



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
333 Bush Street, Suite 515
San Francisco, California, 94104

IN REPLY REFER TO:
(ER 18/0471)

Filed Electronically

November 27, 2018

Cynthia Jo Fowler
Regional NEPA Technical Specialist
U.S. Army Corps of Engineers, San Francisco District
1455 Market Street, San Francisco CA 94103-1398

Subject: ER18/0471 – Draft EIS/EIR, Corte Madera Creek Flood Risk Management Project

Dear Cynthia,

The United States Department of the Interior (DOI), through the U.S. Geological Survey (USGS), has reviewed the *U.S. Army Corps of Engineers, Corte Madera Creek Flood Risk Management Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR)* dated October, 2018. This project may have impacts to USGS streamgage data and analyses, and we provide comments as detailed below.

The USGS operates streamgages along streams throughout the US to collect water quantity and quality data for a variety of purposes. Continuous operation of USGS streamgages is essential for our stakeholders. These streamgages have permanent infrastructure and are vulnerable to disruption when nearby construction or dredging occurs near them. The USGS maintains an active streamgage within the proposed Corte Madera Creek project area near Ross, California.

USGS Station Number	USGS Station Name	USGS Site Status	State	County
1146000	Corte Madera Creek at Ross, CA	Current	CA	Marin

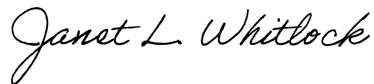
We are concerned that the proposed partial diversion of flow during high stream flow events out of the Corte Madera Creek channel into a box culvert will impact this stream gage. The proposed diversion of flow around the streamgage will impact future measured water surface elevations and discharge estimates. The rating curve, depicting the stage-discharge relationship, will be altered. Additionally, this streamgage is used by the National Weather Service (NWS) as a flood warning location with pre-determined flood categories correlated to streamgage measurements.

The DEIS/EIR should list this streamgage as a site to be safeguarded and describe a process for coordination with the USGS during design and construction. Please contact the USGS California Water Science Center (WSC) and give sufficient advanced notice before construction near active USGS streamgages when performing work in California. We appreciate your effort to preserve streamgages and to understand project impacts to the data collected at those sites.

In addition to the comments above, the United States Fish and Wildlife Service is working with your office and providing separate recommendations pursuant to the Fish and Wildlife Coordination Act.

Thank you for the opportunity to review and comment on the DEIS/EIR. If you have any questions concerning our comments on the streamgage, please contact J. Michael Norris, USGS Coordinator for Environmental Assessment Reviews, at (603) 226-7847 or at mnorris@usgs.gov. If you have further questions, please contact me at (415) 420-0524 or at janet_whitlock@ios.doi.gov.

Sincerely,



Janet L. Whitlock
Regional Environmental Officer

Cc:
Michael Norris, USGS
Dianna Crilley, USGS California Water Science Center
Douglas Weinrich, USFWS
Shawn Alam, DOI OEPC

DEPARTMENT OF TRANSPORTATION

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*Making Conservation
a California Way of Life!*

November 28, 2018

Ms. Rachel Reid
Marin County Flood Control and Water Conservation District
3501 Civic Center Drive, Room 304
City of San Rafael, CA 94903

SCH# 2008072036
04-MRN-2018-00109
GTS ID 13008

Corte Madera Creek Flood Risk Management Project – Draft Environmental Impact Report (DEIR)

Dear Ms. Reid:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced project. In tandem with the Metropolitan Transportation Commission's (MTC) Sustainable Communities Strategy (SCS), Caltrans mission signals a modernization of our approach to evaluating and mitigating impacts to the State Transportation Network (STN). Caltrans' *Strategic Management Plan 2015-2020* aims to reduce Vehicle Miles Travelled (VMT) by tripling bicycle and doubling both pedestrian and transit travel by 2020. Our comments are based on the DEIR.

Project Understanding

The purpose of the project is to manage flood risk from Corte Madera Creek associated with the Unit 4 study area and to address any potential induced flooding in Units 2 and 3. Studies identified the abrupt transition between Units 3 and 4 created by the existing Denil fish ladder, the narrow channel condition on the east and west banks, and the Lagunitas Road Bridge as constrictions to flood flow. The need for the proposed actions is to reduce/remove existing water flow impediments and constrictions within Unit 4, thus providing a greater level of flood protection in the watershed. The project would address channel modifications to Unit 4, from the upstream end of the existing Unit 3 concrete channel to Sir Francis Drake Boulevard at the border of Ross and San Anselmo, and any induced flooding downstream in Units 2 and 3 resulting from these modifications. Regional access to the project site is provided approximately 1.5 miles southwest of the US 101/Sir Francis Drake Boulevard intersection.

Structures Maintenance

Please contact Caltrans to discuss bridge improvements. Caltrans owns and/or inspects several bridges on the Corte Madera Creek, specifically bridge #27C0028. Caltrans does not support any proposed project on the Corte Madera Creek until existing problems are mitigated. Mitigation measures should commence with a complete underwater investigation of the existing bridges by a

Ms. Rachel Reid
Marin County Flood Control and Water Conservation District
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Page 2

Bridge Hydraulics Engineer. Any proposed mitigation by the bridge engineer should be submitted to Caltrans for our review. Lastly, the revised DEIR should include Scour and Tidal Calculations.

We recommend Caltrans' current Structure design codes to correct the bridge ratings for the proposed alternative new culverts. Side walls on the creek cannot be extended above any bridge soffits and must have access gates on either end of the bridge to allow Caltrans engineers to conduct bridge inspections.

Lead Agency

As the Lead Agency, the Marin County Flood Control and Water Conservation District is responsible for all project mitigation, including any needed improvements to the STN or reduction in VMT. The project's fair share contribution, financing, scheduling, implementation responsibilities and Lead Agency monitoring should be fully discussed for all proposed mitigation measures. Please submit a copy of the revised DEIR or Final Environmental Impact Report for our review.

Should you have any questions regarding this letter, please call Stephen Conteh at 510-286-5534 or stephen.conteh@dot.ca.gov.

Sincerely,


for Jannette Ramirez

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review



State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



November 28, 2018

Ms. Cynthia Jo Fowler
U.S. Army Corps of Engineers
San Francisco District
1455 Market Street
San Francisco, CA 94103-1398

Dear Ms. Fowler:

Subject: Corte Madera Creek Flood Risk Management Project, Draft Environmental Impact Statement/Environmental Impact Report, SCH #2008072036, Towns of Corte Madera, Ross, San Anselmo, and Fairfax, Marin County

The California Department of Fish and Wildlife (CDFW) received a Notice of Completion for the draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) developed by the U.S. Army Corps of Engineers (Corps) for the for the Corte Madera Creek Flood Risk Management Reduction Project (Project) in compliance with the National Environmental Policy Act and the California Environmental Quality Act (CEQA). CDFW previously submitted comments in response to the Notice of Preparation of the draft EIR.

CDFW is submitting comments on the draft EIR to inform the Corps and Marin County Flood Control and Water Conservation District (District) of our concerns regarding adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA (Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as a California Endangered Species Act (CESA) permit, a Lake or Streambed Alteration (LSA) Agreement, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

PROJECT DESCRIPTION SUMMARY

The draft EIR/EIS evaluates flood control improvements along Corte Madera Creek from the Town of Ross to the downstream end of the existing concrete channel in Kentfield, Marin County. The purpose of the Project is to reduce flood risk from Corte Madera Creek by increasing creek and floodplain capacity to convey floodwaters and enlarging some portions of the channel through the removal or modification of existing obstructions to flow, providing a greater level of flood protection in the Ross and Kentfield areas of the watershed. The Project was originally authorized under the Section 11 of the Flood Control Act of 1944 and the Flood Control Act 1962. The Project was re-authorized under the Water Resources Development Act (WRDA) of 1986 (PL 99-862, Section 823).

The draft EIR/EIS identifies Alternative J as the Tentatively Selected Plan (TSP) and preferred alternative. Alternative J would utilize a combination of an underground bypass, Allen Park Riparian Corridor, and floodwalls. The bypass would consist of two culverts, approximately 2,200-foot long, 12 feet wide and 7 feet high, under Sir Frances Drake Boulevard, which would alleviate the need for flood walls in the natural channel upstream of Lagunitas Road Bridge. The proposed alternative would also remove the Denil fish ladder; remove approximately 600 linear feet of the concrete channel creating approximately 2.02 acres and 900 linear feet of floodplains and riparian corridor at Frederick S. Allen Park; and include retaining and floodwalls around Allen Park Corridor, near Granton Park neighborhood, and adjacent to College Avenue.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the Corps and the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources, including fish habitat and passage improvements associated with the proposed Project.

Environmental Setting

Corte Madera Creek is designated critical habitat for the federal and state endangered Central California Coast Evolutionarily Significant Unit of coho salmon (*Oncorhynchus kisutch*) and the federally threatened Central California Coast Distinct Population Segment steelhead (*Oncorhynchus mykiss irideus*). Corte Madera Creek is also designated essential fish habitat for various life stages of salmon. Steelhead are currently present in the creek and coho have historically utilized the watershed.

The quality of the creek as a migration corridor for steelhead and coho was degraded by the construction of the concrete flood control channel and the installation of the Denil fish ladder, a partial barrier to passage. The upstream portion of the concrete channel contains 28 evenly spaced concrete pools intended to function as resting pools for migrating steelhead and coho salmon installed when the concrete flood channel was constructed by the Corps. However, most of the pools fail to reduce flow velocity and provide inadequate cover. Only a few of the existing pools provide suitable resting habitat, and migration is extremely challenging to steelhead currently utilizing the channel. The construction of the flood control channel was likely a contributing factor to the coho salmon's extirpation (Love, 2007).

Project Planning and Alternative Analyses

The Project alternatives developed as a part of the draft EIR/EIS planning process do not include sufficient fish habitat or fish passage improvements for Corte Madera Creek.

CDFW agrees with the draft EIR/EIS statements that Corte Madera Creek is critical to the long-term sustainability of steelhead and coho salmon. The existing concrete channels and fish ladder have adversely modified the geomorphic processes, ecological functions, and water quality associated with habitat for steelhead and coho salmon. However, none of the five proposed action alternatives (A, B, F, G, and J) include components to sufficiently improve fish habitat or migration and none address all 28 non-functional fish passage resting pools in Unit 3 of the concrete channel.

CDFW agrees that Alternative F is the environmentally superior alternative of the five proposed action alternatives presented in the draft EIR/EIS. However, Alternative F only includes removal of 14 of the 28 non-functional resting pools; the remaining 14 resting pools below Allen Park Riparian Corridor would remain. The preferred alternative, Alternative J and the other three action alternatives (A, B, and G), do not sufficiently address improving fish passage or habitat degraded by Corps flood channel construction. CDFW recommends that improvement of fisheries habitat and fish passage be included as part of the planning objectives for developing and analyzing alternatives. CDFW recommends including an alternative that includes an improvement for all 28 resting pools to address fish passage in Unit 3.

Specifically, CDFW recommends that the draft EIR/EIS incorporate recommendations proposed in the Corte Madera Creek Flood Control Channel Fish Passage Assessment and Alternatives Analysis (Love, 2007). Remediation of the fish passage impediments in Unit 3 by incorporating treatments into the concrete channel, such as those presented in Love (2007), would provide suitable upstream fish passage under the range of anticipated tidal and streamflow conditions through all of Unit 3. The Love report states that the preferred alternative design for resting pools would improve fish passage from 2% to 78% for low flows, and from 1% to 65% for high flows, vastly improving the ability fish passage during high and low flows.

Incorporating the 2007 Love report, offers the opportunity for both remediation of impacts to steelhead and coho, while also providing flood risk management to protect life and property.

Significant Impacts

CEQA requires consideration and discussion of significant environmental impacts, including clear identification and description of the direct and indirect significant effects of the project. The discussion of potential impacts should include relevant specifics of the area, the resources involved, and physical changes and alterations to ecological systems. [CEQA Section 15126.2 (a)]. A description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance is required [CEQA Section 15126.2 (b)]. At the current level of design, CDFW is not able to determine if there will be significant impacts as a result of the new storm water drainage facilities or expansion of the existing facilities.

All five action alternatives include the placement of floodwalls. These floodwalls would prevent or reduce creek flood flows into the floodplain and may also alter the existing interior storm water drainage systems.

The construction of new storm water drainage facilities or expansion of existing facilities could cause unknown significant environmental effects because detailed information about these features, including their location, number, and design, has not yet been developed. CDFW agrees with statements in the draft EIR/EIS indicating additional environmental review pursuant to CEQA may be required. CDFW recommends analyzing the action alternatives to predict impacts to the storm water drainage facilities and from construction. This should also include an analysis of the avoidance and mitigation measures.

Riparian Habitat Impact Analysis

The draft EIR/EIS states that all floodwalls and retaining walls would meet requirements of Corps' Engineer Technical Letter (ETL) 1110-2-583 *Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures* (ETL 1110-2-583) (April 2014). ETL 1110-2-583 requires a minimum 15-foot vegetation-free zone along each face of the structure. While grass is allowed within the flood wall vegetation-free zone, variances for other vegetation types will be required.

The riparian habitat impact analysis in the draft EIR/EIS evaluates the loss to riparian habitat assuming a 15-foot buffer on each side of the wall (without a variance). A risk analysis would be performed for Corte Madera Creek prior to Project engineering and design and results will be included in the final design to assess compliance with ETL 1110-2-583.

CDFW considers riparian habitat a sensitive plant community that is valuable for a diversity of wildlife species. Riparian zones maintain shade (which is especially important for regulating water temperatures for fish), protect against windthrow, produce litterfall, provide important migratory routes for wildlife, and serve to recruit instream woody debris which provides habitats, food and shelter for invertebrates and fish. Riparian vegetation also acts as a filter strip for sedimentation from erosion sources. CDFW supports a variance for the 15-foot floodwall buffer and recommends the area be planted with riparian vegetation of all types, including grasses, herbs, vines, shrubs, and trees, with trees being utilized to the maximum extent possible.

The Project area should be revegetated and restored within the same season as construction following a Restoration Plan accepted in writing by CDFW. CDFW recommends habitat mapping and tree surveys be conducted to refine potential impacts prior to submitting the Restoration Plan.

The TSP/Preferred Alternative includes creation of Allen Park and an overall net increase of 1.349 acres of riparian habitat (increasing the riparian area from 0.433 acres to 1.782 acres). CDFW recommends survey results identifying sensitive natural communities be submitted to CDFW, along with a robust and varied native vegetation plan for Allen Park and any off-site revegetation areas prior to commencement of construction activities.

CDFW believes that replanting native and non-native trees at a 1:1 ratio is insufficient to capture the size and temporal loss of tree removal. To compensate for the removal of any native trees

and non-natives, replacement ratios should be as follows: All native trees between 3 and 6 inches in diameter (at breast height) at a 3:1 ratio with a combination of native trees and/or appropriate understory and lower canopy plantings. Native trees greater than 6 inches in diameter should be replaced with native trees at a 6:1 ratio. Non-native trees greater than 12 inches in diameter should be replaced at a 1:1 ratio. Replacement plantings should consist of 5-gallon saplings and locally-collected seeds, stakes, or other suitable nursery stock as appropriate, and should be native species to the area adapted to the lighting, soil, and hydrological conditions at the replanting site. Individual oak trees that to be removed should be replanted at a minimum 10:1 ratio. If acorns are used for replanting, the mitigation ratio should be at a minimum 15:1 ratio and each planting will include a minimum of three acorns planted at an approximately 2-inch depth to minimize predation risk. Large acorns should be selected for plantings. Replacement oaks should come from nursery stock grown from locally-sourced acorns, or from acorns gathered locally, preferably from the same watershed in which they are planted.

The Restoration Plan should monitor and maintain, as necessary, all plants for a minimum of ten (10) years to ensure successful revegetation. Planted trees and other vegetation should each have a minimum of 85 percent survival at the end of five years. If revegetation survival and/or cover requirements do not meet established goals, replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements should occur. Replacement plants should be monitored with the same survival and growth requirements for five years after planting.

Further, as a condition of Project approval, the applicant should submit an LSA Notification to CDFW, as applicable, as described above and adhere to any conditions required by an LSA Agreement, if issued.

Lake and Streambed Alteration

CDFW requires an entity to submit a LSA Notification, pursuant to Fish and Game Code section 1600 et. seq., for project activities affecting lakes or streams and associated riparian habitat. The District is considered an entity under Fish and Game Code 1600; therefore, they may be required to submit a Notification for the Project. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement, if applicable. CDFW may not execute the final LSA Agreement (or Incidental Take Permit) until it has complied with CEQA as a Responsible Agency.

Permanent Modifications to the Corte Madera Creek

Permanent modifications to the stream channel include construction of the bypass culverts and removal of the Denil fish ladder to create a smooth grade transition using a combination of natural bed material and biotechnical bank treatments. The draft EIR/EIS states that regrading would be done in consultation with National Marine Fisheries Service (NMFS) to ensure adequate features, such as resting pools. Culverts would be installed with screens to prevent

fish entrapment and would be designed in accordance with NMFS Fish Screening Criteria for Anadromous Salmonids (NMFS, 1997).

Both the bypass and regrading should assess impacts, and at a minimum, be designed to maintain existing year-round instream habitat. The analysis should include the geomorphology of the creek upstream of the bypass outlet. CDFW recommends a critical riffle analysis utilizing CDFW's Standard Operating Procedure for Critical Riffle Analysis for Fish Passage in California.¹ This may include addressing fish passage design criteria, sediment transport, design storm elevations, scour potential, and shear stress involved in the bypass structure.

CDFW recommends implementing guidance and recommendations from the California Salmonid Stream Habitat Restoration Manual.² Fish passage should include rearing, foraging, osmoregulation, smoltification, and related functions necessary to support fish through a range of life stages. Avoid use of heavy geotextile fabric and minimize the use of rock riprap to the extent feasible to achieve bank stabilization. If fabric is needed, it should be made of natural, biodegradable materials. Stabilization should be achieved through integration of biological bank stabilization methods, including use of live willow cuttings and other appropriate native species.

Fish and Game Code section 5901 states that unless authorized, it is unlawful to construct or maintain a device that prevents or impedes the passing of fish up and downstream. Fish and Game Code section 45 defines "fish" as a wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn or ova thereof.

Please coordinate with CDFW for technical support and assistance. CDFW supports channel naturalization and the restoration of habitat and channel complexity to support fisheries and a broad range of aquatic and riparian wildlife.

Sea Level Rise

The State of California Sea-Level Rise Guidance/2018 Update (California Natural Resources Agency, 2018) provides a science-based methodology for state and local governments to analyze and assess the risks associated with sea-level rise and incorporate sea-level rise into their planning, permitting, and investment decisions. The Marin Shoreline Sea Level Rise Vulnerability Assessment/Bay Waterfront Adaptation & Vulnerability Evaluation (BayWAVE) (Marin County 2017) provides context and estimates of the physical and fiscal impacts across the County's bayside shoreline over the coming decades. It includes sea level rise scenarios ranging from 10 inches in the near-term (15 years) to 20 inches in the medium-term (mid-century) and to 60 inches in the long-term (end of century).

The Corps projected intermediate sea level change of about 0.83 feet, or about 10 inches, over the next 50 years (2017-2067) was incorporated in this EIS/EIR analysis. The period of Project analysis begins with the year that Project outputs are first expected (Year 0, which is 2025 for this study) and spans 50 years (to Year 50 or 2075). Since the purpose of the Project is to reduce long-term flood risk, and a portion of this downstream channel is tidal, CDFW

¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93986&inline>

² <https://www.wildlife.ca.gov/Grants/FRGP/Guidance>

recommends incorporating the long-term (end of century) scenarios for sea level rise, beyond the 15-year estimate, to fully evaluate Project impacts.

Special-Status Species

The draft EIR/EIS identifies species listed as rare, threatened, or endangered by the CDFW pursuant to the CESA of 1970, as amended as special-status species. CDFW recommends including candidate species as well. In addition to special-status fish, special-status species potentially occurring within the Project area include, but are not limited to: foothill yellow-legged frog (*Rana Boyleii*), a CDFW candidate for listing as threatened (not a Species of Special Concern as listed in the draft EIR/EIS); western pond turtle (*Actinemys marmorata*), a Species of Special Concern; white-tailed kite (*Elanus leucurus*), a fully protected species; pallid bat (*Antrozous pallidus*) and hoary bat (*Lasiurus cinereus*), both Species of Special Concern.

CESA prohibits the unauthorized take of threatened and endangered species. Therefore, if “take” or adverse impacts to listed or candidate species cannot be avoided either during Project activities or over the life of the Project, a CESA permit must be obtained (pursuant to Fish and Game Code § 2080 *et seq.*). Issuance of a CESA permit is subject to CEQA documentation; therefore, the CEQA document should specify impacts, mitigation measures, and a mitigation monitoring and reporting program for both construction activities and for life of the overall Park improvements. If the proposed Project will impact any CESA-listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required to obtain a CESA permit. More information on the CESA permitting process can be found on the CDFW website at <https://www.wildlife.ca.gov/Conservation/CESA>.

CDFW has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles and fish pursuant to Fish and Game Code Sections 3511, 4700, and 5050. “Take” of any fully protected species is generally prohibited. Therefore, the draft EIR/EIS is advised to include measures to ensure complete take avoidance of any fully protected species.

Fish and Game Code sections protecting birds, their eggs and nests include 3503 (regarding unlawful take, possession or needless destruction of the nests or eggs of any bird), 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

CDFW recommends following survey guidelines and protocols available at <https://www.wildlife.ca.gov/Conservation/Survey-Protocols>. CDFW staff are available to assist with determination of appropriate habitat assessments and surveys that should be conducted.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

To ensure significant impacts are adequately mitigated to a level less-than-significant, CDFW recommends all impacts to be identified and appropriate mitigation measures be incorporated as enforceable conditions into the final CEQA document for the Project. CDFW appreciates the opportunity to comment on the draft EIR to assist the Corps and District in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Deborah Waller, Environmental Scientist, at (707) 576-2880 or Deborah.Waller@wildlife.ca.gov; Mr. Ryan Watanabe, Environmental Scientist, at (707) 576-2815 or Ryan.Watanabe@wildlife.ca.gov; or Ms. Karen Weiss, Senior Environmental Scientist (Supervisory), at Karen.Weiss@wildlife.ca.gov.

Sincerely,



Gregg Erickson
Regional Manager
Bay Delta Region

cc: Office of Planning and Research, State Clearinghouse, Sacramento (SCH# #2008072036)

REFERENCES

California Department of Fish and Game, 2015. Standard Operating Procedure for Critical Riffle Analysis for Fish Passage in California, DFG-IFP-001, California Department of Fish and Game, Instream Flow Program, October 2012, Updated February 2015.

California Salmonid Stream Habitat Restoration Manual, fourth edition. Prepared by Gary Flosi, Scott Downie, James Hopelain, Michael Bird, Robert Coey, and Barry Collins.

California Natural Resources Agency, 2018. State of California Sea-Level Rise Guidance, 2018 Update.

Love, Michael and Associates and Jeff Anderson and Associates. 2007 Corte Madera Creek Flood Control Channel Fish Passage Assessment and Alternative Analysis. September 2007.

Marin County. 2018. BayWAVE: Sea Level Rise and Marin's Bayside.
<https://www.marincounty.org/main/marin-sea-level-rise/baywave>

National Marine Fisheries Service (NMFS). 1997. Fish Screening Criteria for Anadromous Salmonids, January 1997.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

November 27, 2018

Ms. Tessa Beach
U.S. Army Corps of Engineers, San Francisco District
Planning Branch
1455 Market Street
San Francisco, California 94103-1398

Subject: Draft Environmental Impact Statement for the Corte Madera Creek Flood Risk Management Project, Marin County, California (EIS No. 20180239)

Dear Ms. Beach:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the Corte Madera Creek Flood Risk Management Project (Project) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

Since 2015, EPA and other agencies have been coordinating closely with the U.S. Army Corps of Engineers (USACE) to provide technical and NEPA compliance support for the subject project. We recognize USACE's leadership in this collaborative process, which has resulted in substantial improvements to the proposed project and alternatives. Notably, Alternatives J (the Tentatively Selected Plan and Preferred Alternative) and F both include bypass culverts to move flood flows out of Unit 4. This important feature would allow Unit 4 to maintain its existing riparian vegetation and geomorphic characteristics, thereby avoiding the adverse impacts to water quality and critical habitat that would occur with the use of other flood control structures such as floodwalls. All alternatives include the removal and replacement of the Denil fish ladder, using "natural bed material and biotechnical bank stabilization or stone protection treatments (page 3-2)", rather than the concrete hardscaping that was originally designed for this structure. Lastly, Alternatives F, G, and J include the Allen Park Riparian Corridor, which would receive the flood flows from the creek and bypass culverts. This feature would remove part of the existing concrete channel with ineffective fish resting pools in Unit 3 and replace it with native substrate and a widened channel. Given these improvements described in the DEIS, EPA has no outstanding concerns regarding the anticipated impacts of the project.

The DEIS states that a risk analysis will be performed for the project, the results of which will be included in the final design to assess compliance with the USACE vegetation policy and determine whether a variance from the policy would be appropriate. According to the DEIS, "this will determine to what extent riparian vegetation could be restored at Frederick Allen Park Riparian Corridor within 15 feet of floodwalls" (page 3-3). EPA suggests that the Final EIS (FEIS) provide the status of the variance request.

The project's performance would depend on coordinated flood protection management throughout the watershed. Related flood management efforts are underway or proposed in Marin County by the subject

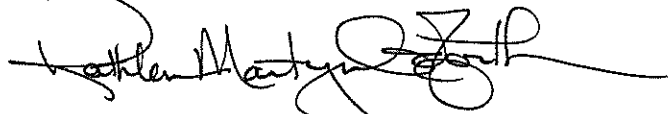
project's local sponsor (Marin County Flood Control and Water Conservation District), including the proposed Ross Valley and San Anselmo flood protection projects. This presents an opportunity for the local sponsor to analyze sediment transport and ecosystem functions on a watershed basis to inform project planning. We suggest that USACE include in the FEIS the results of any such analyses, if available.

While the proposed project would provide improvements in the upper section of Unit 3 and would not, itself, have negative impacts to fish passage and habitat quality, EPA recognizes that these improvements are unlikely to yield benefits to fish migration, as fish passage is hindered by the unimproved sections of the concrete channel downstream in Units 2 and 3 (page 4.6-9). For future reference, we suggest that the design of any improvements to Units 1-3 be consistent with current goals for fish passage and baylands resilience. As stated in our February 16, 2016 scoping letter, we suggest that the tidal reaches of the project -- Units 1 and 2 -- maximize baylands resilience by restoring complete wetland systems with multiple interconnected habitat types, consistent with the scientific consensus of the Baylands Ecosystem Habitat Goals Science Update 2015 (*The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015*, prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. California State Coastal Conservancy, Oakland, CA. Available: <http://baylandsgoals.org/>). Given sufficient sediment supply, there may be opportunities to create connectivity from the creek mouth to the nearest tidal marsh habitat. In areas where habitat connectivity is not feasible, we suggest that future project planning consider furthering natural sediment transport or employing the beneficial reuse of dredged materials on baylands that need augmented sediment supply to adapt to sea level rise.

Effective October 22, 2018, EPA no longer includes ratings in our comment letters. Information about this change and EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>.

EPA appreciates the opportunity to review this DEIS, and we are available to discuss our comments. When the FEIS is released for public review, please send one hard copy and one CD to the address above (mail code: ENF-4-2). If you have any questions, please contact me at 415-972-3521, or contact Jean Prijatel, the lead reviewer for this project. Ms. Prijatel can be reached at 415-947-4167 or prijatel.jean@epa.gov.

Sincerely,



Kathleen Martyn Goforth, Manager
Environmental Review Section

cc: Christina Toms, San Francisco Bay Regional Water Quality Control Board
Rick Rogers, NOAA Fisheries West Coast Region
Hugh Davis, Marin County Flood Control and Water Conservation District

San Francisco Bay Regional Water Quality Control Board

Sent via electronic mail: No hard copy to follow

November 27, 2018
Place ID 853256

U.S. Army Corps of Engineers
1455 Market Street, 17th Floor
San Francisco, CA 94103
Attn: Cynthia Fowler
E-mail: cynthia.j.fowler@usace.army.mil

Subject: Comments on the Draft Environmental Impact Statement/Environmental Impact Report for the Corte Madera Creek Flood Risk Management Project

Dear Ms. Fowler:

The San Francisco Bay Regional Water Quality Control Board (Water Board) appreciates the opportunity to comment on the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for the Corte Madera Creek Flood Risk Management Project (Project). The Project is a joint effort between the U.S. Army Corps of Engineers (Corps) and the Marin County Flood Control and Water Conservation District (District) to improve flood conveyance and reduce flood risks through Units 2, 3, and 4 of the federal channel, roughly from the towns of San Anselmo and Ross downstream to the unincorporated community of Kentfield.

The Water Board has been an active partner of the Corps and District through the Project's planning, design, and now regulatory compliance processes, and appreciates both agencies' willingness to collaborate with the Water Board and other resource and regulatory agencies. In addition to regular engagement through the Flood Zone 9 Technical Working Group and related forums, the Water Board has submitted four previous comment letters on the project:

- March 2016 comments on the Project's Notice of Preparation (NOP) of a Joint EIS/EIR;
- June 2016 comments on the Draft Report Synopsis for the Project's General Reevaluation Study: Alternatives Milestone;
- January 2017 comments on the Project's December 2016 design updates; and
- January 2018 comments on the Project's January 2018 design alternatives.

In these letters and related dialogue throughout the planning and design processes, we have consistently emphasized the need for the Project to address degraded environmental conditions in the creek, including impacts to beneficial uses that stem from the Corps' concrete channelization of the creek through Units 2 and 3 in the late 1960s and early 1970s. As previously documented, these actions severely degraded the quantity and quality of stream and riparian habitats in the system and significantly contributed to reductions in populations of steelhead and other aquatic species in the Corte Madera Creek watershed. In our January 2018 letter, we expressed our preference for Alternative F as the Tentatively Selected Plan (TSP). This alternative would remove the most concrete channel from Units 2 and 3, and minimize floodwall construction that could result in the permanent loss of riparian vegetation.

The DEIS/EIR analyzes Alternative F as well as a scaled-down version, Alternative J. Alternative J leaves in place all of the concrete channel in Unit 2 and most of the concrete channel in Unit 3. Alternative J was developed through a value engineering exercise summarized in Appendix F of the DEIS/EIR. This appendix describes five modified versions of Alternative F that achieve benefit to cost ratios greater than unity; the one with the largest ratio (*Alt. F "Scaled" – Skinny*, with a ratio of 1.26) was turned into Alternative J. The DEIS/EIR describes Alternative F as the environmentally superior alternative, and Alternative J as the preferred alternative and TSP.

During the NEPA-CEQA scoping process in early 2016, the original Project description relied primarily on channel widening/deepening in Unit 4 and floodwalls in Units 2 and 3 to improve flood protection through the Project reach and did not include any channel naturalization measures. The subsequent collaboration between the Corps, District, and resource and regulatory agencies is reflected in Alternatives F and J, which include channel naturalization and other environmental improvements requested by the Water Board and other stakeholders. Compared to earlier Project design concepts, these alternatives are much more consistent with Water Board policies and regulations regarding the protection of the federally-approved beneficial uses of Corte Madera Creek. Accordingly, we acknowledge and appreciate how the Project design has evolved since 2016.

Our primary concerns about the alternatives and environmental analysis presented in the DEIS/EIR are:

- 1. Variations of Alternative F.** As a responsible agency under the California Environmental Quality Act (CEQA), the Water Board is obligated to comment on additional alternatives, impacts, and mitigation measures that should be included in a DEIR (CEQA Guidelines §15096(b) and (d)). Additional alternatives must be reasonable, and feasibly attain the objectives of the Project while avoiding or substantially lessening its significant effects (CEQA Guidelines §15126.6). In addition, for the Water Board to certify the proposed Project pursuant to Section 401 of the Clean Water Act (CWA), we will require the District to conduct an alternatives analysis consistent with the U.S. Environmental Protection Agency's 404(b)(1) Guidelines. The Water Quality Control Plan for the San Francisco Bay

Basin (Basin Plan) incorporates the 404(b)(1) Guidelines by reference to determine the circumstances under which filling of wetlands, streams or other waters of the U.S. and/or the State may be permitted. In accordance with the Basin Plan, filling, dredging, excavating, and discharging into a wetland or water of the state is prohibited unless the project meets the least environmentally damaging practicable alternative (LEDPA) standard as determined through a 404(b)(1) alternatives analysis. Although the LEDPA analysis is not required by CEQA, a project proponent may tailor the DEIR alternative analysis to fulfill both the CEQA and 404(b)(1) requirements to help expedite the Water Board's certification of the Project pursuant to Section 401 of the CWA and/or waste discharge requirements under Porter-Cologne.

The four variants of Alternative F assessed in Appendix F that were not turned into Alternative J (*Alt. F "Scaled" – Full*, *Alt. F "Scaled" – 10 yr LOP*, *Alt. F "Scaled" – 50 yr LOP*, and *Alt. F "Scaled" – Skinny w/ RE*) all have benefit to cost ratios above unity, ranging from 1.11 to 1.17. Aside from the LOP (Level of Protection) labels, it's not entirely clear what measures these variations include, and how their environmental benefits and impacts would compare to Alternative J. We are especially interested in knowing if there is a version of Alternative F that maximizes concrete removal and channel naturalization in the downstream COM reach without necessitating the construction of box culverts at the College Avenue Bridge, which we understand is a major contributing factor to the construction costs (and therefore the benefit-cost ratio analysis) that is currently preventing Alternative F from being selected as the preferred alternative and TSP. If such an alternative exists, it may also qualify as the LEDPA, and satisfy the requirements of the 404(b)(1) alternatives analysis. We therefore request that the Corps and District provide additional information describing (1) the Alternative F variations described in Appendix F, and (2) a variation that would maximize the environmental benefits of channel naturalization and concrete removal in Unit 2 and the downstream portion of Unit 3 while minimizing costs.

- 2. Fish Passage in Units 2 and 3.** Alternative J would significantly improve beneficial uses, such as spawning, migration, and cold water habitat, in about 975 linear feet creek by (1) replacing an ineffective fish ladder with an earthen channel designed to allow fish passage, and (2) replacing a portion of existing concrete channel at Frederick Allen Park with a floodplain park that includes an earthen channel, associated floodplain, and riparian habitat. However, the benefits from this work will not be fully realized until the downstream conditions in Units 2 and 3 are addressed. Michael Love and Associates (MLA) (2007)¹ documented how difficult upstream passage through Units 2 and 3 is for steelhead under existing conditions, especially during lower tide stages. A

¹ Michael Love and Associates (MLA), 2007. Corte Madera Creek Flood Control Channel: Fish Passage Assessment and Alternatives Analysis. Produced for the Friends of Corte Madera Creek Watershed, Marin County Flood Control and Water Conservation District, and the U.S. Army Corps of Engineers.

subsequent analysis (MLA 2018)² indicated that fish passage conditions under Alternative J would be nearly identical to existing conditions, with the exception of improved passage during highest flow analyzed (177 cfs) when concurrent with tides above +3 ft North Geodetic Vertical Datum of 1929 (NGVD 29) (roughly +5.7 ft North American Vertical Datum [NAVD 88] or around Mean High Water) – a narrow window of conditions. This analysis underscores the importance of channel naturalization through Unit 2 (see comments above), as well as other measures, such as modifying fish resting pools in Unit 3 (discussed in depth with the Corps and NMFS in 2016 and 2017), which would likely significantly broaden the window of fish passage through Units 2 and 3 (i.e., passage would be improved under a much broader range of flow and tide stage conditions). In our previous comment letters, we requested that the Project and DEIS/EIR address salmonid passage through the concrete channel, as fish migration is one of the most severely impacted beneficial uses of Corte Madera Creek. We therefore request that the Corps and District revise the DIES/DEIR to include a discussion of fish passage improvements under Alternative F and explain why previously-discussed modifications to resting pools in Unit 3 are not included in the DEIS/EIR.

3. Benefit-Cost Analyses. Due to the Project's single-purpose (flood management) authorization that dates back to the Flood Control Act of 1944, environmental benefits could not be factored into the economic analysis of the alternatives described in Chapter 2 and Appendix F of the DEIS-EIR. The inability to quantify the significant environmental benefits that would result from maximum channel naturalization and concrete removal appears to be the main obstacle preventing the Corps and County from designating the environmentally superior alternative as the TSP and preferred alternative. Accordingly, in our June 2016 comments, we encouraged the County to pursue a Water Resources Development Act (WRDA) authorization (e.g., under Section 1135 of WRDA 1986) for the Project that would allow environmental benefits to be considered within the economic analysis and possibly reduce the County's cost-share obligations for Units 2 and 3. We understand that the County could pursue alternate funding sources for concrete channel removal in the future, including a Section 1135 WRDA authorization, San Francisco Bay Restoration Authority (SFBRA) grant funds, and other grant programs. We strongly support efforts to naturalize the sections of concrete channel and improve fish passage in general. Accordingly, we are committed to working with the District and the Corps to identify and obtain supplemental funding to address the ongoing impacts to beneficial uses from the concrete channel in Units 2 and 3.

4. Permitting and Mitigation. Due to the restoration and likely net gain of natural creek channel and riparian habitat included in Alternatives F and J, we concur with the DIES/DEIR conclusion that these alternatives would not require the

² -----, 2018. Technical Memorandum: Fish Passage Evaluation of Corte Madera Creek Unit 3 for Existing Conditions and Alternative J. Produced for the Marin County Flood Control and Water Conservation District.

DR. TERRY F. YOUNG, CHAIR | BRUCE H. WOLFE, EXECUTIVE OFFICER

purchase of offsite real estate to provide mitigation for permanent impacts to Waters of the State. However, mitigation for temporary impacts, such as riparian plantings within the Project site and potentially elsewhere in the watershed, may be required depending on the details of the Project's final design. We do not anticipate that this mitigation, if necessary, would materially change the benefit-cost analysis summarized in Table 2-4.

In closing, we appreciate the progress made towards a Project design that protects the beneficial uses of Corte Madera Creek, and look forward to working with the Corps and District to reduce flooding while maximizing water quality benefits in the Corte Madera Creek Watershed. Please contact Christina Toms at 510-622-2506 or christina.toms@waterboards.ca.gov with any questions or comments.

Sincerely,

Keith H. Lichten, Chief
Watershed Management Division

Cc: U.S. EPA, Region IX:

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

November 30, 2018

Cynthia Jo Fowler
U.S. Army Corps of Engineers, San Francisco District
1455 Market Street
San Francisco, California 94103-1398

Dear Ms. Fowler,

This letter transmits NOAA's National Marine Fisheries Service's (NMFS) comments regarding the U.S. Army Corps of Engineers (Corps) Draft "Corte Madera Creek Flood Risk Management Project Environmental Impact Statement/Environmental Impact Draft EIR/EIS" (hereafter referred to as "Draft EIR/EIS"), dated October 2018. Lower Corte Madera Creek (*i.e.*, the section downstream of the Town of San Anselmo) is divided into four separate units in the Draft EIR/EIS, extending from salt-marsh habitat at the San Francisco Bay confluence (Unit 1) upstream through Unit 4, a portion constrained by suburban development near the Town of San Anselmo. To address flooding in Units 2 and 3, the Corps straightened and channelized with concrete all of Unit 3 and the upstream-most 1,700 feet of Unit 2 in 1971. However, flooding continued within Units 3 and 4 during the following decades, leading to renewed calls to address poor channel capacity through Unit 4 and associated flooding further downstream. To achieve the project's stated purpose of managing flood risk in Corte Madera Creek associated with Unit 4 and to address any potential induced flooding as a result in Units 2 and 3, the Draft EIR/EIS's Preferred Alternative (*i.e.*, Alternative J) proposes several new flood control actions, including out-of-channel flow bypass pipes in Unit 4 and flood wall construction in Units 2 and 3.

Corte Madera Creek and its main tributaries, Sleepy Hollow, San Anselmo, Fairfax, and Cascade creeks, drain a watershed of 28 square miles, and discharge to San Francisco Bay nine miles north of the Golden Gate Bridge. Much of the upper watershed is located in open space preserves, with a large portion managed by the Marin Municipal Water District for protection of its municipal water quality sources. Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*), listed as threatened under the Endangered Species Act (62 FR 43937), occur in the Corte Madera Creek watershed (Cox 2000, Rich 2000, Leidy 2003), and streams within that watershed are designated as critical habitat for this species (70 FR 52488). This watershed has considerable ecological importance to steelhead populations in Marin County and the San Francisco Estuary (Leidy 2003, NMFS 2016). Endangered CCC coho salmon (*Oncorhynchus kisutch*) are believed to be extirpated from the Corte Madera Creek watershed at this time, but streams within that watershed are designated as critical habitat for this species (64 FR 24049). Within the concrete portion of the Corps flood control channel, the condition of CCC steelhead and CCC coho salmon critical habitat, specifically its ability to provide for their conservation, has been degraded from conditions known



to support viable salmonid populations. Both steelhead and coho salmon are anadromous and must return to freshwater to reproduce. Since all rearing and spawning habitat in the watershed exists upstream of the concrete channel, improving fish passage into that upstream habitat is imperative. The following are NMFS' comments regarding the Draft EIR/EIS.

Page ES-7. TABLE ES-1, BIO-4. Document indicates only Alternatives A, B, and G will "... interfere substantially with the movement of any native resident or migratory fish or wildlife species..." however, Alternatives F and J also impact anadromous fish migration. The concrete-lined channel in Unit 3 poses a significant upstream passage impediment for adult salmonids over a large range of streamflows during the migration season.

Page ES-8. Areas of Controversy and Unresolved Issues. Adequate fish passage is included on the list under "Areas of Controversy", but not included in the section on "Unresolved Issues". This oversight is a serious flaw in the EIR/EIS and may lead readers to an unsound conclusion. Fish passage in Unit 3 has been a long-standing problem since it was constructed in 1971 and remains an unresolved issue with this project. By letter dated March 19, 2004, to the Corps, NMFS communicated the need to address the upstream fish passage problem in Unit 3 and offered to assist the Corps in developing design solutions. The Corps' April 7, 2004, response letter to NMFS (Enclosure 1) indicated this request came at an opportune time as the Corps was ready to initiate substantial design work, and that completion of any future work addressing the Corte Madera flood control channel would include a "design to improve fish passage in the constructed portion of the project and to replace or eliminate the fish ladder". Based on this commitment by the Corps, grant funds were obtained by the Friends of Corte Madera Creek to develop conceptual design solutions for Unit 3 and a fish passage assessment was completed by Michael Love and Associates in coordination with Marin County and the Corps (Love 2007). NMFS believes it is critically important that the selected alternative for the Corte Madera Creek Flood Risk Management Project mitigate for impacts to fish passage in Unit 3, which could be accomplished by incorporating the fish passage design solutions presented in Love (2007) and/or removal of the concrete channel downstream of Allen Park as partially included in Alternatives B, F, and G. Remediation of the passage impediments in the concrete channel of Unit 3 is critical to the recovery of endangered CCC coho salmon and threatened CCC steelhead in the Corte Madera Creek watershed.

Page 3-11. Table 3-2 Summary of Features for Corte Madera Creek Alternatives. Alternative J Real Estate cost is listed as \$19,232; the real estate cost described on page 3-9 is \$19,232,000.

Page 4.6-1. Regulatory Setting. This section should include a brief description of the NMFS Central California Coast Coho Salmon Recovery Plan (NMFS 2012), the NMFS Coastal Multispecies Recovery Plan for CCC steelhead (NMFS 2016), and include consideration of the various recovery actions that are germane to the project area. Channel modification is a threat to CCC coho salmon and CCC steelhead. One recovery action, in particular, in the NMFS Coastal Multispecies Recovery Plan (NMFS 2016) identifies remediation of the fish passage impediments in the Corte Madera Creek concrete flood control channel as a recovery action for Marin County and the Corps.

Page 4.6-4. Unit 4. Discussion of the existing Denil fish ladder should be expanded to include the fish passage problems associated with its inadequate hydraulic capacity combined with the adverse hydraulic conditions at the ladder entrance.

Page 4.6-5. Riverine (Concrete-lined Channel). Discussion regarding the existing 28 resting pools should be expanded to characterize current fish passage conditions. This would include the results of the Love (2007) evaluation, which showed the resting pools are too small and shallow to sufficiently reduce water velocities and predation risk at most migration flows. As a result, nearly the entire population of steelhead are unable to ascend Unit 3 during low tide conditions.

Page 4.6-9, Middle paragraph. The Draft EIR/EIS maintains that the Unit 3 concrete lined channel acts as a velocity barrier to upstream steelhead migration “during high-flow times.” As shown in Table 4.6-2, steelhead migration is significantly impaired at “moderate” flows of 40 cubic feet per second (cfs) and 77 cfs, where only 51 and 13 percent (respectively) of the modeled adult steelhead population successfully traverse upstream through the concrete channel. A more accurate interpretation of the Love (2007) results would be that steelhead migration is significantly restricted at high streamflows during high tide events. Migration conditions within the or project area worsen further during median and low tide levels, and are significantly restricted during all anticipated streamflows during lower tide levels. Reductions in migration of this magnitude are detrimental to steelhead and coho salmon, as the reductions continue the degradation of the physical and biological features (PBF) of critical habitat (*i.e.*, areas free of obstruction) for both listed species, and are contrary to recommendations made in the CCC steelhead recovery plan.

Page 4.6-9, Last full paragraph. This paragraph introduces the fish resting pools in Unit 3, but does not present the shortcomings of these pools or the significant upstream fish passage problem for salmonids through Unit 3. This section should include a description of the inherent problems with the existing resting pools, and the results of the Love (2007) assessment of adult salmonid upstream passage through Unit 3.

Page 4.6-39. Units 2 and 3. This section should discuss fish passage through Units 2 and 3 under Alternative A.

Page 4.6-43. College of Marin Widening under Alternative B. This section states the College of Marin widening element of Alternative B (also applies to Alternatives F and G) will improve fish passage, but it is unclear if improvements will address the primary passage problems in Unit 3 (*i.e.*, dysfunctional resting pools). For example, this section should clarify whether removing the concrete channel bottom will occur in the area downstream of the existing resting pools where water velocities are extremely challenging to a migrating adult steelhead and result in fatigue relatively quickly (Love 2007), or will any of the existing Unit 3 resting pools be removed. Additional analysis, similar to the work by Love (2007), is needed to convey the potential degree of fish passage improvement resulting from channel widening near the College of Marin, especially concerning fish passage ultimately through all four channel units of the project and into the upper watershed.

Page 4.6-43. Allen Park Riparian Corridor. This section should incorporate the results of Michael Love’s November 5, 2018, technical memorandum regarding the anticipated effects of Allen Park Corridor channel widening on overall fish passage through Unit 3; that is, model results indicate fish passage through Unit 3 will remain nearly unchanged with implementation of Alternative J compared to existing conditions because the areas of greatest concern for fish passage in Unit 3 are located downstream of the Allen Park Corridor.

Page 4.6-52. Summary Impacts to Alternative J. NMFS acknowledges the benefit Alternative J will have on physical habitat components within the Allen Park area. By replacing the existing concrete channel with natural stream elements, habitat quality and complexity in the park footprint will likely increase. However, when comparing migration impacts resulting from both the existing Unit 3 channel and within the shortened Unit 3 channel associated with Alternative J, modeling results now available and presented in Michael Love's November 5, 2018, technical memorandum indicate that Alternative J does not appreciably improve steelhead migration success. In fact, the modeling results demonstrate that "effective" fish passage (*i.e.*, conditions that allow passage through the concrete channel and into the middle and upper watershed where all suitable spawning/rearing habitat exists) remains unsuitable and inconsistent with future endangered coho salmon and threatened steelhead recovery.

With this new information provided in Michael Love's November 5, 2018, technical memorandum, the Corps and Marin County should reconsider their findings regarding Impact BIO-4. The Draft EIS/EIR now concludes Impact BIO-4 (impede wildlife movement) would be *less than significant* based on the assumption that "fish passage would be improved through a *large portion* of the Project area" (emphasis added). However, concluding 900 feet of improved salmonid migration habitat (*i.e.*, the fish ladder footprint and Allen Park) is a *large portion* of the overall 1.4 mile linear Project reach is inaccurate and inappropriate, considering it actually represents just a small portion (~ 12 percent). Thus, the basis for the Draft EIS/EIR's finding of *less than significant* impact on fish passage is not supported by currently available information.

NMFS appreciates the opportunity to comment on the Corps' Draft Corte Madera Creek Flood Risk Management Project Environmental Impact Statement/Environmental Impact Draft EIR/EIS. Please contact Mr. Rick Rogers at 707-578-8552 or rick.rogers@noaa.gov if you have any questions or concerns regarding this letter.

Sincerely,



Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

Enclosure

cc (via email): Jean Prijatel – EPA (prijatel.jean@epa.gov)
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Karen Weiss – CDFW (karen.weiss@wildlife.ca.gov)
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- Leidy, R. 1984. Distribution and Ecology of Stream Fishes in the San Francisco Bay Drainage (and associated unpublished data, 1981-84). *Hilgardia* 52(8).
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- Rich, A. 2000. Fishery Resources Conditions of the Corte Madera Creek Watershed, Marin County, California. A.A. Rich and Associates, San Anselmo, California. Unpublished report. 120 pages plus appendices.



REPLY TO
ATTENTION OF

APR 12 2004

SANTA ROSA, CA

DEPARTMENT OF THE ARMY

SAN FRANCISCO DISTRICT, US ARMY CORPS OF ENGINEERS

333 MARKET STREET

SAN FRANCISCO, CALIFORNIA 94105-2197

April 7, 2004

PR Schmidt
L.G.S.

DOC NO. SR63051

AR NO. 151422SWR98SR6289

AR ORIGINAL

DESK COPY

Programs & Project Management Division

Mr. Patrick J. Rutten
Northern California Supervisor, Protected Resources Division
National Marine Fisheries Service Southwest Region
United States Department of Commerce, National Oceanic and Atmospheric Administration
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404

Dear Mr. Rutten:

Thank you for your offer of assistance on Unit 4 of the Corte Madera Creek flood control project (151422SWR98SR6289:ES, 19 March 2004). Your offer comes at an opportune time.

The Corte Madera project was authorized for construction in 1966. Units 1-3 were completed by 1972 to the stage visible today. In response to local concerns, the Corps of Engineers began re-design of upstream Unit 4. However, the local sponsor (Marin County Flood Control & Water Conservation District Zone 9) suspended its participation in the project after passage of Proposition 13 in 1978, and the project was also suspended. In 1996, the local sponsor asked that the project be completed, and the Corps started to re-evaluate Unit 4. By that time, however, the project had no authorized funds; the re-evaluation has progressed slowly using annual Congressional additions to successive Budgets.

Civic discussion proceeded, and we appear ready for substantive design (although limited funding remains a hindrance). "Completion" of the project would include improved flow in the concrete channel, a replaced or eliminated "temporary" fish ladder and a sediment basin. The Town of Ross also endorsed improved in-channel flow through Ross. Our next tasks include design to improve fish passage in the constructed portion of the project and to replace or eliminate the fish ladder.

Thank you for your support. Our environmental and design staff will call upon Mr. Schmidt as they move into design activities. If you have any questions regarding Corte Madera Creek, please contact Jim Miller, Project Manager, at 415-977-8447.

Sincerely,

Michael McCormick

Michael McCormick
Lieutenant Colonel, U. S. Army
Commander



DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION

Lisa Ann L. Mangat, Director

Julianne Polanco, State Historic Preservation Officer
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calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 6, 2018

Reply in Reference To: COE851029A

Ms. Tessa E. Beach
Chief, Environmental Section A
Department of the Army
San Francisco District, US Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103-1398

Subject: Continuing Consultation on the Corte Madera Creek Flood Control Project, Unit 4 Marin County, California

Dear Ms. Beach:

On October 10, 2018, the Office of Historic Preservation (OHP) received a letter in which the U.S. Army Corps of Engineers, San Francisco District (USACE) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding the above referenced undertaking in compliance with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. 470f), as amended, and its implementing regulations 36 CFR 800.

In a letter dated October 11, 2016, the SHPO could not comment on the USACE's finding of no historic properties affected because the USACE's determination and documentation of the area of potential effects (APE) was found to be inadequate. The SHPO also commented that the USACE had provided insufficient documentation regarding identification efforts pursuant to 36 CFR §800.11 to support a finding of no historic properties affected. The SHPO provided a bulleted list of requested information to be submitted by the USACE to continue consultation for this undertaking.

At this time, the USACE's is seeking SHPO comment on the USACE's efforts to identify historic properties within the APE, determinations of eligibility, and the USACE's resolution of adverse effects as a result of this undertaking. Upon review of the supplemental information provided, the SHPO continues to be unable to provide meaningful comment on the USACE's efforts to identify historic properties within the APE as the following information/documentation requested in the SHPO's earlier October 11, 2016 remains outstanding:

1. An adequate description of the undertaking and APE. As a project alternative has yet to be chosen, it is unknown whether the APE as currently described has been adequately determined. Please note that the APE narrative should include all

- potential direct and indirect effects associated with the proposed alternatives, including a description of all potential vertical and horizontal extents, consistent with 36 CFR §800.16(d).
2. The results of the USACE's follow-up phone calls to the Federated Indians of Graton Rancheria and Randy Yonemura;
 3. An archaeological survey coverage map that delineates areas surveyed within the APE in 2010 and 2015 for this undertaking.
 4. An adequate analysis of the APE's overall sensitivity for encountering subsurface archaeological deposits. Contingent on the vertical APE, a more thorough geoarchaeological analysis may be warranted that at a minimum includes an overview of the age of buried soils and sediments in an effort to predict the locations of unidentified subsurface archaeological deposits. A map depicting the geomorphology of the APE may also be necessary. This analysis should also take into account the undertaking's extent of vertical ground disturbance as well as previous subsurface disturbances to help predict the likelihood of encountering intact subsurface deposits. Explain the methods used to verify areas of previous ground disturbing activities and subsurface sensitivity within the APE.
 5. As stated in the SHPO's October 11, 2016 letter, if specific aspects or locations of a preferred alternative have yet to be defined and therefore preclude identification and evaluation efforts, a phased process for the identification and evaluation of historic properties for this undertaking may be appropriate (36 CFR §800.4(b)(2)). Page 8 of the USACE's current letter states that monitoring will "...be conducted during earth disturbing activity in Unit 3 due to the potential for cultural resources." Monitoring is not a satisfactory method for the identification of historic properties within an APE, and further identification efforts may be warranted.

The SHPO's October 11, 2016 letter also stated that the information requested above should be presented in a technical report(s) that follow the report standards outlined in the *Secretary of the Interior's Standards and Guidelines*. The author of the report should meet the professional standards under regulations developed by the Secretary. For this current submittal, USACE has submitted documentation in accordance with the National Environmental Policy Act (NEPA) to support the SHPO's prior request. Please submit the technical reports used to develop the Cultural Resources section in the NEPA document. Environmental Impact Studies (EIS) chapters do not contain an adequate amount of detail or technical information to be considered sufficient documentation for the purposes of Section 106 consultation.

In addition to the above outstanding information and comments, upon review of the most recently submitted information provided by the USACE, the SHPO has the following new comments and questions regarding the USACE's efforts to identify historic properties within the APE and assessment of adverse effects:

- Please clarify the difference between the "study area" and the APE. Per 36 CFR 800.4(a)(1), Section 106 consultation is concerned with those potential resources

located within the APE. In examining Table 2 and Figure A of Enclosure 3, it is currently unclear which cultural resources are within the APE. If resources are not within the APE, please remove them from consultation, and provide an updated table and APE map solely depicting cultural resources within the APE. Please also submit DPR 523 forms for all cultural resources located within the APE.

- It is requested that the USACE provide the SHPO with the results of their efforts to follow-up with Native American tribes, organizations and individuals through telephone contact as indicated on page 8 of the submittal letter.
- Based on the level of documentation provided, it does not appear that the USACE has evaluated the historic significance of known cultural resources within the APE according to National Register criteria (36 CFR part 63). Therefore, it is unclear what determinations of eligibility the USACE have made and is seeking SHPO concurrence with.
- The documentation submitted lacks the USACE's assessment of adverse effects through an application of the criteria of adverse effects to each historic property within the APE and making one final finding of effect. Therefore, the SHPO cannot provide comment on the USACE's "resolution of adverse effects" absent the USACE's making a finding of adverse effects to historic properties as a result of this undertaking.

In general, the USACE's identification efforts remain incomplete and the SHPO continues to be unable to provide comment on the USACE's efforts to identify historic properties within the APE and assessment of adverse effects.

It is requested that the USACE not only address the above requested information, but that the USACE refer to 36 CFR §§800.11(a) and 36 CFR 800.11(e) as a guide for structuring all future consultation letters for this undertaking. An agency official shall ensure that a finding is supported by sufficient documentation to enable the SHPO to adequately review and comment on such finding.

If you are unsure what supporting documentation OHP recommends accompanying Section 106 consultation submittals to the SHPO please refer to http://ohp.parks.ca.gov/pages/1054/files/106checklist_details_2013_10_10.pdf for detailed recommendations. For the purposes of clarifying the undertaking and APE for SHPO review and comment, the consultation letter should include, in narrative form, all the work that will be undertaken (plans, specifications, environmental documents, etc., are helpful but should be used to supplement, not replace, this description). Be sure to identify the undertaking's purpose (in brief), acreage, and location. Include any information about building removals, rehabilitation, and landscape alterations such as sidewalk or tree removals. The project description should include enough detail to fully communicate the action, especially with regard to its potential effects on historic properties. It is acceptable to reference specific pages in attached technical reports that provide additional project details, however the consultation letter must contain sufficient information to understand the project and its potential to affect historic properties.

Ms. Beach
November 6, 2018
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The submittal of the requested additional documentation will greatly facilitate the completion of Section 106 review in a timely manner. If you require further information, please contact State Historian Kathleen Forrest at 916 445-7022 or at Kathleen.Forrest@parks.ca.gov or Associate State Archaeologist Alicia Perez at 916-445-7020 or at Alicia.Perez@parks.ca.gov.

Sincerely,

A handwritten signature in black ink, consisting of a large, stylized 'J' followed by a horizontal line that extends to the right.

Julianne Polanco
State Historic Preservation Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

March 19, 2004 In Response Refer To:
151422SWR98SR6289:ES

Lieutenant Colonel Michael McCormick
Department of Army - San Francisco District
Corps of Engineers
333 Market Street
San Francisco, California 94105-2197

Dear Colonel McCormick:

Thank you for the opportunity to provide comments to the Army Corps of Engineers (Corps) on modifications to the Corte Madera Creek Flood Control Project (Project) in Marin County, California. Based on the observations of National Marine Fisheries Service (NOAA Fisheries) staff and others, the upper portion of the mile-long concrete channel and the fish ladder present a significant barrier to upstream fish passage. We recommend that the Corps work with engineers from NOAA Fisheries, California Department of Fish and Game, and Marin County Flood Control and Water Conservation District to address this situation.

The existing condition of the flood control channel and poorly-functioning fish ladder preclude access to spawning and rearing habitat for steelhead in San Anselmo, Ross, Sleepy Hollow, and Cascade Creeks, and the upper mainstem of Corte Madera Creek. Rich (2000) noted the fish ladder's poor quality and observed that the channel exacerbates opportunities for predation of fish by birds due to the complete lack of structure or cover. Taylor and Associates (2003) report that the slots in the concrete channel are ineffective as resting pools for fish, and that the non-tidal, upper portion of the structure acts as a velocity barrier to migrating adult fish. Additionally, on January 27 of this year, NOAA biologist Erik Schmidt observed an adult salmonid at the upstream end of the concrete channel, making numerous failed attempts to negotiate the fish ladder.

Corte Madera Creek and its main tributaries, Sleepy Hollow, San Anselmo, Fairfax and Cascade Creeks, drain a watershed of 28 square miles, discharging to San Francisco Bay nine miles north of the Golden Gate Bridge. Much of the upper watershed is located in open space preserves, with a large portion managed by the Marin Municipal Water District for protection of its municipal water quality sources. Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*), listed as threatened under the Endangered Species Act (62 FR 43937), occur in Corte Madera Creek (Cox 2000, Rich 2000, Leidy 2003), and this stream is believed to have considerable ecological importance to steelhead populations in Marin County and the San




Francisco Estuary (Leidy 2003). CCC coho salmon are believed to be extirpated from the Corte Madera Creek watershed at this time, but its streams are known to have historically supported this species, and coho salmon were last observed in a San Francisco Bay tributary in Corte Madera Creek (Leidy 1984).

In consideration of the threatened status of CCC steelhead and the importance of Corte Madera Creek to this species, NOAA Fisheries would like to meet with the Corps to discuss design solutions for modifying fish passage barriers in the flood control channel. Support for improving fish passage has been expressed by the California Department of Fish and Game, Marin County Flood Control and Water Conservation District, and Friends of Corte Madera Creek.

Please contact Erik Schmidt of my staff at (707) 575-6083 if you have any questions regarding these comments and to arrange a meeting with NOAA Fisheries engineering staff.

Sincerely,



Patrick J. Rutten
Northern California Supervisor
Protected Resources Division

cc: J. Lecky, NOAA Fisheries-Long Beach
Jim Miller, Corps-SF
Kevan Urquhart, DFG-Monterey
Bill Cox, DFG-Yountville
Hal Brown, Jr., Marin County Board of Supervisors
John Wooley, Marin County Department of Public Works
Liz Lewis, Marin County Department of Public Works
Sandy Guldman, Friends of Corte Madera Creek

Literature cited

- Cox, B. 2000. Fish Distribution – Major Streams in Marin County. Unpublished report. California Department of Fish and Game. 2 pages.
- Leidy, R. 1984. Distribution and Ecology of Stream Fishes in the San Francisco Bay Drainage (and associated unpublished data, 1981-84). *Hilgardia* 52(8).
- Leidy, R., G. Becker, and B. Harvey. 2003. Historical Distribution and Current Status of Steelhead (*Oncorhynchus mykiss*), Coho Salmon (*O. kisutch*), and Chinook Salmon (*O. tshawytscha*) in Streams of the San Francisco Estuary, California. Unpublished report. Center for Ecosystem Management and Restoration, Oakland, California. 228 pages.
- Rich, A. 2000. Fishery Resources Conditions of the Corte Madera Creek Watershed, Marin County, California. A.A. Rich and Associates, San Anselmo, California. Unpublished report. 120 pages plus appendices.
- Taylor, R. and Associates, 2003. Marin County Stream Crossing Inventory and Fish Passage Evaluation – Final Report. Ross Taylor and Associates, McKinleyville, California. 73 pages.