coastal Natural Drainage Courses*

14. FINDING: Natural Drainage Courses, including ephemeral streams, will be retained and protected from development which would impede the natural drainage pattern or have a significant adverse effect on water quality or wildlife habitat.

EVIDENCE: a) The project will improve and enhance the Wood Creek drainage by developing a more natural drainage pattern through realignment and new channel development.

312-39.12 *Coastal Transitional Agricultural Land*

15. FINDING: The project will comply with all of the following findings applicable to Coastal Transitional Agricultural Land:

39.12.1 There is no environmentally damaging feasible alternative

39.12.2 The best feasible mitigations are included; and

39.12.3 The functional capacity of the wetland will be maintained

EVIDENCE: a) The project will enhance and enlarge the functional capacity of wetlands in the project vicinity. The Habitat Mitigation and Monitoring Plan includes a number of measures designed to address temporary project impacts jurisdictional wetlands, ditches, and riparian areas, as well as temporary impacts during construction of the hummocks.

312-39.14 *Coastal Wetlands*

16. FINDING: The project will comply with all of the following findings applicable to Coastal Wetlands:

39.14.1.1 There is no less environmentally damaging feasible alternative;

39.14.1.2 The best mitigation measures feasible have been provided to minimize adverse environmental effects.

EVIDENCE: a) The project will enhance and enlarge the functional capacity of wetlands in the project vicinity. The Habitat Mitigation and Monitoring Plan includes a number of measures designed to address temporary project impacts jurisdictional wetlands, ditches, and riparian areas, as well as temporary impacts during construction of the hummocks.

17. FINDING: The proposed project will not be detrimental to the public health,

safety, or welfare or materially injurious to properties or improvements in the vicinity.

EVIDENCE: a) The project is designed to improve non-natal rearing habitat for juvenile fish species. Pre and post project analysis of flooding has been performed and determined that the proposal would not worsen local flooding conditions and may provide modest decreases in the magnitude and peak water velocities during high tides, while helping lessen flooding and saltwater intrusion pressure on other agricultural areas in the immediate vicinity, thus improving the resiliency and productivity of these areas.

18. FINDING: The proposed project will not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law.

EVIDENCE: a) No residential development is proposed and the majority of the parcels where project activities are proposed are not planned or zoned for residential development. Therefore, no reduction in targeted residential density will result from implementation of the project.

DECISION

NOW, THEREFORE, based on the above findings and evidence, the Humboldt County Zoning Administrator does hereby:

1. Adopt the findings set forth in this resolution; and
2. Conditionally approves the Conditional Use Permit (Record Number: PLN-2023-18261 based upon the above Findings and Evidence described herein as well as information on file with the application, subject to the conditions of approval.

Adopted after review and consideration of all the evidence on **December 21, 2023**

I, John H. Ford, Zoning Administrator of the County of Humboldt, do hereby certify the foregoing to be a true and correct record of the action taken on the above-entitled matter by said Zoning Administrator at a meeting held on the date noted above.

John Ford, Director
Planning and Building Department

Exhibit 1A

Recommended Conditions of Approval

APPROVAL OF THE CONDITIONAL USE PERMIT IS CONDITIONED ON THE FOLLOWING TERMS AND REQUIREMENTS WHICH MUST BE FULFILLED BEFORE A BUILDING PERMIT MAY BE ISSUED OR USE INITIATED:

Conditions of Approval:

1. Approval of this permit is based on information in the materials submitted on behalf of the applicant, which are on file with the Planning and Building Department, and attached and referenced herein. All related project activities shall be executed in accordance with these descriptions and discussion therein.
2. Applicant must apply for and obtain an encroachment permit prior to the initiation of any work within a County right of way.
3. All of the recommendations in the enclosed Department of Public Works referral dated August 23, 2023, shall be completed or secured to the satisfaction of that department. Prior to performing any work on the improvements, contact the Land Use Division of the Department of Public Works.
3. All mitigation measures described in the Habitat Mitigation and Monitoring Plan shall be observed and implemented during project implementation.

On-Going Conditions to be satisfied for the life of the project:

1. The use and development of the site shall be consistent with materials submitted on behalf of the applicant for the Wood Creek Phase III – Felt Ranch Off-Channel Rearing Habitat Project. Changes to the uses or descriptions may require a Modification to the Conditional Use Permit.

Informational Notes:

1. If archaeological resources are encountered during construction activities, the contractor or operator on-site shall cease all work in the immediate area within a 50-foot buffer of the discovery location. A qualified archaeologist as well as the appropriate Tribal Historic Preservation Officer(s) are to be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided.

The Native American Heritage Commission (NAHC) can provide information

regarding the appropriate Tribal point(s) of contact for a specific area; the NAHC can be reached at (916)653-4082. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. If human remains are found, California Health and Safety Code 7050.5 requires that the County Coroner be contacted immediately at (707)445-7242. If the Coroner determines the remains to be Native American, the NAHC will then be contacted by the Coroner to determine appropriate treatment of the remains pursuant to PRC 5097.98. Violators shall be prosecuted in accordance with PRC Section 5097.99

The applicant and successors are ultimately responsible for ensuring compliance with this condition.

2. The applicant is responsible for receiving all necessary permits and/or approvals from other state and local agencies.
3. This permit shall expire and become null and void at the expiration of three (3) years after all appeal periods have lapsed; except where construction under a valid building permit or use in reliance on the permit has commenced prior to such anniversary date. The period within which the activity or use must be commenced may be extended as provided by Section 312-11.3 of the Humboldt County Code.
4. Under state planning and zoning law (CGC §66000 et seq.), a development project applicant who believes that a fee or other exaction imposed as a condition of project approval is excessive or inappropriately assessed may, within 90 days of the applicable date of the project's approval, file a written statement with the local agency stating the factual basis of their payment dispute. The applicant may then, within 180 days of the effective date of the fee's imposition, file an action against the local agency to set aside or adjust the challenged fee or exaction.

Appendix J

CEQA Statutory Exemption for Restoration Project

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
DIRECTOR'S OFFICE
POST OFFICE BOX 944209
SACRAMENTO, CA 94244-2090



**CALIFORNIA ENVIRONMENTAL QUALITY ACT STATUTORY EXEMPTION FOR
RESTORATION PROJECTS
CONCURRENCE NO. 21080.56-2023-028-R1**

Project: Wood Creek Phase III - Felt Ranch Off-Channel Rearing Habitat Project
Location: Humboldt County
Lead Agency: Humboldt County Department of Public Works
Lead Agency Contact: Andrew Bundschuh; abundschuh@co.humboldt.ca.us

Background

Project Location: The Wood Creek Phase III - Felt Ranch Off-Channel Rearing Habitat Project (Project) is located east of the City of Eureka at approximately 40.782393, -124.090846 in Humboldt County, California. Wood Creek is a tributary of Freshwater Creek in Humboldt Bay and is within the upper stream-estuary ecotone of the watershed. The Project area encompasses 45 acres and is bordered by Freshwater Creek, Felt Road, and previous restoration phases in Wood Creek located north of Myrtle Avenue.

Project Description: The Humboldt County Department of Public Works (County), in partnership with the Northcoast Regional Land Trust (NRLT), proposes to conserve, restore, protect, or enhance, and assist in the recovery of California native fish and wildlife, and the habitat upon which they depend and restore or provide habitat for California native fish and wildlife. The Project is designed to benefit coho salmon (*Oncorhynchus kisutch*), tidewater goby (*Eucyclogobius newberryi*), and other fish and wildlife species. The Project includes rerouting and reconfiguring Wood Creek, creating and connecting off-channel habitat, installing large wood features, and planting native species.

The Project will build on previous restoration efforts located immediately downstream in Wood Creek and will improve overall ecological function and restore natural processes throughout roughly 45 acres in the Project Area. Historically, the aquatic habitat in the Project area consisted of multiple channels and expansive wetlands. The Project area is currently disconnected from tidal processes and is dominated by a mixture of cattle pasture and broadleaf cattail (*Typha latifolia*) marsh. The Project will greatly enhance ecosystem function by restoring connectivity and tidal processes to the Project area, which will significantly enlarge the existing stream-estuary ecotone of Freshwater Creek.

The Project will reroute Wood Creek from its current alignment under Wood Gulch Road to a new alignment under Felt Road (via a newly constructed culvert). Once realigned, Wood Creek will drain into the newly constructed Felt Slough, which will then flow into a previous phase of restoration (Wood Creek Phase II). The current configuration of Wood Creek in the Project area has been simplified and is contained in a roadside ditch. The newly created channel will have significantly more habitat complexity, with increased sinuosity, large wood features, and an on-channel pond that will provide high quality rearing habitat for salmonids.

In addition to Wood Creek, restoration actions also include the construction of a new channel network in the Project area that will be named Felt Slough. The Felt Slough network will consist of one main channel and four smaller secondary channels. Multiple alcoves will be constructed to capture water flowing from perennial freshwater seeps. Wood features will also be incorporated into the channel and upland areas, and riparian planting hummocks will be revegetated with native species including conifers that will provide future sources of shade and large wood for fish and wildlife habitat. Portions of the existing Felt Ranch Ditch, which is a straight and relatively deep drainage feature, will be filled. Additionally, five shallow ponds will be graded into the existing Felt Ranch Ditch footprint to create seasonal habitat for herpetofauna.

Tribal Engagement: Engagement efforts have involved direct communication with multiple tribal entities through email and a site visit. Additionally, a cultural resource investigation was prepared for the Project.

Interested Party Coordination: There have been numerous interested party coordination and outreach efforts with individuals from federal and state agencies, academia, restoration practitioners, and members of the public. A technical team was formed to identify potential salmonid restoration sites in Humboldt Bay and ranked the Project as having the second highest priority for restoring non-natal juvenile salmonid rearing habitat. Additionally, the County has participated in outreach with landowners, the NRLT, and National Resource Conservation Service. A Technical Advisory Committee (TAC), consisting of representatives from various public resource agencies, was also established to have meetings to discuss Project planning and design. The TAC also attended a site visit to the Project area. Finally, a virtual public meeting was attended by members of the public. The public did not have any feedback during the virtual meeting, but they thanked the Project team for the presentation. Project planning has been funded by the California Department of Fish and Wildlife (CDFW) Fisheries Restoration Grant Program and a State Coastal Conservancy Proposition 1 grant.

Anticipated Project Implementation Timeframes: The implementation year will be determined upon receipt of future grant funding.

Lead Agency Request for CDFW Concurrence: On May 9, 2023, the Director of the California Department of Fish and Wildlife (CDFW Director) received a concurrence request from the County (Lead Agency) pursuant to Public Resources Code section 21080.56, subdivision (e) (Request). The Request seeks the CDFW Director's concurrence with the Lead Agency's determination on April 14, 2023, that the Project meets certain qualifying criteria set forth in subdivisions (a) to (d), inclusive, of the same section of the Public Resources Code (Lead Agency Determination). The CDFW Director's concurrence is required for the Lead Agency to

approve the Project relying on this section of the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

Concurrence Determination

The CDFW Director concurs with the Lead Agency Determination that the Project meets the qualifying criteria set forth in Public Resources Code section 21080.56, subdivisions (a) to (d), inclusive (Concurrence).

Specifically, the CDFW Director concurs with the Lead Agency that the Project meets all of the following conditions: (1) the Project is exclusively to conserve, restore, protect, or enhance, and assist in the recovery of California native fish and wildlife, and the habitat upon which they depend; or is exclusively to restore or provide habitat for California native fish and wildlife; (2) the Project may have public benefits incidental to the Project's fundamental purpose; (3) the Project will result in long-term net benefits to climate resiliency, biodiversity, and sensitive species recovery; and includes procedures and ongoing management for the protection of the environment; and (4) Project construction activities are solely related to habitat restoration. Pursuant to Public Resources Code section 21080.56, subdivision (g), CDFW will post this Concurrence on its CEQA Notices and Documents internet page: <https://wildlife.ca.gov/Notices/CEQA>.

This Concurrence is based on best available science and supported, as described below, by substantial evidence in CDFW's administrative record of proceedings for the Project.

This Concurrence is also based on a finding that the Project is consistent with and that its implementation will further CDFW's mandate as California's trustee agency for fish and wildlife, including the responsibility to hold and manage these resources in trust for all the people of California.

Discussion

- A. Pursuant to Public Resources Code section 21080.56, subdivision (a), the CDFW Director concurs with the Lead Agency that the Project will exclusively conserve, restore, protect, or enhance, and assist in the recovery of California native fish and wildlife, and the habitat upon which they depend; or restore or provide habitat for California native fish and wildlife.

The project will restore a large amount of aquatic habitat and connectivity within the stream-estuary ecotone of Humboldt Bay, including roughly 6,700 feet of new stream and slough channels, 4,500 square feet of freshwater ponds, and multiple freshwater alcoves. Additionally, large wood enhancement features will be constructed, and native riparian vegetation will be planted to restore long-term ecosystem function to the Project area.

- B. Pursuant to Public Resources Code section 21080.56, subdivision (b), the CDFW Director concurs with the Lead Agency that the Project may have incidental public benefits, such as public access and recreation.

The Project may have incidental public safety benefits. The Project is designed to realign Wood Creek from a ditch, with a series of confined culverts, along Felt Road into a more open and natural network of channel systems on Felt Ranch and into the NRLT Freshwater Farms Reserve. Incidentally, this multi-channel network may increase flow capacity and reduce the risk of flooding on adjacent agricultural fields, as well as along Felt Road.

- C. Pursuant to Public Resources Code section 21080.56, subdivision (c), the CDFW Director concurs with the Lead Agency that the Project will result in long-term net benefits to climate resiliency, biodiversity, and sensitive species recovery, and includes procedures and ongoing management for the protection of the environment.

Long-term Net Benefits to Climate Resiliency: The Project is designed to increase habitat connectivity and tidal function, which will create a gradient in salinity conditions that will allow wetland species to move upstream in response to rising sea levels. Furthermore, the newly connected wetlands in the Project area will enhance flood storage and conveyance of the creek during extreme rainfall events, which are expected to increase as a result of climate change.

Long-term Net Benefits to Biodiversity: Restored tidal function, increased connectivity, and newly created habitat features in the stream-estuary ecotone are expected to provide year-round long-term habitat and a gradient of high-quality rearing opportunities for juvenile fish. Overall, the Project is expected to provide long-term benefits for coho salmon, Chinook salmon (*O. tsawytscha*), coastal cutthroat trout (*O. clarkii clarkii*), steelhead trout (*O. mykiss*), tidewater goby, and other fish species.

The Project will also provide long-term benefits for multiple herpetofauna and avian species through enhancement of existing wetlands. The seasonal ponds in the Felt Ranch Ditch could provide breeding habitat for native amphibians, such as the northern red-legged frog (*Rana aurora*). Additionally, the ephemeral nature of the ponds will create unsuitable conditions for the invasive American bullfrog (*Lithobates catesbeianus*). Terrestrial wood features placed vertically and horizontally on the banks will provide cover for mammals and perching and cavity habitat for birds. Furthermore, the riparian planting component will ensure that there will be future sources of vegetation and large wood that are essential in creating habitat for terrestrial and aquatic species.

Long-term Net Benefits to Sensitive Species Recovery: It is anticipated the project will provide long-term net benefits to sensitive species recovery. Coho salmon, Chinook salmon, coastal cutthroat trout, steelhead trout, tidewater goby, and other fish species utilize estuaries as transition zones between fresh and salt water. Previous research has documented high rates of growth of salmonids in estuaries, which can result in larger size during ocean entry, and thereby increase marine survival rates. Additionally, increasing connectivity in the Project area and restoring tidal function will increase capacity for estuarine species and promote resiliency with the onset of sea level rise. Prior restoration efforts adjacent to the Project that utilized similar techniques have resulted in immediate and significant use by salmonids in the newly

restored habitat. Finally, the Project goals are consistent with numerous federal, state, and local plans and policies relating to species recovery.

Procedures for the Protection of the Environment: The Project includes measures to protect sensitive species and the environment. The general in-water construction season will be limited to June through October to minimize potential effects of runoff during the rainy season. All materials placed over streams will be nontoxic and water containing mud or silt will be treated to avoid discharging sediment-laden water into the stream. Additionally, fish will be captured and relocated to suitable habitat prior to dewatering events, and fish screens will be installed on all water withdrawal structures. Nesting bird surveys will also be conducted if construction occurs during the nesting season. Disturbed areas will be revegetated with native species to reduce short-term impacts associated with construction.

Ongoing Management for the Protection of the Environment: Following construction, ongoing management actions will be implemented to ensure protection of the environment. There is an existing easement on the Felt Ranch portion of the Project area that will promote enduring environmental benefits and will remain in effect in perpetuity. Furthermore, pre- and post-project fisheries monitoring will be conducted to evaluate project success and inform future management actions. Following Project implementation, invasive species, vegetation, and wetland monitoring will also be conducted. Additionally, the County will monitor, manage, and maintain the new culvert on the Felt Road Crossing of Wood Creek. Furthermore, the County's General Plan includes policies that will be implemented to further maintain, protect, and restore fish and wildlife habitats.

- D. Pursuant to Public Resources Code section 21080.56, subdivision (d), the CDFW Director concurs with the Lead Agency that the Project does not include any construction activities, except those solely related to habitat restoration.

All Project construction activities are related to the overall goal of the Project to restore habitat in the stream-estuary ecotone of Freshwater Creek and Humboldt Bay. Construction activities will include the following:

- clearing, grubbing, and vegetation removal to clear channel alignments and construction access
- grading/excavation throughout the Project area to achieve grade and dimensions and replace excavated sediments
- hauling and transport of material and equipment to, from, and within the Project area
- fence construction to maintain grazing and habitat areas consistent with the Project design and existing easements

Scope and Reservation of Concurrence

This Concurrence is based on the proposed Project as described by the Lead Agency Determination and the Request. If there are any subsequent changes to the Project that

affect or otherwise change the Lead Agency Determination, the Lead Agency, or any other public agency that proposes to carry out or approve the Project, shall submit a new lead agency determination and request for concurrence from CDFW pursuant to Public Resources Code section 21080.56. If any other public agency proposes to carry out or approve the Project subsequent to the effective date of this Concurrence, this Concurrence shall remain in effect and no separate concurrence from CDFW shall be required so long as the other public agency is carrying out or approving the Project as described by the Lead Agency Determination and the Request.

Other Legal Obligations

The Project shall remain subject to all other applicable federal, state, and local laws and regulations, and this Concurrence shall not weaken or violate any applicable environmental or public health standards. (Pub. Resources Code, § 21080.56, subd. (f).)

CDFW Director's Certification

By  Date: 6/13/23

Charlton H. Bonham, Director
California Department of Fish and Wildlife

Appendix K

Humboldt County Encroachment Permit – for Bid Purposes Only



DEPARTMENT OF PUBLIC WORKS
COUNTY OF HUMBOLDT
MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579
AREA CODE 707

EP 25019

On-line
 Web: humboldt.gov

	Public Works Building Second & L St., Eureka Fax 445-7409			
Administration	445-7491	Natural Resources	445-7741	
Business	445-7652	Natural Resource Planning	267-9542	
Engineering	445-7377	Parks	445-7651	
Facility Management	445-7621	Roads	445-7421	

Clark Complex Harris & H St., Eureka Fax 445-7388	
Land Use	445-7205

ENCROACHMENT PERMIT

PERMITTEE: NORTHCOAST REGIONAL LAND TRUST
ADDRESS: % DAN EHRESMAN
 PO BOX 398
 BAYSIDE, CA 95524

PERMIT NO. EP 25019

DATE ISSUED:
EXPIRATION:

**DATES TO BE
 ADDED AFTER
 SIGNATURE**

CONTRACTOR: CONTRACTOR TO BE DETERMINED
ADDRESS:

 In response to your project request received 03/11/2025 and subject to all the terms, conditions, and restrictions written below or printed as general or special provisions on any part of this form and/or attachments, permission is hereby granted, as per the attached special and general provisions and the Humboldt County Code Title IV, Division 1, pertaining to the protection and control of County roads, to perform the following work within the County rights of way:

On Felt Road (4K150) fronting APN 403-071-060 (PM 0.22):

- Installation of an 8'x8' box culvert.
- Construction of a temporary rock surfaced detour bypass.
- Traffic control for the installation of a barbed wire fence outside of the County ROW.
- To trench and install approximately 24' of 4" HDPE temporary water main.
- To trench and install approximately 65' of 4" DIP replacement water main.

Note: All underground lines shall be placed a minimum of thirty inches (30") below finish road grade. See attached "Type I or Type II" Trench Detail.

On Myrtle Avenue (F3K300) fronting APN 403-071-061 (PM 3.30):

- Construction of a temporary rock surfaced construction approach.

All work shall be performed to COUNTY standards found in County Code Section 411.

If any conflicts occur between this permit and the submitted plans, the conditions of this permit shall prevail.

**ALL WORK AUTHORIZED BY THIS PERMIT SHALL BE PERFORMED BY
 AN "A" LICENSED CONTRACTOR**

This permit is revocable, at the discretion of the Department of Public Works, upon written notice by US mail to the address of Permittee subject to nonconformance of this permit.

In accordance with the California Streets and Highways Code, §1463: All Permits are revocable on five (5) days' notice and the encroachment must be removed or relocated as may be specified by the road commissioner in the notice revoking the permit and within a reasonable time specified by the road commissioner unless the permit provides a specified time.

SPECIFIC REQUIREMENTS:

Permittee shall be responsible for contacting the Department of Public Works for the scheduling of all required inspections (i.e. concrete forms, driveways and trenches prior to (re)surfacing, trench backfill) or as specifically stated within this permit. Permittee shall provide notification of project completion to the Department.

(1) This permit is to be strictly complied with and no work other than that specifically mentioned is authorized hereby.

(2) Improvements shall be constructed as per submitted and approved plans by County of Humboldt Department of Public Works titled "PROJECT PLANS FOR CONSTRUCTION OF WOOD CREEK – FELT RANCH IMPLEMENTATION PROJECT FELT ROAD (4K150) PM 0.55 PROJECT NO. Q2110500 CONTRACT NO. 331210" and dated 03/24/2025 (signed and stamped 03/25/2025), Michael Love & Associates, Inc. titled "WOOD CREEK PHASE III FELT RANCH OFF-CHANNEL REARING HABITAT HUMBOLDT COUNTY, CA" and dated August 2023 (stamped with revisions from 03/13/2025), and HCSO plans dated 10-09-2024. Any deviation from said plans shall be approved by the Department of Public Works **PRIOR to construction.**

(3) During construction, roadways shall be periodically cleaned of mud, soil, rock, and debris. No construction materials or debris shall be placed within County right of way during the project.

(4) Trenching and Trench Requirements:

- i. CONTRACTOR shall be responsible for locating all substructures. Any damages to existing utilities are the responsibility of CONTRACTOR.
- ii. Prior to commencement of any work, CONTRACTOR shall submit a construction activity permit issued by CalOSHA for trenches or excavations which are five feet (5') or deeper and into which a person is required to descend.
- iii. All underground lines shall be placed a minimum of thirty inches (30") below finish road grade. All new underground lines shall be placed a minimum of one foot (1') below all drainage structures. Any damages are the responsibility of the CONTRACTOR.
- iv. All valve covers, manhole covers, sewer clean out covers, and monument well covers shall be raised to grade to the satisfaction of COUNTY.
- v. All work areas in or adjacent to the COUNTY roadway shall be properly barricaded and protected after working hours. **No open trenches** within COUNTY right of way shall be allowed during non-working hours.

- vi. Excavations by CONTRACTOR in or adjacent to traffic lanes that remain open after working hours shall be plated with steel plates suitable for traffic loading and **shall be** made drivable with asphalt cold mix approach ramps. Construction equipment and project materials shall not be used to protect open trenches. **Bump signs (W8-1) shall be placed to notify vehicular traffic in advance of any steel plates that remain in traffic lanes after work hours.** Construction equipment and project materials shall not be stored within COUNTY right of way without approval from COUNTY
- vii. The areas that require permanent pavement restoration for trenches excavated across or parallel to existing paved traveled way section of COUNTY roads or areas disturbed by the project shall be restored as delineated on the attached "**Type I or Type II**" Trench Detail and/or as directed by the County Inspector. Temporary pavement shall be removed from all trenches prior to placing permanent paving. Trenches shall be sawcut a minimum of six inches (6") beyond the asphalt concrete disturbed by trench excavation or the edge of the area disturbed by the project, as determined by COUNTY, just prior to placing permanent paving. The finish paving ~~SHALL NOT BE CROWNED~~ across the trench section and **shall be placed no later than thirty (30) days after initial trench closure.**
- viii. Backfill material in all trenches shall conform to Section 19 of Caltrans Standard Specifications dated 2024. The attached Standard **Trench Details "Type I or Type II" shall be used.** Backfill material, Class II aggregate base, shall be placed to the subgrade of the pavement in uniform layers and shall be brought up uniformly on all sides of the structure or facility. Backfill material shall be mechanically compacted to a relative compaction of not less than 95% in the top 2.5 feet of the trench, with a minimum of 90% relative compaction below that point to the top of any conduit or pipe located within the traveled way and shoulder section of any COUNTY maintained road.
- ix. All trenches shall be temporarily capped with a minimum of two inches (2") of cold mix asphalt concrete prior to opening the roadway to public traffic. CONTRACTOR shall maintain all temporary paving in trenches until permanent paving has been completed.
- x. All trenches shall be cleanly sawcut a minimum of six inches (6") beyond the asphalt concrete disturbed by trench excavation or the edge of the area disturbed by the project, as determined by COUNTY, just prior to placing permanent paving.

- xi. Permanent paving on all trenches shall consist of a minimum of three inches (3") of Caltrans specifications hot mix asphalt concrete. Temporary cold mix asphalt concrete shall be removed from all trenches prior to placing permanent paving. All trenches shall be inspected and approved by COUNTY prior to placing permanent paving.
- xii. Any asphalt concrete surface damaged by construction project shall be saw cut a minimum of six inches (6") beyond the damaged portion, removed, and resurfaced with a minimum of two inches (2") of Caltrans specifications hot mix asphalt concrete. Any temporary paving shall be removed from trench prior to placing final paving.
- xiii. **CONTRACTOR, or their Designee, shall be responsible for performing compaction tests.** COUNTY reserves the right to perform as many additional compaction tests as it deems reasonably necessary to ensure that the compaction requirements are met. CONTRACTOR agrees by the start of construction authorized by this permit to reimburse COUNTY for costs of such tests. Said costs shall be in conformance with the adopted Humboldt County Schedule of Fees and Charges for Permits and Services.
- xiv. **CONTRACTOR, at the time of completion, shall submit letter of acceptance of the project from HUMBOLDT COMMUNITY SERVICES DISTRICT.** HUMBOLDT COMMUNITY SERVICES DISTRICT shall be responsible to maintain all refilled trenches in perpetuity as per Humboldt County Code Title IV, Division 1, Chapter 1, Section 411-31-(c) pertaining to the protection and control of COUNTY roads. All trench failures shall be repaired by HUMBOLDT COMMUNITY SERVICES DISTRICT within a reasonable length of time, as determined by COUNTY after notification of said failure.

(5) The new approach shall be constructed and surfaced as per attachments. Please note the Special Provisions Sheet - Items 5, 6, and 7.

Approach shall conform to County of Humboldt Commercial Rural Driveway No. 1 as applies to a rocked surface approach.

(6) The approach to the site shall be sufficiently rocked [minimum four inches (4")] in order to create an all weather driving surface and to keep all earthen materials off the County road.

(7) An 18 inch minimum diameter culvert pipe shall be placed under the approach in the existing roadside drainage ditch.

Owner shall be responsible for maintenance of the driveway approach culvert pipe.

(8) The driveway approach shall comply with County visibility standards. Permittee is responsible for constructing a driveway approach that provides a reasonable degree of driver sight visibility and safety that is acceptable to the Department of Public Works.

(9) Permittee shall be responsible to correct any involved drainage problems to the satisfaction of the Department of Public Works.

(10) All fencing shall be constructed on the property. **NO** fencing or shall be constructed in the County right of way.

(11) Permittee shall be responsible for all traffic control and safety at all work locations in a manner satisfactory to the Department of Public Works. Traffic control operations shall conform to **California Manual on Uniform Traffic Control Devices for Streets and Highways** (FHWA's MUTCD 2014 Edition, as amended for use in California), January 11, 2024, or latest edition, and to the satisfaction of the Department of Public Works. Warning and flagging of motorists at work locations shall be conducted **AT ALL TIMES** by properly trained personnel.

- Permittee shall use Caltrans 2024 Standard Plan T13 with T9 for a traffic control plan, when applicable, for closing one traffic lane, see attachment.
- Permittee shall use CAMUTCD Figure 6H-6, Titled "Shoulder Work with Minor Encroachment (TA-6)", when applicable, for working outside of the travelway and not affecting normal vehicle traffic, see attachment.
- Conditions requiring a traffic control plan other than Caltrans T13 with T9 or Fig 6H-6 will require submittal and Public Works approval of a traffic control plan prepared by a Registered Civil Engineer (or Traffic Engineer).

(12) Only one (1) lane of traffic shall be closed at any time during construction or installation. **NO COMPLETE ROAD CLOSURE** is authorized under this permit.

(13) No work is authorized under this permit during wet weather periods, as determined by the Department of Public Works, without submittal and approval by the Department of Public Works of an erosion and sediment control plan. The plan shall be implemented for construction activities conducted between October 15 and April 15. It shall be at the discretion of the Department of Public Works to authorize work within County right of way during said period of time.

(14) Relocation of signs and utilities shall be at Permittee's expense. The Department of Public Works shall relocate all necessary traffic signs to meet current specifications. Permittee shall provide the Department of Public Works 48 hours (two County business days) advance notice before work is to be performed.

(15) PERMITTEE must contact the local Community Services District (or utility providers) prior to construction of improvements to locate and/or install cleanout access, meter boxes, etc. that the Community Services District requires to be placed within the above improvements.

Any utility conflicts encountered during construction shall be forwarded to the County, the Community Services District, and the Contractor for resolution.

(16) PERMITTEE is responsible for preservation and/or perpetuation of all existing monuments which control subdivisions, tracts, boundaries, streets, highways, or other rights-of-way, easements or provide survey control which will be disturbed or removed due to PERMITTEE'S work. PERMITTEE shall provide a minimum of ten (10) working days notice to project engineer/surveyor prior to possible disturbance or removal of existing monuments. PERMITTEE shall coordinate with Project engineer/surveyor to reset monuments or provide permanent witness monuments and file the required documentation with the County Surveyor pursuant Business and Professions Code Section 8771.

If any work is closer than seven feet (7') from monument, PERMITTEE shall call COUNTY Surveyor (445-7205). PERMITTEE may be required to consult with a licensed surveyor to set reference points and file a Corner Record.

(17) All affected utilities shall be contacted prior to any excavation work. Permittee shall notify U.S.A. - Underground Service Alert - at 1-800-227-2600. **Any utility conflicts shall be forwarded to the project engineer and this office for review prior to construction commencing.**

Note that the County does not participate in the U.S.A. program. Therefore, Permittee is responsible to research, locate, and protect any County maintained facilities that may be within the work area. Contact Public Works - Roads Division (445-7421) for assistance locating County maintained facilities. Typically, these facilities include, but are not limited to, storm drain structures, traffic signal loop detectors, and traffic signal conduit.

(18) Permittee and/or contractor shall contact this department at 445-7205 to schedule an on-site meeting prior to construction of the above mentioned improvements.

(19) Permittee shall contact this office at 445-7205 to schedule an on-site inspection when all work has been completed and this permit is ready to final.

(20) Any damage to existing County road improvements (i.e., adjacent curb and gutter, drainage structures, road surface, etc.) shall be repaired or replaced by Permittee to the satisfaction of the Department of Public Works. Damages will be reported promptly to the Department of Public Works.

(21) Permittee shall comply with Permit General Provisions and Public Safety attachments.

(22) This permit shall not be executed by the Department of Public Works until certificates or other sufficient proof that these insurance provisions have been complied with are received by the Department of Public Works.

(23) Permittee is responsible to obtain and comply with any other permits necessary for the project. Such permits may include, but are not limited to, those issued by County of Humboldt, Community Development Services - Planning Division; County of Humboldt, Community Development Services - Building Division; California Department of Fish and Game; State of California Department of Transportation (Caltrans); Army Corps of Engineers; etc.

(24) Humboldt County staff are not responsible for the review of vesting or title to property or any easements associated with the subject property, nor do staff review survey information or provide opinions or legal advice about boundaries or soundness of title. If title to property or boundaries are misrepresented to staff, permits may be revoked or a stop work order issued.

(25) This permit is not valid until all other permits for the project have been issued. The Department of Public Works will issue a stop work order if work commences without all other required permits properly issued.

(26) Permittee, the land owner or an authorized agent of the land owner for which this permit is issued, hereby recognizes and accepts the terms of this permit by authorized signature below.

PERMITTEE:

CONTRACTOR:

Authorized signature

Authorized signature

Print name

Print name

Date _____

Date _____

COUNTY OF HUMBOLDT BY:

Land Use Division (707) 445-7205
3015 H Street
Eureka CA 95501

Tony Ye, Engineering Technician

cc: Nick Massey, Road Crew Supervisor
Steve Finch, Road Division Manager
Paul Donoho, Road Superintendent
Roads Dispatch;
File

***\$320 fee waived by PW Director**

Attachments: – Insurance Requirements, Type I Trench Detail revised 04/22/2013, Type II Trench Detail revised 04/22/2013, Commercial Rural Driveway No. 1, Visibility Ordinance Diagrams A & B, General Provisions, Public Safety, Hold Harmless/Indemnification, Caltrans 2024 Standard Plans T9, T13, and 2014 CAMUTCD Figure 6H-6

INSURANCE REQUIREMENTS

THIS PERMIT SHALL NOT BE EXECUTED BY COUNTY and PERMITTEE/CONTRACTOR are not entitled to any rights, unless certificates of insurance, or other sufficient proof that the following provisions have been complied with, and such certificate(s) are filed with the Clerk of the Humboldt County Board of Supervisors.

Without limiting PERMITTEE/CONTRACTOR'S indemnification provided herein, PERMITTEE/CONTRACTOR shall and shall require any of its subcontractors to take out and maintain, throughout the period of this permit, the following policies of insurance placed with insurers with a current A.M. Bests rating of no less than A:VII or its equivalent against injury/death to persons or damage to property which may arise from or in connection with the activities hereunder of PERMITTEE/CONTRACTOR, its agents, employees, or subcontractors:

1. Comprehensive or Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability coverage (occurrence form CG0001), in an amount of \$2,000,000 per occurrence. If work involves explosive, underground or collapse risks, XCU must be included. If a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate shall be twice the required occurrence limit. Said policy shall contain, or be endorsed with, the following provisions:

a. COUNTY, its officers, employees, and agents, are covered as additional insured for liability arising out of the operations performed by or on behalf of PERMITTEE/CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to COUNTY, its officers, agents, and employees.

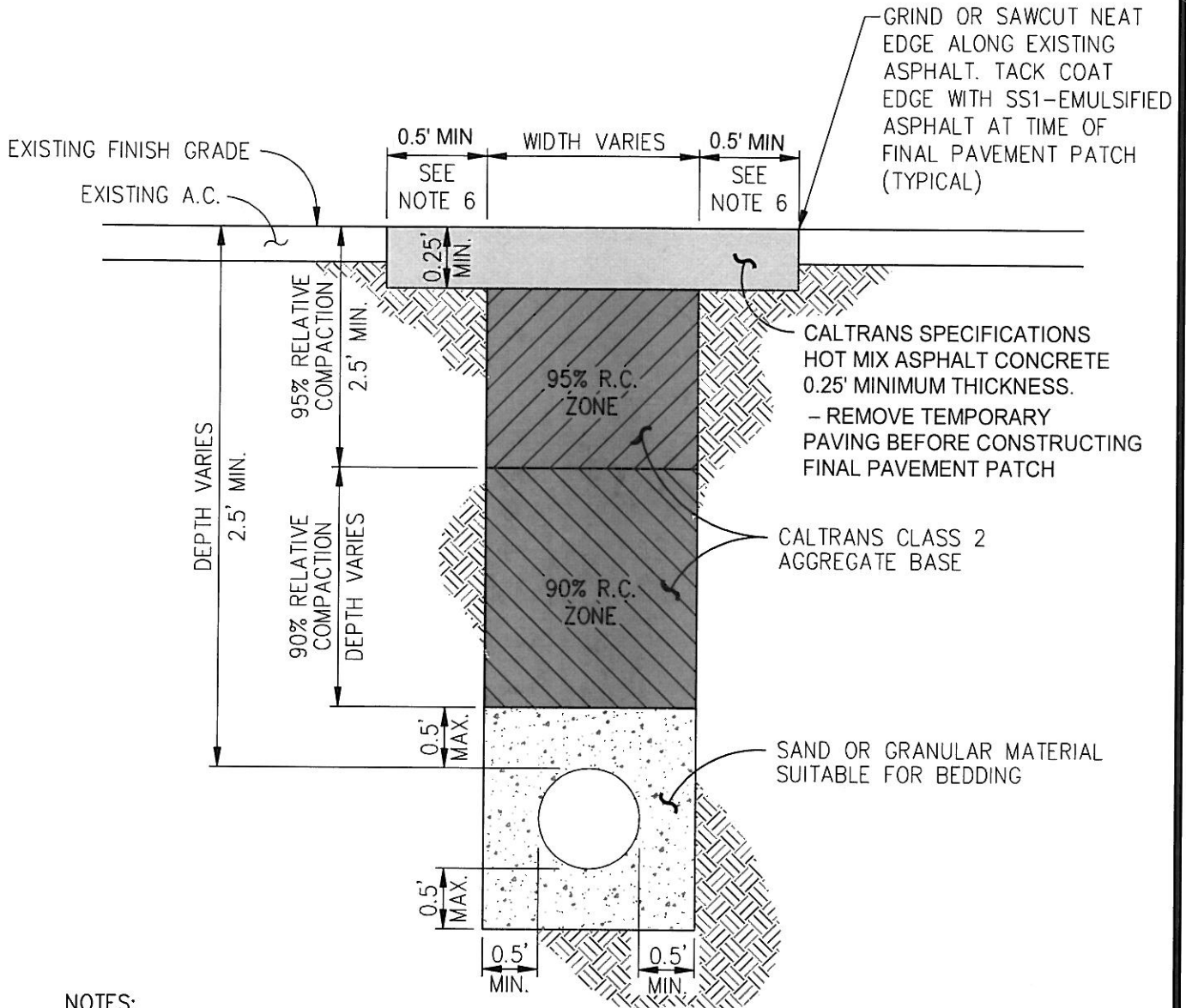
b. The policy shall not be canceled or materially reduced in coverage without thirty (30) days prior written notice (10 days for non-payment of the premium) to COUNTY by certified mail.

c. The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured, and the coverage afforded shall apply as though separate policies had been issued to each insured, but the inclusion of more than one insured shall not operate to increase the limits of the insurer's liability.

d. For claims related to this project, PERMITTEE/CONTRACTOR'S insurance is primary coverage to COUNTY, and any insurance or self-insurance programs maintained by COUNTY are excess to PERMITTEE/CONTRACTOR'S insurance and will not be called upon to contribute with it.

2. Any failure to comply with reporting or other provisions of the parties, including breach of warranties, shall not affect coverage provided to COUNTY, its officers, employees and agents. PERMITTEE/CONTRACTOR shall furnish COUNTY with certificates and original endorsements effecting the required coverage prior to execution of this permit by COUNTY. The endorsements shall be on forms as approved by the County Risk Manager or County Counsel. Any deductible or self-insured retention over \$100,000 shall be disclosed to and approved by COUNTY. If PERMITTEE/CONTRACTOR does not keep all required policies in full force and effect, COUNTY may, in addition to other remedies under this permit, take out the necessary insurance, and PERMITTEE/CONTRACTOR agree to pay the cost of said insurance. All coverage shall be with insurance carriers licensed and admitted to do business in California. All coverage shall be with insurance carriers acceptable to COUNTY.

Questions concerning insurance requirements shall be directed to the County Risk Manager at 707-268-3669.



NOTES:

1. THE TRENCH SHALL HAVE AT LEAST 0.25 FEET OF TEMPORARY COLD MIX ASPHALT BEFORE OPENING ROAD TO TRAFFIC.
2. FOR ITEMS NOT SHOWN, SEE ISSUED HUMBOLDT COUNTY ENCROACHMENT PERMIT.
3. ALL MATERIALS SHALL COMPLY WITH CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION.
4. IF GROUNDWATER IS ENCOUNTERED DURING TRENCH EXCAVATION, ENGINEER AND THE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL BE CONSULTED FOR SITE SPECIFIC CORRECTIVE MEASURES.
5. THE PERMITEE, OR ITS DESIGNEE, SHALL BE RESPONSIBLE FOR PERFORMING COMPACTION TESTS. THE DEPARTMENT OF PUBLIC WORKS RESERVES THE RIGHT TO MAKE AS MANY COMPACTION TESTS AS IT DEEMS REASONABLE TO ENSURE THAT THE COMPACTION REQUIREMENTS ARE MET. PERMITEE SHALL REIMBURSE THE DEPARTMENT OF PUBLIC WORKS FOR ALL COSTS ASSOCIATED WITH SUCH TESTS. SAID COSTS SHALL BE IN CONFORMANCE WITH THE HUMBOLDT COUNTY SCHEDULE OF FEES AND CHARGES FOR PERMITS AND SERVICES, AS ADOPTED BY THE BOARD OF SUPERVISORS.
6. WHEN EXISTING AC PAVEMENT IS LESS THAN 5 YEARS OLD, USE 9' MINIMUM.
WHEN EXISTING AC PAVEMENT IS MORE THAN 5 YEARS OLD, USE 0.5' MINIMUM

NOTE: FIGURES HEREON ARE NOT DRAWN TO SCALE, UNLESS OTHERWISE NOTED.



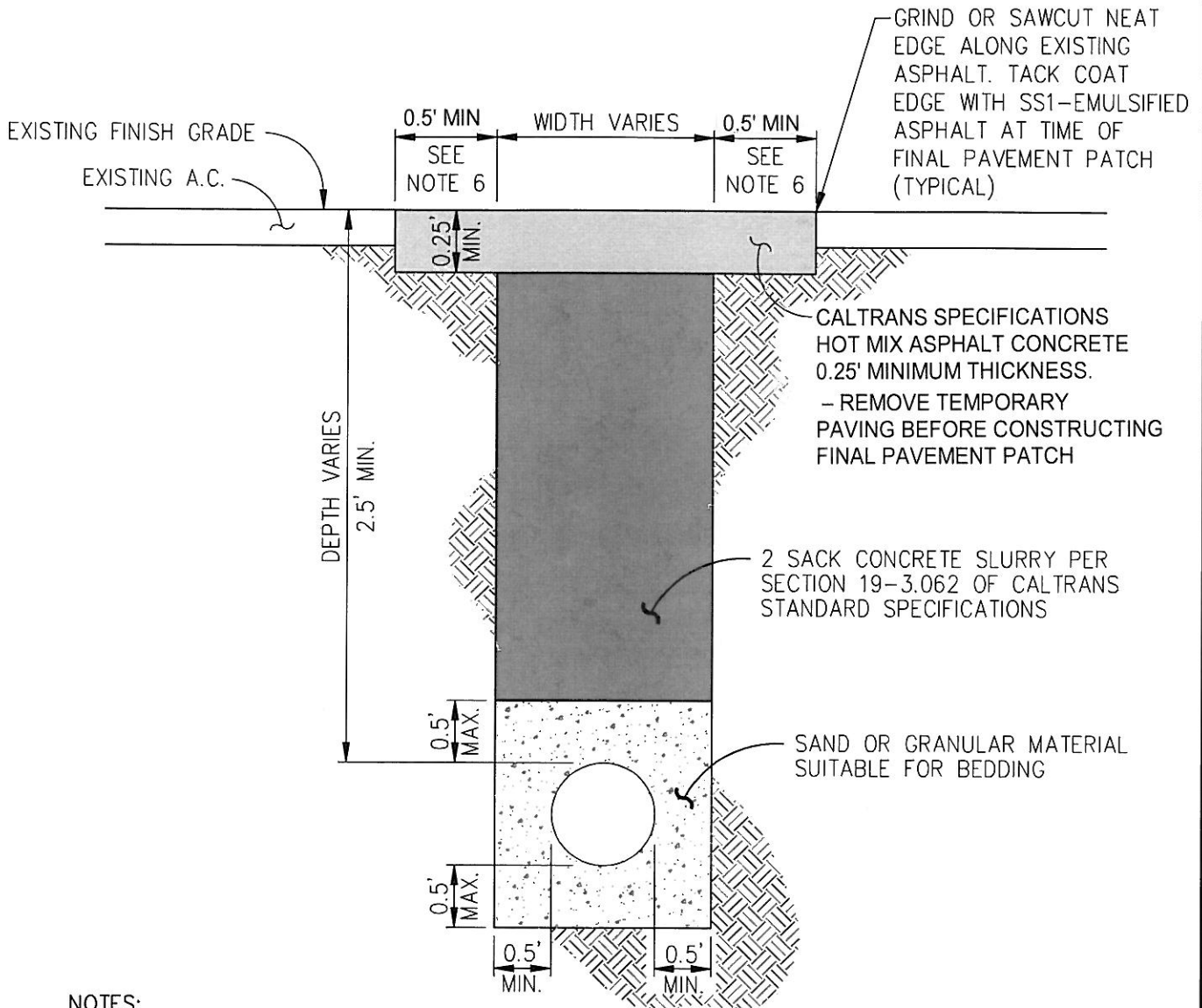
COUNTY OF HUMBOLDT
 DEPARTMENT OF PUBLIC WORKS
 1106 SECOND STREET * EUREKA * CA * 95501
 TEL (707) 445-7377 * FAX (707) 445-7409

TYPE I TRENCH DETAIL
-AGGREGATE BASE BACKFILL-

ISSUED: 08/26/2009 REVISED 04/22/2013
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STD DWG

SHT 1 OF 1



NOTES:

1. THE TRENCH SHALL HAVE AT LEAST 0.25 FEET OF TEMPORARY COLD MIX ASPHALT BEFORE OPENING ROAD TO TRAFFIC.
2. FOR ITEMS NOT SHOWN, SEE ISSUED HUMBOLDT COUNTY ENCROACHMENT PERMIT.
3. ALL MATERIALS SHALL COMPLY WITH CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION.
4. IF GROUNDWATER IS ENCOUNTERED DURING TRENCH EXCAVATION, ENGINEER AND THE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL BE CONSULTED FOR SITE SPECIFIC CORRECTIVE MEASURES.
5. THE PERMITEE, OR ITS DESIGNEE, SHALL BE RESPONSIBLE FOR PROVIDING CERTIFICATION OF MATERIALS TO THE COUNTY. THE DEPARTMENT OF PUBLIC WORKS RESERVES THE RIGHT TO MAKE AS MANY MATERIAL ASSURANCE TESTS AS IT DEEMS REASONABLE TO ENSURE THAT THE CONSTRUCTION MATERIAL REQUIREMENTS ARE MET. PERMITEE SHALL REIMBURSE THE DEPARTMENT OF PUBLIC WORKS FOR ALL COSTS ASSOCIATED WITH SUCH TESTS. SAID COSTS SHALL BE IN CONFORMANCE WITH THE HUMBOLDT COUNTY SCHEDULE OF FEES AND CHARGES FOR PERMITS AND SERVICES, AS ADOPTED BY THE BOARD OF SUPERVISORS.
6. WHEN EXISTING AC PAVEMENT IS LESS THAN 5 YEARS OLD, USE 9' MINIMUM.
WHEN EXISTING AC PAVEMENT IS MORE THAN 5 YEARS OLD, USE 0.5' MINIMUM

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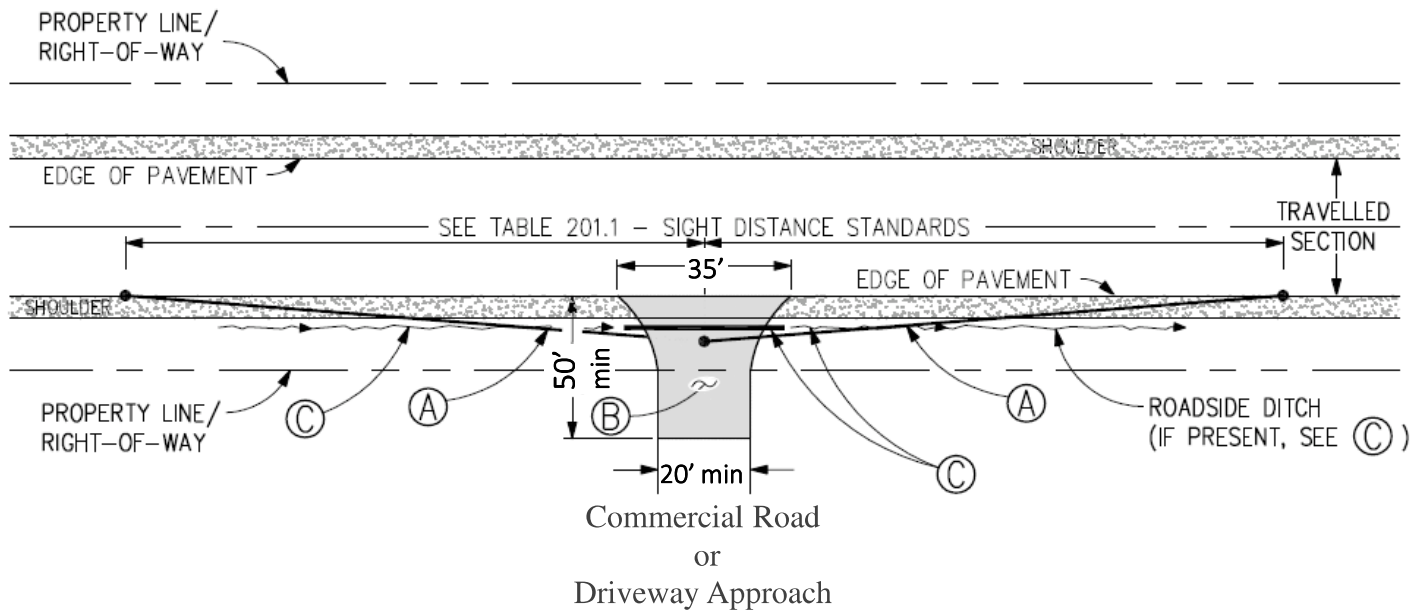


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 1106 SECOND STREET * EUREKA * CA * 95501
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TYPE II TRENCH DETAIL
-CONCRETE SLURRY BACKFILL-

ISSUED: 08/26/2009 REVISED 04/22/2013
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STD DWG
 SHT 1 OF 1



NOTE

All proposed driveway or road encroachments onto any County maintained road of within County right-of-way will be reviewed by the Department of Public Works on a case-by-case basis. This policy may result in modification to the standards or requirements set forth on this sheet.

(C) ROADSIDE DRAINAGE

The construction of any driveway approach shall not adversely impact or alter existing roadside drainage. The installation of a culvert pipe under the driveway approach in the existing ditch may be required if flow levels warrant it. Pipe size, length and location shall be determined by the Department of Public Works.

(A) SIGHT VISIBILITY LINE (TRIANGLE)

An area of unobstructed sight visibility shall be established and maintained beginning at a point 8 feet back from the edge of the existing pavement and extending each direction from the centerline of the new driveway approach.

(B) DRIVEWAY APPROACH SURFACING

If the existing County road surface is paved, the new driveway approach shall be paved with 2 inches of Type B asphalt concrete (or sufficient seal coat) on top of a minimum of 4 inches of aggregate base. The paved area shall extend a minimum of 50' feet back from the edge of the existing pavement and be flared approximately 35' feet at the intersection with the County road. The driveway shall intersect the County road at a 90° angle. The driveway grade shall not exceed 2% in the first 25 feet.

SIGHT DISTANCE STANDARDS

Design Speed ⁽¹⁾ (mph)	Stopping ⁽²⁾ (mph)	Passing ⁽³⁾ (mph)
20	125	800
25	150	950
30	200	1100
35	250	1300
40	300	1500
45	360	1650
50	430	1800
55	500	1950
60	580	2100
65	660	2300
70	750	2500
75	840	2600
80	930	2700

(1) See Topic 101 for selection of design speed.
 (2) Increase by 20% on sustained downgrades >3%



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**Commercial Rural
 Driveway No. 1**

STD DWG
 SHT 1 OF 1

LEGEND	
ROADWAY CENTERLINE	---
RIGHT OF WAY LINE	---
BLDG. SETBACK LINE	---
VISIBILITY TRIANGLE	

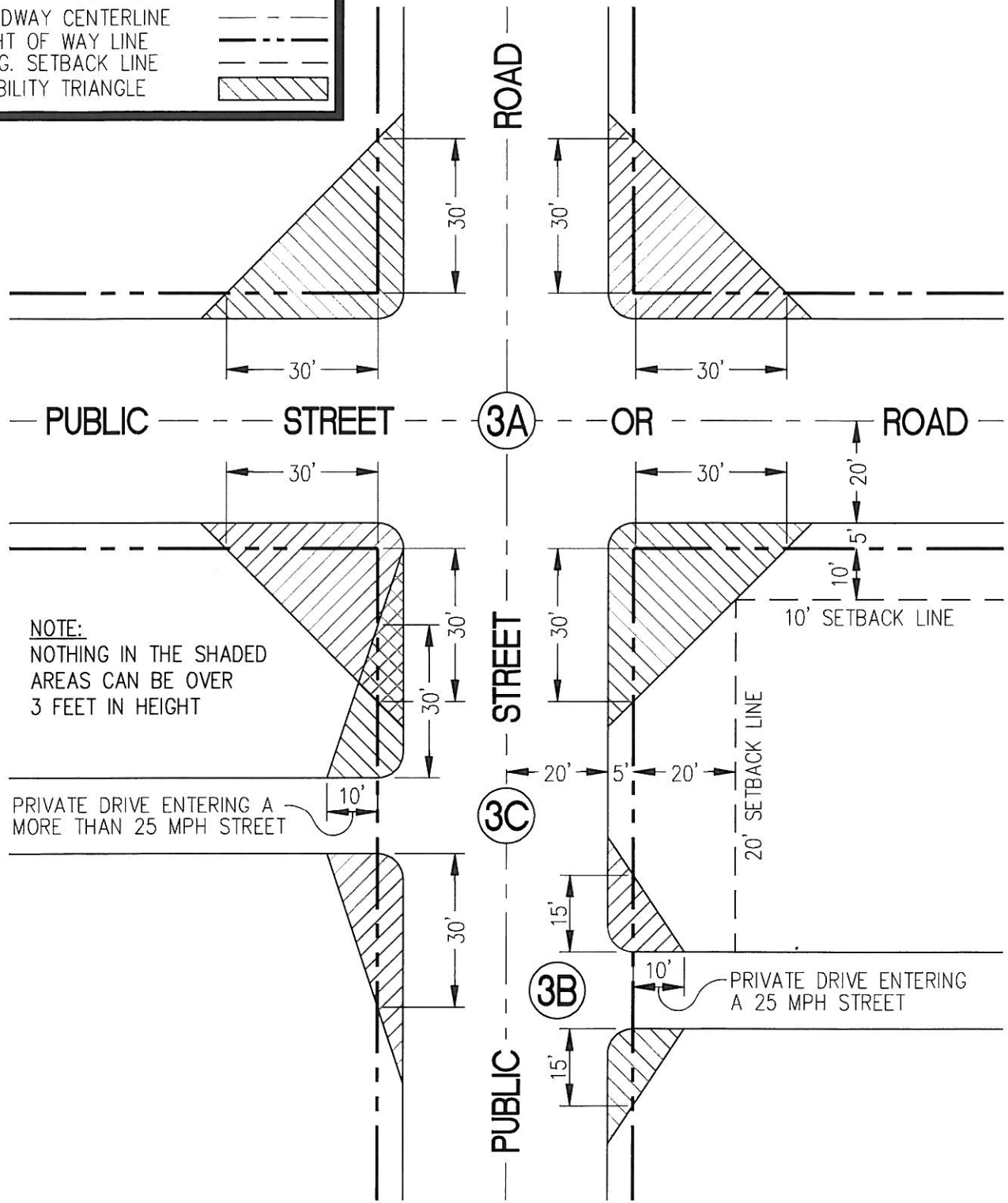


DIAGRAM TO ILLUSTRATE THE HUMBOLDT COUNTY VISIBILITY ORDINANCE ADOPTED BY THE BOARD OF SUPERVISORS ON SEPT. 17, 1974 AS ORDINANCE NO. 997.

NOTE: FIGURES HEREON ARE NOT DRAWN TO SCALE, UNLESS OTHERWISE NOTED.



COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
1106 SECOND STREET * EUREKA * CA * 95501
TEL (707) 445-7377 * FAX (707) 445-7409

VISIBILITY ORDINANCE DIAGRAM
- EXHIBIT 'A' -

ISSUED: 08/13/2008

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STD DWG

SHT 1 OF 2

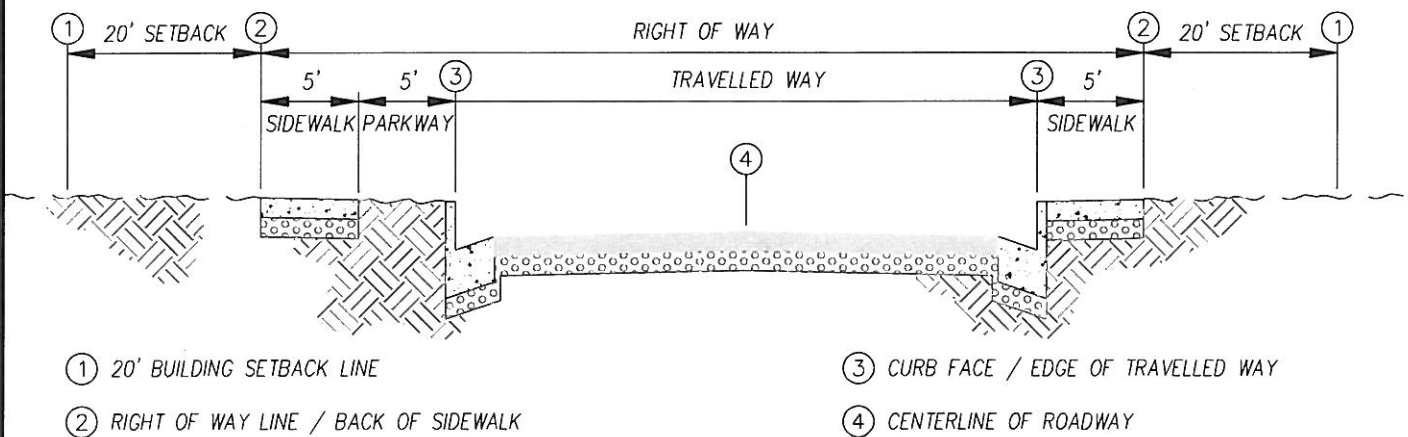
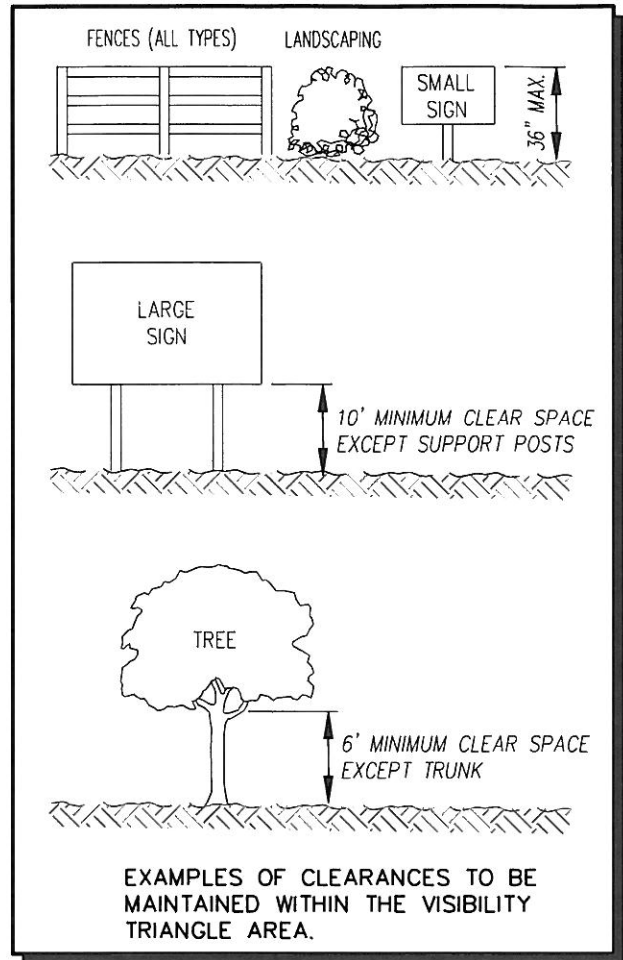
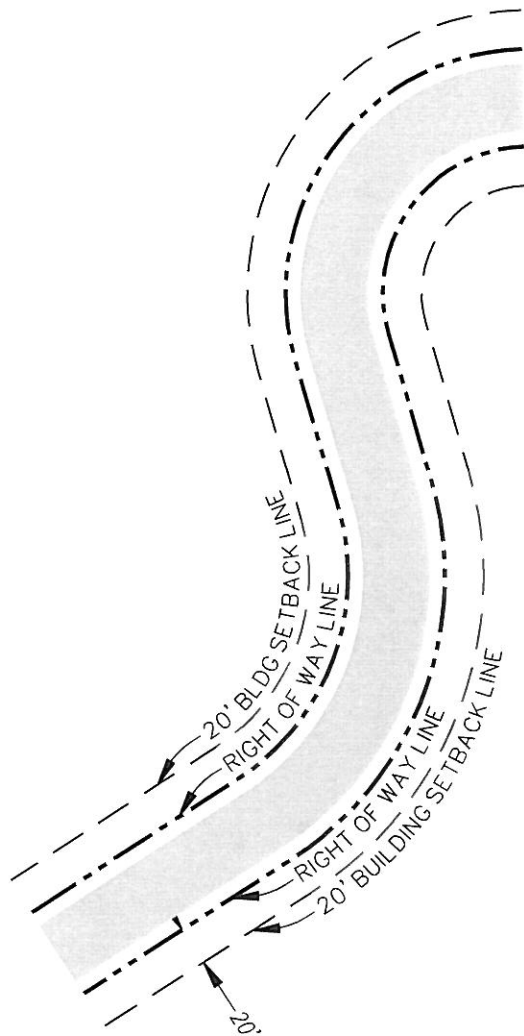


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 DEPARTMENT OF PUBLIC WORKS
 1106 SECOND STREET * EUREKA * CA * 95501
 TEL (707) 445-7377 * FAX (707) 445-7409

**VISIBILITY ORDINANCE DIAGRAM
 - EXHIBIT 'B' -**

ISSUED: 08/13/2008
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STD DWG

SHT 2 OF 2

GENERAL PROVISIONS

DEFINITION - This permit is issued in accordance with the Encroachment Permit Ordinance #896 and any amendments thereof. This permit is revocable on notice by the Director of Public Works.

ACCEPTANCE OF PROVISIONS - It is understood and agreed by the Permittee that the doing of any work under this permit shall constitute an acceptance of the conditions and provisions relative to the permit.

NO PRECEDENT ESTABLISHED - This permit is granted with the understanding that this action is not to be considered as establishing any precedent on the question of the expediency of permitting any certain kind of encroachment to be erected within right of way of County highways.

NOTICE PRIOR TO STARTING WORK - The Department of Public Works shall be notified 24 hours in advance of pouring concrete to permit inspection of subgrade and forms.

KEEP PERMIT ON SITE - This permit shall be kept at the work site and must be shown to any representative of the Grantor or any law enforcement officer on demand.

PROTECTION OF TRAFFIC - Adequate provision shall be made for the protection of the traveling public. Barricades shall be placed with amber lights at night, also flagmen employed, all as may be required by the County for the particular work in progress.

MINIMUM INTERFERENCE WITH TRAFFIC - All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public.

STORAGE OF MATERIAL - No material shall be stored within 8 feet from the edge of pavement or graveled way or within the shoulder line when the shoulders are wider than 8 feet, unless specifically authorized by this permit.

CLEAN UP - Upon completion of the work, all brush, timber, scraps, and materials shall be entirely removed and the right of way left in as presentable a condition as before work started.

STANDARDS OF CONSTRUCTION - All work shall conform to the State of California Standard Specifications and County standards.

FUTURE MOVING OF INSTALLATION - It is understood by the Permittee that the installation authorized herein shall, upon demand of the Director of Public Works, be relocated by and at the sole expense of the Permittee whenever construction, reconstruction, or maintenance on the highway may require such relocation. The Permittee must complete such relocation within the time specified in said demand.

CARE OF DRAINAGE - Permittee shall undertake such measures to prevent interference with established drainage as may be required by the Director of Public Works.

EXCAVATION - All excavation shall comply with the provisions of Chapter 3, Article 2, Section 320, of the Encroachment Permit Ordinance #896.

BACKFILL - Backfill in all trenches shall comply with the provisions of Chapter 3, Article 2, Section 321, of the Encroachment Permit Ordinance #896.

LOCATION - The shallowest portion of any pipeline or other facility shall be installed not less than 30 inches below the roadway surface, or one foot below the flow line of any drainage structure, pipe, ditch, or creek.

CURB, GUTTERS, AND SIDEWALK - Shall comply with the provisions of Chapter 3, Article 3, of Encroachment Permit Ordinance #896 and any amendments thereof.

DEFAULT OF PERMITTEE - By applying for and obtaining a permit, the Permittee agrees that if the Permittee fails to comply with the terms of the Permit, the County may elect to perform and complete the work by any method the Director deems appropriate. The Permittee shall reimburse the County for the full cost of the work at the then current Associated General Contractor's Cost Schedule for such work.

SPECIAL PROVISIONS

1. In constructing the driveway, no equipment that will damage the surface of the roadway shall be used.
2. The driveway shall be located at least 3 feet from the side property line and at least 3 feet from the centerline of any utility facility such as fire hydrants, power poles, etc.
3. The driveway(s) shall intersect the County road at a 90 degree angle. Driveway grade shall not exceed two percent (2%) for the first 25 feet commencing from the edge of the traveled way of the County road, shall have a minimum of 4 inches of aggregate base, and shall be surfaced by means of a seal coat or 2 inches of Type B asphalt concrete surfacing.
4. The driveway approach shall conform to the enclosed typical section for private driveway intersections.
5. Other conditions regarding Public Safety and Liability are included in the attached exhibits.

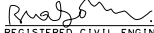
PUBLIC SAFETY

1. The Permittee in the conduct of work shall provide, erect, or maintain the lights, barriers, warning signs, and other safeguards necessary to protect the traveling public in accordance with Section 21406 of the California Vehicle Code. If at any time the Director of Public Works finds that suitable safeguards are not being provided, the County shall provide, erect, and/or maintain the safeguards deemed necessary. The Permittee shall reimburse the County for all expenses incurred by County providing, erecting, and maintaining the safeguards deemed necessary by the Director of Public Works.
2. All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public. Permittee is authorized to place flagmen to stop and warn traffic for necessary protection to public safety, but traffic shall not be unreasonably delayed. Complete closure of the road shall not be permitted unless authorized in writing by the Director of Public Works.


HOLD HARMLESS/INDEMNIFICATION

The Permittee shall agree to indemnify and hold harmless the County and each of its officers and employees from any liability or responsibility for accident, loss, or damage to persons or property arising by reason of the work done by the Permittee, or its agents, employees, or representatives. The Permittee shall, at its own expense, cost, and risk, defend any and all actions, suits, or other legal proceedings that may be brought or instituted against the County, its officers, or employees and pay or satisfy any judgment that may be rendered against the County and its officers or employees in any such action, suit, or legal proceedings arising by reason of the work done by the Permittee, its agents, employees, or representatives.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS


 REGISTERED CIVIL ENGINEER

September 20, 2024
 PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TABLE 1

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	50	100	25
60	1440	720	360	240	50	100	25
65	1560	780	390	260	50	100	25
70	1680	840	420	280	50	100	25
75	1800	900	450	300	50	100	25

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet

S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891
75	820	866	927	1003

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

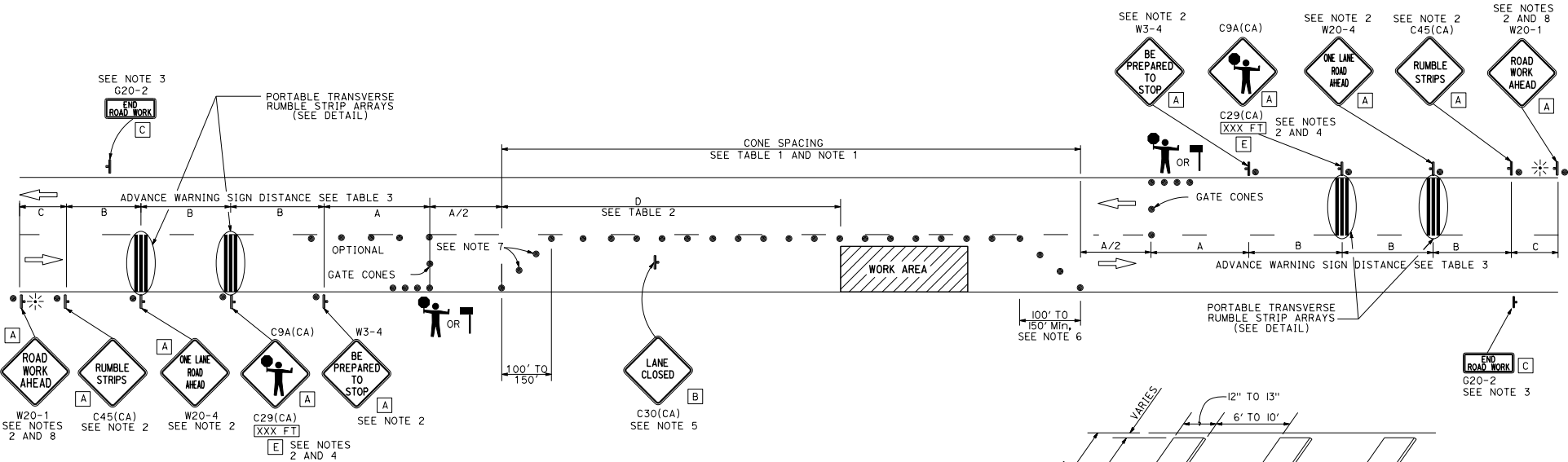
Provide at least one person to continuously maintain traffic control devices for lane closures.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 30" x 30"
- C 36" x 18"
- D 36" x 42"
- E 20" x 7"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

September 20, 2024
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



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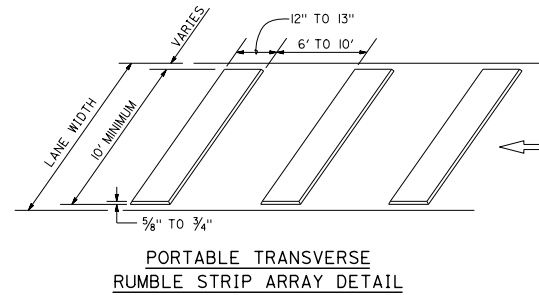
2024 STANDARD PLAN T13

NOTES:

- Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
- Sign must be equipped with at least two flags for daytime closures. Flags must be orange in color and at least 16 inches by 16 inches in size. Place flashing beacons as shown for closures during hours of darkness.
- A G20-2 "END ROAD WORK" sign, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area. They are optional if the work area is visible from the flagger station.
- Length may be reduced by the Engineer to address site conditions.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- If C45(CA) is not used, measure distance C from W20-4.

LEGEND

- TRAFFIC CONE
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ☀ PORTABLE FLASHING BEACON
- 🚧 FLAGGER
- 🚧 AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 WITH REVERSIBLE CONTROL ON
 TWO LANE CONVENTIONAL HIGHWAYS**
 NO SCALE

T13

Notes for Figure 6H-6—Typical Application 6 Shoulder Work with Minor Encroachment

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high intensity rotating, flashing, oscillating, or strobe lights.

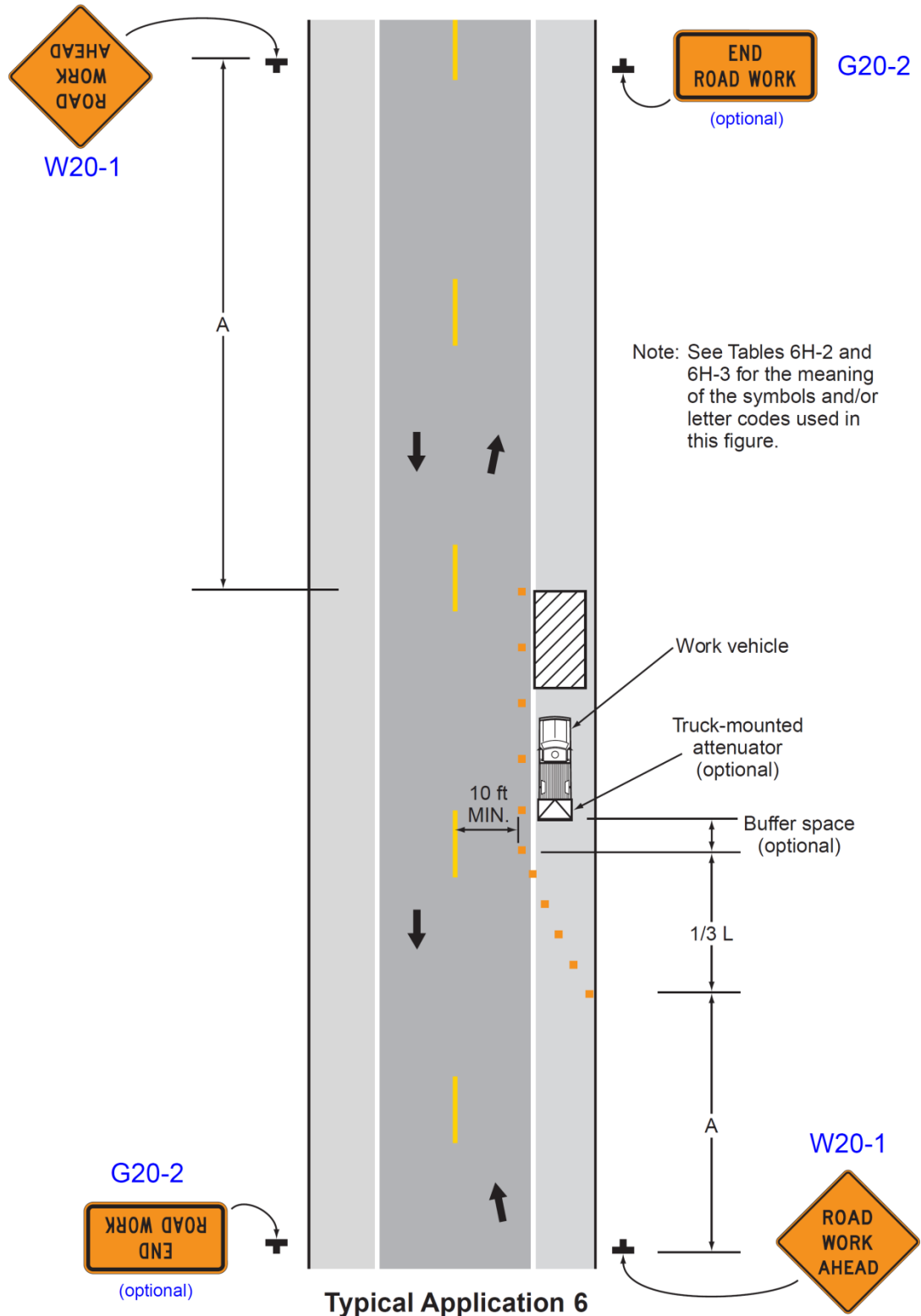
Standard:

11. **Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.**
12. **Shadow and work vehicles shall display high intensity rotating, flashing, oscillating, or strobe lights.**
13. **Vehicle hazard warning signals shall not be used instead of the vehicle's high intensity rotating, flashing, oscillating, or strobe lights.**

Guidance:

14. *All advance warning signs should be placed so that the path of travel for bicycles is not blocked, while maintaining visibility for road users.*
15. *When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, the Bicycle Warning (W11-1) sign and the SHARE THE ROAD (W16-1P) plaque should be used to advise motorists of the presence of bicyclists in the travel way lanes.*
16. *Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, speed reduction countermeasures should be used to reduce traffic speeds in the TTC zone. Refer to Sections 6C.01 and 6D.03.*
17. *Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, before narrowing the outside lane other measures such as widening the outside shoulder to allow bicyclists and motor vehicles to travel side by side through the TTC zone should be considered.*
18. *If traffic volumes make it feasible, the two left lanes should be merged into one lane to avoid using the shoulder as a traveled way lane and allowing continued use for emergency purposes and bicycle travel.*
19. *When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, a separate path should be considered for bicyclists.*

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



Typical Application 6

Table 6H-1(CA). Index to Typical Applications

Typical Application Description	Typical Application Number
Work affecting Pedestrian and Bicycle Facilities (see Section 6G.05)	
Shoulder Closure on Urban (Low Speed) Locations to Accommodate Bicyclists	TA-101(CA)
Lane Closure on Freeway, Expressway, Rural and Urban (High Speed) Locations to Accommodate Bicyclists	TA-102(CA)
Detour for Bike Lane on Roads with Closure of One Travel Direction	TA-103(CA)
Right Lane and Bike Lane Closure on Far Side of Intersection	TA-104(CA)
Work Within the Traveled Way of a Two-Lane Highway (see Section 6G.10)	
Lane Shift on Road with Low Traffic Volumes	TA-105(CA)
Work Within the Traveled Way of a Roundabout (see Section 6G.13)	
Partial Closure in a Single-Lane Roundabout	TA-106(CA)
Inside Lane Closure on a Multi-Lane Roundabout	TA-107(CA)

Table 6H-2. Meaning of Symbols on Typical Application Diagrams


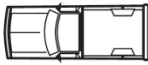





















	Arrow board		Shadow vehicle
	Arrow board support or trailer (shown facing down)		Sign (shown facing left)
	Changeable message sign or support trailer		Surveyor
	Channelizing device		Temporary barrier
	Crash cushion		Temporary barrier with warning light
	Direction of temporary traffic detour		Traffic or pedestrian signal
	Direction of traffic		Truck-mounted attenuator
	Flagger		Type 3 barricade
	High-level warning device (Flag tree)		Warning light
	Longitudinal channelizing device		Work space
	Luminaire		Work vehicle
	Pavement markings that should be removed for a long-term project		

Table 6H-3. Recommended Advance Warning Sign ~~Minimum~~ Spacing

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed) - 25 mph or less***	100 feet	100 feet	100 feet
Urban - more than 25 mph to 40 mph***	250 feet	250 feet	250 feet
Urban (high speed) - more than 40 mph***	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

- * ~~Speed category to be determined by the highway agency.~~
- ** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The “first sign” is the sign in a three-sign series that is closest to the TTC zone. The “third sign” is the sign that is furthest upstream from the TTC zone.)
- *** Posted speed limit, off-peak 85th-percentile speed prior to work starting, or other anticipated operating speed in mph.

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

**Table 6H-4(CA). Taper Length Criteria for Temporary Traffic Control Zones
 (for 12 feet Offset Width)**

Speed ^a S (mph)	Minimum Taper Length ^{**} for Width of Offset 12 feet (W)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet) ^{***}
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50
75	900	450	300	50

* - Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

** - For other offsets use the following merging taper length formula for L:

For speeds of 40 mph or less, $L=WS^2/60$

For speeds of 45 mph or more, $L=WS$

Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

*** - Maximum downstream taper length is 100 feet. See Section 6C.08.