



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
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CECW-SPD

13 Nov 20

MEMORANDUM FOR Assistant Secretary of the Army (Civil Works)

SUBJECT: Malibu Creek Ecosystem Restoration, Los Angeles and Ventura Counties, California – Final U. S. Army Corps of Engineers (USACE) Response to Independent External Peer Review

1. An Independent External Peer Review (IEPR) was conducted for the subject project in accordance with Section 2034 of the Water Resources Development Act of 2007, Engineering Circular (EC) 1165-2-217, and the Office of Management and Budget's Final Information Quality Bulletin for Peer Review (2004).
2. The IEPR was conducted by Battelle Memorial Institute (Battelle). Battelle consulted with the Flood Risk Management Planning Center of Expertise to select panel members. The IEPR panel consisted of six panel members with technical expertise in civil works planning/economics, environmental biology, civil/structural engineering, hydrology and hydraulic engineering, geology/geotechnical engineering, and coastal engineering.
3. The enclosed document contains the approved final written responses of the Chief of Engineers to the issues raised and the recommendations contained in the IEPR Report. The IEPR Report and the USACE responses have been coordinated with the vertical team and will be posted on the internet, as required by EC 1165-2-217.
4. If your staff have any questions on this matter, please contact me or have a member of your staff contact Bradd Schwichtenberg, Deputy Chief, South Pacific Division Regional Integration Team, at 202-761-1367.

SCOTT A. SPELLMON
Lieutenant General, USA
Commanding

Encl

**Malibu Creek Ecosystem Restoration Feasibility Study, Los Angeles and Ventura
Counties, California
Integrated Feasibility Report and Environmental Impact Statement
August 2020**

**U.S. Army Corps of Engineers Response to
Independent External Peer Review
Dated May 2017**

Independent External Peer Review (IEPR) was conducted for the subject study in accordance with Section 2034 of WRDA 2007, EC 1165-2-217, and the Office of Management and Budget's *Final Information Quality Bulletin for Peer Review* (2004). The goal of the U.S. Army Corps of Engineers (USACE) Civil Works program is to always provide scientifically sound, sustainable water resources solutions for the nation. The USACE review processes are essential to ensuring project safety and quality of the products USACE provides to the American people.

Battelle Memorial Institute (Battelle), a non-profit science and technology organization with experience in establishing and administering peer review panels for the USACE, served as the Outside Eligible Organization to conduct this Type I IEPR of the Malibu Creek Ecosystem Restoration Integrated Feasibility Study (IFR) and Environmental Impact Statement (EIS).

The IEPR review panel consisted of subject matter experts in the following key technical areas: civil works plan formulation/economics, environmental biology, civil/structural engineering, geology/geotechnical engineering, hydrology and hydraulic engineering, and coastal engineering. The final IEPR report from Battelle was issued on May 5, 2017 and provided to the Project Delivery Team via the USACE National Ecosystem Restoration Planning Center of Expertise (ECOPCX) on July 3, 2017.

The IEPR panel prepared nine (9) final panel comments: one (1) comment was rated as having high significance; three (3) were rated as medium/high; three (3) were rated medium; one (1) was rated medium/low; and one (1) was rated low significance. The following discussions present USACE's final responses to the comments.

A total of twenty-nine (29) recommendations were provided by the IEPR panel to address the nine (9) comments. USACE adopted seventeen (17) of these recommendations and explained its rationale for not adopting the remaining twelve (12). The IEPR Panel concurred with the responses provided by USACE for all nine (9) comments.

Comment 1 – High Significance: The project assumptions in the IFR have not factored constraints imposed by noise mitigation into the project cost estimate and schedule.

This comment included four recommendations; two of which were adopted and two of which were not adopted.

Recommendation 1: Review and evaluate noise mitigation requirements to determine if any deviation might be allowable from current requirements.

USACE Response: Adopted.

Action Taken: The IFR noise analysis found that any alternative that includes the removal of upstream barriers is anticipated to result in significant, unavoidable temporary noise impacts. In addition, all variations of Alternative 3 and Alternative 4 are anticipated to result in significant unavoidable noise impacts due to floodwall construction (*IFR, Section 5.11 – comparison of alternatives, page 441; Section 5.11, Table 5.11-11; Section 8*). Environmental Commitments (ECs) for noise to avoid or minimize adverse environmental effects were analyzed (*IFR, Section 5-11.1; Section 4.4.5, Table 4.4-2*). ECs for noise, as detailed in Section 9.2.1 of the IFR, will be implemented to minimize impacts associated with the recommended plan (Locally Preferred Plan; LPP). No further mitigation to reduce noise impacts to a less than significant level was available for the recommended plan. As a result, no cost or schedule revisions for the recommended plan are necessary for construction-generated noise.

Recommendation 2: Review and evaluate the project alternative decision process to determine if the revised cost and schedule information affects the selection of the tentatively selected plan (TSP) and the locally preferred plan (LPP).

USACE Response: Not Adopted.

Action Taken: The noise analysis in the IFR found that the National Economic Restoration (NER) Plan and LPP would result in significant, unavoidable temporary noise impacts associated with removal of upstream barriers (*IFR, Section 5.11 – comparison of alternatives, page 441; Section 5.11, Table 5.11-11; Section 8*). ECs for noise, as detailed in Section 9.2.1 of the IFR will be implemented to minimize impacts. No further mitigation to reduce noise impacts to a less than significant level are available for these alternatives. As a result, no cost or schedule revisions related to these two alternatives are necessary for construction-generated noise. Because no cost or schedule revisions were needed, there is no impact on the selection of the recommended plan.

Recommendation 3: Review and revise as necessary the cost and study Risk Registers to reflect the risk introduced by noise mitigation requirements.

USACE Response: Not Adopted.

Action Taken: The noise analysis in the IFR found that the recommended plan would result in significant, unavoidable temporary noise impacts associated with removal of upstream barriers (*IFR, Section 5.11 – comparison of alternatives, page 441; Section 5.11, Table 5.11-11; Section 8*). ECs for noise, as detailed in Section 9.2.1 of the IFR will be implemented to minimize impacts. No further mitigation to reduce noise impacts to a less than significant level are available for the recommended plan. As a result, no cost, schedule or risk register revisions were necessary to account for construction-generated noise.

Recommendation 4: Update the IFR to include a prohibition on the use of unmuffled engine brakes both on and off road.

USACE Response: Adopted.

Action Taken: The IFR was updated to include an EC for noise, N-7 – Jake Braking, prohibiting the use of engine or jake braking (*Section 9.2.1; Section 4.4.5, Table 4.4-2*).

Comment 2 – Medium/High Significance: Without details associated with different ecological functional responses, it is unclear how the Monitoring and Adaptive Management Program will be able to function as the project progresses.

This comment included four recommendations. All four were adopted.

Recommendation 1: Develop a monitoring program at a level sufficient to assess progress in detecting changing habitat conditions over a five-year period as they relate to key species occupying riverine, riparian, and estuarine habitats. Quantitative metrics are preferred.

USACE Response: Adopted.

Action Taken: The IFR, Appendix I – Monitoring and Adaptive Management Plan (MAMP), has been updated to include quantitative metrics for meeting performance standards over a five-year period compared to selected reference sites (*IFR, Appendix I, Table 3.5-1*). Monitoring results will be assessed in comparison to project objectives and decision-making triggers to evaluate whether the project is functioning as planned and whether adaptive management actions are needed to achieve project objectives. If ecological success criteria has not been met within the first five years, then cost-shared monitoring and adaptive management would continue within those areas until ecological success criteria are met or for a maximum of five additional years (*IFR, Appendix I, Section 3.5 and Section 4*).

The MAMP will be reviewed and revised, as needed, during the pre-construction, engineering and design (PED) phase as specific and relevant project design details become available and as formal consultation with NMFS regarding effects to steelhead is completed. The MAMP will be updated to include provisions for further assessment of how project performance standards will be met after aquatic habitat connectivity is reestablished at the former Rindge Dam site and impounded sediment area, using more detailed information on the creek channel design developed during PED. The monitoring program will be developed at a level that is sufficient to assess progress in detecting changing habitat conditions over a five-year period as related to ecological requirements for steelhead migration, spawning and rearing, and if needed, other key species that occupy the aquatic and surrounding riparian habitat. Monitoring updates will include field investigations to assess if there are any obstacles to steelhead migration after storms of moderate magnitude (*IFR, Section 12.1.2*).

Recommendation 2: For steelhead, a listed species, develop a monitoring program that considers ecological requirements of steelhead and quantitatively monitors the species and habitat conditions before and after dam removal.

USACE Response: Adopted.

Action Taken: The MAMP will be updated to include provisions for further assessment of how project performance standards will be met after aquatic habitat connectivity is reestablished at the former Rindge Dam site and impounded sediment area, using more detailed information on the creek channel design developed during PED. The monitoring program will be developed at a level that is sufficient to assess progress in detecting changing habitat conditions over a five-year period as related to ecological requirements for steelhead migration, spawning and rearing, and if needed, other key species that occupy the aquatic and surrounding riparian habitat. Monitoring updates will include field investigations to assess if there are any obstacles to steelhead migration after storms of moderate magnitude (*IFR, Section 12.1.2*).

Recommendation 3: Develop a monitoring program for surf grass and nearshore benthic fauna to assess impacts of sediment; use adaptive management as the program proceeds.

USACE Response: Adopted.

Action Taken: The IFR includes an EC for biological resources, BIO-17- Rocky Reef and Surf Grass Nearshore Monitoring and Adaptive Management Plan (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.4.1*). BIO-17 states that prior to nearshore placement of sediment during construction, the USACE shall conduct a nearshore marine survey, to include the intertidal zone, to characterize location and abundance of protected habitats such as rocky reef and surf grass in order to further avoid such resources as they exist at the time of construction. An adaptive management plan shall be developed to account for results from the survey above, addressing any potential loss of rocky habitat reef or surf grass Habitat Area of Particular Concern quality or quantity. Furthermore, during sediment placement, sensitive habitats in the vicinity of the placement area will be monitored for direct and indirect burial impacts to allow for refined placement locations and methodologies, if necessary.

Recommendation 4: Use changing habitat metrics to assess progress in an adaptive management approach.

USACE Response: Adopted.

Action Taken: The IFR includes an EC for biological resources, BIO-17- Rocky Reef and Surf Grass Nearshore Monitoring and Adaptive Management Plan (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.4.1*). EC BIO-17 states that prior to nearshore placement of sediment during construction, the USACE shall conduct a nearshore marine survey, to include the intertidal zone, to characterize location and abundance of protected habitats such as rocky reef and surf grass in order to further avoid such resources as they exist at the time of construction. An adaptive management plan shall be developed to account for results from the survey above, addressing any potential loss of rocky habitat reef or surf grass Habitat Area of Particular Concern quality or quantity. Furthermore, during sediment placement, sensitive habitats in the vicinity of the placement area will be monitored for direct and indirect burial impacts to allow for refined placement locations and methodologies, if necessary.

Comment 3 – Medium/High Significance: The project cost estimate and schedule do not sufficiently address the risks imposed by required mitigation for nesting birds.

Project delays due to bird nesting do not appear to have been factored into the project cost and schedule.

This comment included six recommendations. Three were adopted.

Recommendation 1: Clarify the requirement in Appendix P, Coordination Act Report (CAR), which bird species must have a 300-foot buffer.

USACE Response: Adopted.

Action Taken: The USACE’s response to the United States Fish and Wildlife Service’s (USFWS) recommendation to establish a 300-foot buffer around any active bird nests detected in work area clarifies vegetation removal will take place in early spring prior to the bird nesting season; however, if nests are detected in vegetated areas adjacent to the construction site, an appropriate buffer will be imposed depending on the species discovered in consultation with the USFWS (*IFR, Appendix P, Final Fish and Wildlife Coordination Act Report, Responses to Recommendations – Recommendations*).

Recommendation 2: Review and evaluate restrictions and mitigation requirements associated with bird nesting to determine if any deviation from current requirements might be allowable.

USACE Response: Not Adopted.

Action Taken: The proposed project construction schedule has been developed to avoid impacts to nesting birds by requiring clearing of vegetation prior to the start of the nesting season, to the extent possible. EC BIO-4 states that vegetation will be removed outside of the nesting season for migratory birds (February 1 through August 15) to the extent possible. If vegetation removal must be conducted during the nesting season, the area will be surveyed by a qualified biologist and appropriate buffers will be identified in consultation with the USFWS and California Department of Fish and Wildlife (CDFW) to ensure impacts to nesting birds do not occur (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2, Section 5.4.1*). No deviation from current requirements is necessary.

Recommendation 3: Review and evaluate the project alternative decision process to determine if the revised cost and schedule information affects the TSP and LPP decisions.

USACE Response: Not Adopted.

Action Taken: The proposed project construction schedule has been developed to avoid impacts to nesting birds by requiring clearing of vegetation prior to the start of the nesting season, to the extent possible. EC BIO-4 states that vegetation will be removed outside of the nesting season for migratory birds (February 1 through August 15) to the extent possible. If vegetation removal must be conducted during the nesting season, the area will be surveyed by a

qualified biologist and appropriate buffers will be identified in consultation with the USFWS and CDFW to ensure impacts to nesting birds do not occur (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2, Section 5.4.1*). The cost supporting the NER Plan and the LPP (recommended plan) were not revised due to capturing as part of the contingencies costs that account for potential surveys and buffers during the nesting season.

Recommendation 4: Review and update Risk Registers for the risk introduced by bird nesting mitigation requirements.

USACE Response: Not Adopted.

Action Taken: The risk register reflects that risks to project schedule and costs due to nesting birds are low because the proposed project construction schedule has been developed to avoid impacts to nesting birds by requiring clearing of vegetation prior to the start of the nesting season to the extent possible (*IFR, Appendix F, Appendix A*). EC BIO-4 states that vegetation will be removed outside of the nesting season for migratory birds (February 1 through August 15) to the extent possible. If vegetation removal must be conducted during the nesting season, the area will be surveyed by a qualified biologist and appropriate buffers will be identified in consultation with the USFWS and CDFW to ensure impacts to nesting birds do not occur (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.4.1*)

Recommendation 5: Clarify construction impacts and buffer regarding bird nests near the cleared zone but not in the cleared zone.

USACE Response: Adopted.

Action Taken: Removal of vegetation prior to the start of work ensures that all birds nesting in the project vicinity do so outside the cleared area. Any birds establishing nests adjacent to the construction footprint would do so in the presence of ongoing construction and are not expected to be sensitive to construction noise. Sensitive species would be expected to avoid the areas adjacent to ongoing construction for nest establishment.

The buffers referenced in EC BIO-4 only apply if vegetation removal within the project area is required during nesting season and do not apply to nests that may be established outside of the construction footprint (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2*).

Recommendation 6: Clarify the definition of impacts, including if equipment proximity, vibration, lighting, and noise are considered impacts to nesting birds.

USACE Response: Adopted.

Action Taken: Equipment proximity, vibration, and noise are considered impacts to nesting birds (*IFR, Section 5.4*). As part of the recommended plan, removal of vegetation prior to the start of work would ensure that all birds nesting in the project vicinity do so outside the cleared area. Any birds establishing nests adjacent to the construction footprint would do so in the presence of ongoing construction and are not expected to be sensitive to construction noise.

Sensitive species would be expected to avoid the areas adjacent to ongoing construction for nest establishment. In accordance with EC BIO-4, if vegetation removal must be conducted during the nesting season, the area will be surveyed by a qualified biologist and appropriate buffers will be identified in consultation with the USFWS and CDFW to ensure impacts to nesting birds do not occur (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2*).

Removal of the Rindge Dam and spillway would not generate noise in excess of the standards of any established local plan, noise ordinance, or applicable standard. Removal of the dam/and or spillway would not generate excessive vibration or ground-borne noise. Removal of the dam/and or spillway would not result in a permanent change to ambient noise levels. Removal of the dam and/or spillway would result in the temporary generation of noise. However, removal of upstream barriers is anticipated to result in significant, unavoidable temporary noise impacts (*IFR, Section 5.11 – comparison of alternatives, page 441; Section 5.11, Table 5.11-11; Section 8*). ECs for noise to avoid or minimize adverse environmental effects were analyzed (*IFR, Section 5-11.1; Section 4.4.5, Table 4.4-2*). ECs for noise, as detailed in Section 9.2.1 of the IFR, will be implemented to minimize impacts associated with the recommended plan. No further mitigation to reduce noise impacts to a less than significant level was available.

Comment 4 – Medium/High Significance: The limiting factors of the steelhead trout population are not clearly outlined in the IFR to support the benefits of dam removal and habitat improvements.

This comment included two recommendations. Both were adopted.

Recommendation 1: Collect water quality and water temperature data in relation to steelhead, under existing conditions and under climate change scenarios, and summarize findings in either a table or short narrative in the IFR.

USACE Response: Adopted.

Action Taken: The IFR was revised to provide a short narrative discussion of potential climate change disruptions to existing ecosystems, including potential increases in fresh and marine water temperatures, and regional and local shifts in fish stocks. Revisions also include National Marine Fisheries Service identification that climate change is likely to reduce the long-term viability of many currently endangered West Coast salmonid species, and more inland areas containing summer refugia habitat for juvenile steelhead may be subject to lower water conditions and higher water temperatures creating additional stress on the fish (*IFR, Section 3.12.3*).

The IFR includes an EC for Water Resources and Water Quality, WR-3- Water Temperature Monitoring (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.3.1*). EC WR-3 states that water quality monitoring will include monitoring of water temperatures in order to evaluate suitability for steelhead. Water temperature, however, is primarily driven by factors outside of the influence of the restoration efforts. Therefore, the monitoring would be limited to gathering data for reporting and to inform resource agencies in support of broader steelhead-related efforts.

As part of the post-construction MAMP, water quality parameters will be measured seasonally each monitoring year. Parameters to be measured include water temperature, dissolved oxygen, turbidity, pH levels, conductivity, and salinity (*IFR, Appendix I, Section 3.4.3*). Monitoring of vegetation, including structural diversity, shade over water that supports cooler water temperatures, and habitat function would indicate if target habitats and the hydrology that supports them have been successfully restored (*IFR, Appendix I, Section 4.0 Objectives and Performance Standards*).

Recommendation 2: Conduct further field analysis of non-native species and their role in limiting steelhead recovery.

USACE Response: Adopted.

Action Taken: Presence of non-native species will be monitored as part of the MAMP, with specifics to be developed during the PED phase. Non-native species are not expected to be a limiting factor for steelhead recovery, as CDPR and others have conducted monitoring and management of such species for the last several decades, but such species will be monitored in association with channel revegetation. CDPR are anticipated to continue as needed, in parallel to the project (*IFR, Section 12.1.2*).

Comment 5 – Medium Significance: The treatment of contingency, quantity take-off, and cost estimate precision in the project cost estimates may lead to uncertainty in project decisions.

This comment included four recommendations. One was adopted.

Recommendation 1: Appendix F should distinguish the driving risk factors and provide a brief rationale in the establishment of contingency percentages when line item contingencies are different among different project alternatives for line items where the line item work is essentially the same. Upon clarification, adjust line item contingency and overall contingency for each project alternative as appropriate.

USACE Response: Adopted.

Action Taken: A detailed cost-schedule risk analysis (CSRA) was prepared for the NER Plan and the LPP (recommended plan) for the IFR, and includes summary tabular data that summarizes the rationale used for the establishment of contingency percentages, with consistency in use of contingencies provided in the IFR (*IFR, Appendix F Cost Engineering, Section 4 – Contingency Methodology and Process; Appendix F, Sub-Appendix A - Total Project Cost Summary Tables; Appendix F – Project Cost and Schedule Risk Analysis Report; IFR, Table 12.1-3 Total Project Cost*).

Recommendation 2: Clarify the simultaneous use of conservative quantity take-off and contingency in cost estimates.

- a. Indicate the qualitative and quantitative impact of including a conservative estimate vs. an unbiased estimate.

- b. Indicate how conservative estimates were treated in the calculation of contingency as compared to normal or unconservative estimates.
- c. Indicate if and how conservative estimates might have impacted the decision process.
- d. Indicate if and how conservative estimates might have impacted the cost estimate.
- e. Upon clarification, adjust the report text or line item contingency to clarify the manner in which uncertainty was included in the project.

USACE Response: Not Adopted.

Action Taken: Revisions were made to the IFR to provide clarification on the calculation of contingencies and methodology used for the Abbreviated Risk Analysis conducted earlier in the study, and the approach used to develop construction element quantities and contingencies for the NER Plan and LPP (recommended plan). Some of the construction activities with high contingencies include the potential risk of sediment quantity variations associated with the mining of the Rindge Dam impounded sediment, potential swelling of excavated Rindge Dam impounded sediment between mining and placement, slope stability risks around the impounded sediment removal area, and other risks, while also avoiding quantity double-counting risks (*IFR, Appendix F Cost Engineering, Section 4 – Contingency Methodology and Process; Total Project Cost Summary Tables; Appendix F – Cost Engineering, Project Cost and Schedule Risk Analysis Report*). The CSRA resulted in higher contingencies applied to specific cost and schedule risk line items (*Appendix F Section 7 Major Findings-Observations-Recommendations*). Additional field investigations will be conducted during the PED phase to assist in characterizing the risk of potential project-related slope failure scenarios, reducing the uncertainty currently reflected in the cost contingencies for the NER Plan and LPP (recommended plan) (*IFR, Section 9.2.1, ER-1-Stabilization of Slopes, ER-2 – Develop and Implement Erosion-Control and Spill Response Plan; Section 4.4.5, Table 4.4-2; Section 4.9.5; Appendix F Section 7 Major Findings-Observations-Recommendations, TR-2: Slope Stabilization / Landslides*).

Recommendation 3: Add discussion to the IFR and Appendix F to explain how calculations reflect the underlying detailed estimate (or lack of detailed estimate). Indicate where professional judgment was used to adjust calculated values to better approximate results had significant figures been used in the calculations. Upon clarification, adjust the IFR as appropriate.

USACE Response: Not Adopted.

Action Taken: The IFR discloses that the estimated duration for modification of the Cold Canyon Road Culvert (upstream aquatic habitat barrier CC5) is based on engineering judgment and experience (*IFR, Appendix F – Cost Engineering, Section 3.1.3 Upstream Barriers*). For the CSRA, risk factors on project plans for the NER Plan and LPP (recommended plan) were analyzed using a combination of professional judgment, empirical data and analytical techniques (*IFR, Appendix F, Section 4.2 Quantify Risk Factor Inputs*), and are captured in a cost and schedule risk register (*Appendix F, Section 6.1 Risk Register*) and in the CSRA (*Appendix F, Sub-Appendix A*).

Recommendation 4: Clarify the status of the analyses and field investigations being requested/required by public agencies (through public comments), and, as appropriate, adjust the allowance and contingencies provided in Appendix F.

USACE Response: Not Adopted.

Action Taken: IFR analyses and field investigations to be conducted during the PED phase in response to public and agency comments include: slope stability investigations at the Rindge Dam impounded sediment area (*IFR, Section 9.2.1, EC ER-1 – Stabilization of Slopes; EC ER-3 Additional Sediment Analysis for Nearshore Placement*); refined hydraulic and sediment transport modeling to verify potential effects on downstream flood risks (*Section 9.2.1, EC WR-4 – Hydraulic and Sediment Transport Modeling*); discussions with agencies about placement of cobbles and boulders from Rindge Dam in the nearshore placement site for the recommended plan (Locally Preferred Plan) (*Section 9.2.1, EC BIO-17 – Rocky Reef and Surf Grass Nearshore Monitoring and Adaptive Management Plan*); a re-vegetation and planting plan (*Section 9.2.1, EC BIO-8 – Re-vegetation and Planting Plan and EC AES-2- Blend Restoration Features with Surrounding Areas*); a transportation management plan and road repair plan (*Section 9.2.1, EC T-1 – Transportation Management Plan & EC T-2 – Road Repair Plan*); verification of utility locations within the vicinity of each project feature (*Section 9.2.1, EC U-1 – Utility Locations*); and, a monitoring and treatment plan for protection of historic properties (*Section 9.2.2, Mitigation Measure CR-1*).

During the construction phase, analyses and field investigations include: an erosion-control and spill response plan (*Section 9.2.1, EC ER-2 – Develop and Implement Erosion-Control and Spill Response Plan*); impounded sediment analyses prior to placement (*EC ER-3*); preparation of a stormwater pollution prevention plan (SWPPP) and water temperature monitoring (*Section 9.2.1, WR-1 – Develop and Implement SWPPP & EC WR-3- Water Temperature Monitoring*); water quality monitoring during nearshore sediment placement (*Section 9.2.1, EC WR-2 - Water Quality Monitoring during Nearshore Placement*); and pre-construction surveys each spring of construction to identify presence or absence of fish below Rindge Dam (*Section 9.2.1, EC BIO-10- Steelhead Conservation Measures*). Other surveys prior to implementation of construction activities include surveys for arroyo chub (fish), amphibians, reptiles, least Bell’s vireo and southwestern willow flycatcher (birds), mammals, special-status plants, and rocky reef and surf grass (*Section 9.2.1, BIO-11 to BIO-17*).

Comment 6 – Medium Significance: The land required for disposal of excavated material from the project site is considered LERRD and the responsibility of the Non-Federal Sponsor.

This comment included two recommendations. One was adopted.

Recommendation 1: Modify the IFR and appendices to identify all disposal sites, including Calabasas, as LERRD.

USACE Response: Adopted.

Action Taken: The USACE identified all lands, easements, rights-of-way, relocations, and disposal sites (LERRD) required for construction, operation and maintenance of the project in the IFR (*IFR, Appendix G, Real Estate Plan*). Locations of all sediment disposal sites considered are provided in the IFR (*IFR, Section 4.4.2*). The USACE investigated whether a temporary or permanent interest in land could potentially be secured at the Calabasas Landfill as LERRD but this was determined to be impracticable (*IFR, Appendix G, Section 22*). The cost for commercial disposal facilities (estimated tipping fees) at the Calabasas Landfill was captured in the IFR, Appendix F, Cost Engineering, as a construction cost item.

Recommendation 2: Modify cost sharing portions of the IFR to reflect any changes to the cost share accounting.

USACE Response: Not Adopted.

Action Taken: In this circumstance, in which a commercial landfill will be used, landfill tipping fees are properly assigned to construction costs rather than to LERRD. Cost sharing updates for the NER Plan and LPP (recommended plan) have been provided in the IFR (*IFR, Section 12.1.6, Table 12.1-4; Appendix F*).

Comment 7 – Medium Significance: It is not clear whether sea level rise has been incorporated into the modeling used to create the 50-year forecasts of flood inundation.

This comment included one recommendation that was not adopted.

Recommendation 1: Rerun the models used to create the 50-year flood inundation forecasting with the USACE High, Intermediate, and Low Sea Level Rise Values included and discuss the results.

USACE Response: Not Adopted.

Action Taken: Sea Level Change (SLC) effects are limited to the area within the vicinity of the Malibu lagoon and do not propagate any significant distance upstream. A sensitivity analysis was prepared for the IFR to determine what effect, if any, changes in sea level would have on plan formulation, evaluation and selection (*IFR, Section 1.10.8; Appendix O, Section 2.2.2; Appendix B, Section 8*). SLC effects did not affect prior plan formulation, evaluation and selection of the NER Plan and recommended plan (LPP).

Comment 8 – Medium/Low Significance: The infrastructure impacts on public roads from project truck traffic are not clearly outlined in the IFR and project cost estimate.

This comment included four recommendations. Three were adopted.

Recommendation 1: Add a more comprehensive and coordinated description in the IFR and Appendix F of projected damages to public roads and anticipated seasonal end-of-project repairs.

USACE Response: Adopted.

Action Taken: Impacts to an isolated portion of Malibu Canyon Road in the vicinity of the access ramps to the Rindge Dam impounded sediment are described in the IFR (*IFR, Section 4.9; Appendix F, Section 2.4.10*). EC for Transportation, T-2- Road Repair Plan states that a road repair plan will be prepared prior to construction to address anticipated road repairs required as a result of project induced impacts (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.9*). The construction contractor(s) will be required to make appropriate repairs to address project-induced impacts to the road surface from trucks entering and exiting Malibu Canyon Road during interim construction years, and after construction is complete, in the vicinity of the access ramps to the Rindge Dam impounded sediment area. The overall distance for construction-related road repairs is estimated to be 0.5 mile in length from the Malibu Canyon Road tunnel to the midpoint between the two ramps for the northbound direction to allow for normal use after construction, and an equal 0.5-mile distance from the mid-point of the two ramps for the southbound direction of the road. The road repair plan will also account for aesthetic considerations during design of any required repairs (*IFR, Section 9.2.1, ECAES-3; Section 4.4.5, Table 4.4-2; Section 5.7*).

Recommendation 2: Review post-construction reports or lessons learned on road repair from completed USACE projects where public roads received significant project traffic.

USACE Response: Adopted.

Action Taken: Other USACE projects and associated teams provided input regarding more recent construction contracts throughout the nation that require contractors to repair public roads that are directly impacted by damage to road surfaces as a result of project construction activities. The feedback was considered in the development of EC T-2 (*IFR, Section 9.2.1; Section 4.4.5, Table 4.4-2; Section 5.9.1*) and NER Plan and recommend plan (LPP) cost estimates.

Recommendation 3: Review and revise as necessary the Appendix F Risk Register to reflect the risk (currently rated as marginal) associated with the outcome of the comprehensive description of projected damages above.

USACE Response: Not Adopted.

Action Taken: The IFR Appendix F risk register includes a general technical risk for road repairs (*IFR, Appendix F Cost Engineering, Sub-Appendix A - TR4 - Roads Repair*). TR4 considers uncertainties associated with road repair to be a low level line item risk for potential project construction cost increases and a medium risk for schedule impacts. The scope of road repairs is not likely to extend beyond the estimated 0.5 mile distance in the vicinity of the Rindge Dam impounded sediment area along Malibu Canyon Road.

Recommendation 4: Review and revise as necessary the Appendix F cost estimates to reflect the cost associated with Recommendation 1.

USACE Response: Adopted.

Action Taken: Cost estimates for site-specific road repair/resurfacing for the NER Plan and the recommended plan (LPP) have been updated in the IFR (IFR, *Appendix F*).

Comment 9 – Low Significance: The decision to use a diamond wire saw for the majority of the dam demolition may prematurely restrict the consideration of other demolition methodologies.

This comment included two recommendations. One was adopted.

Recommendation 1: Add a short narrative in the IFR, Appendices C and F, that indicates the use of diamond wire saw for demolition of the dam arch is provided to demonstrate technical feasibility and for costing purposes, but whose use will be further refined during PED.

USACE Response: Adopted.

Action Taken: A short narrative has been included in IFR Appendices C and F to indicate Rindge Dam would be demolished by the use of a combination of high impact breakers, blasting, and diamond wire saw cutting methods (*IFR, Appendix C, Section 3.2*). Statements have been added to indicate that the use of diamond wire saw method for demolition of the dam arch demonstrates technical feasibility, is used for costing purposes, and is not intended to preclude consideration of other methods for dam arch concrete removal considered during PED or project construction, as long as the consequences of other methods are clearly understood, evaluated, and coordinated with appropriate agencies (*IFR, Appendix F, Section 2.4.3*).

Recommendation 2: Verify that the diamond wire saw cost analysis includes allowances for crane mobilization, calculation of lifting points, and water quality control measures.

USACE Response: Not Adopted.

Action Taken: IFR diamond wire saw cutting cost estimates account for rig and/or crane mobilization, water quality control measures, and re-establishing the platform for stability, every time the crane moves from one location to another. Actual lifting point calculations were not pursued. Each block lift consists of ~19 tons, and in order to initially insert the diamond wire, the contractor will need to drill holes. These initial holes can serve as access for the slings that ultimately lift the concrete blocks or alternatively, the contractor may drill and install a series of sacrificial anchors to assist the crane lifting the blocks (*IFR, Appendix F*).