



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1399

14-Sep-2015

CESPD-DE

MEMORANDUM FOR Commander, US Army Corps of Engineers, San Francisco District,
(ATTN: CESPN-PM, Mr. Patrick Howell)

Subject: Dry Creek (Warm Springs Dam) Ecosystem Restoration Study, Sonoma County,
California, Review Plan Approval

1. Dry Creek (Warm Springs Dam) Ecosystem Restoration Project Sonoma County, California, Integrated Feasibility Report/Environmental Impact Statement, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-214, Review of Decision Documents, dated 15 Dec 2012. The South Pacific Division, Planning and Policy Division, Regional Business Technical Division, and San Francisco District Support Team have reviewed the Review Plan that has been submitted. The South Pacific Division approves the Dry Creek (Warm Springs Dam) Ecosystem Restoration Project, Sonoma County, California, Integrated Feasibility Report/Environmental Impact Statement, Review Plan.

2. With MSC approval the Review Plan will be made available for public comment via the internet and the comments received will be incorporated into future revisions of the Review Plan. The Review Plan includes Independent External Peer Review Type I.

3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study and project development under the Project Management Business Process. Subsequent revisions to the Review Plan after public comment or during project execution will require new written approval from this office.

4. Points of contact for this action are Mr. Kurt Keilman, CESPD-PDP, 415-503-6596, kurt.keilman@usace.army.mil and Mr. Paul Bowers, CESPD-PDC, 415-503-6556, paul.w.bowers@usace.army.mil.

BUILDING STRONG and Taking Care of People!

Encl


R. MARK TOY
Brigadier General, USA
Commanding

REVIEW PLAN

**Dry Creek (Warm Springs Dam) Ecosystem Restoration Project
Sonoma County, California
Integrated Feasibility Report/Environmental Impact Statement**

San Francisco District

ECO-PCX Certification Date: 10 April 2015

MSC Approval Date: Pending

Last Revision Date: 19 August 2015



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of Engineers®**

ENCL

REVIEW PLAN

Dry Creek (Warm Springs Dam) Ecosystem Restoration Project
Sonoma County, California
Integrated Feasibility Report/Environmental Impact Statement

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Dry Creek (Warm Springs) Ecosystem Restoration Project, CA Feasibility Phase Study (Study), located in Sonoma County, California. The peer review will include the Integrated Feasibility Report/Environmental Assessment (EA). This Feasibility Study process is anticipated to culminate in a decision document to Congress for potential authorization of a new project.

b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 December 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) Dry Creek (Warm Springs) Ecosystem Restoration Project, CA Feasibility Phase Project Management Plan, pending
- (6) South Pacific Division Regulation (CESPD-R) 1110-1-8, Quality Management Plan (QMP), September 2004
- (7) Planning Bulletin (PB) 2012-02 re-issue #2: Planning SMART Guide, CECW-P, 04 March 2014
- (8) Planning Bulletin (PB) 2013-03-Reissue: SMART Planning Milestones, CECW-P, 14 March 2014

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the National Ecosystem Planning Center of Expertise (ECO-PCX).

The RMO will coordinate with the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

As an ecosystem restoration study, it is not anticipated that this study will affect life safety. However, if an alternative that would potentially affect life safety is advanced beyond the initial array of alternatives, the RMC will be consulted.

3. STUDY INFORMATION

- a. **Decision Document.** The Dry Creek Project Integrated Feasibility Report will present the evaluation of alternatives for ecosystem restoration and recommend a National Ecosystem Restoration plan. The feasibility phase is cost-shared 50 percent Federal and 50 percent non-federal with the non-Federal Sponsor: Sonoma County Water Agency (SCWA). The decision document will require approval from the Headquarters of the U.S. Army Corps of Engineers (HQUSACE) with coordination from the Assistant Secretary of the Army for Civil Works (ASA(CW)). Following those approvals, the report, which will describe the recommended plan, will be submitted to Congress for project authorization. The decision document will be an integrated Feasibility Report and EA.
- b. **Study/Project Description.** The Dry Creek watershed is located in the interior coast range of northern Sonoma and southern Mendocino counties, approximately 30 miles from the Pacific Ocean and 60 miles north of San Francisco Bay. Dry Creek, a major tributary to the Russian River, is 32 miles long and drains 217 square miles of rugged terrain in the southwestern portion of the Russian River Basin. The Warm Springs Dam (WSD), located 13.9 miles upstream of Dry Creek's confluence with the Russian River, divides the rugged terrain and steeper channel of the upper watershed from the relatively flat agricultural valley and lower gradient channel (lower Dry Creek) that is present below the dam. The Dry Creek Watershed area includes a 130 square mile area regulated by WSD and 87 square miles of unregulated catchments downstream of the dam.

The present condition of lower Dry Creek expresses the legacy of management in the basin, beginning with the settlement of the valley in the 1850s. Between 1850 and 1870, approximately 40% percent of the forested watershed area was cleared and converted to grazing land. This land use change modified runoff characteristics and sediment production, which led to an initial period of aggradation and subsequent degradation of lower Dry Creek between 1850 and 1900. Additionally, gravel mining and other activities after 1950 resulted in base level lowering at the mouth of Dry Creek and subsequent channel incision which propagated up the main channel of Dry Creek. In response to the channel incision, significant numbers of bed and bank stabilization measures were installed by landowners and public entities along Dry Creek and its tributaries. The grade control structures in the Dry Creek channel appear to be functioning as planned and, with the exception of tributary headcutting, the current hydrologic regime is not likely to induce widespread erosion. In the future without-project condition, the single incised channel will likely remain largely stable and continue; however, high dam flows have created hydraulic conditions that have contributed to the current simplified straightened channel that does not provide suitable habitat, particularly for listed fish species.

This single purpose Ecosystem Restoration project will focus on the 13.9 miles from the base of WSD to Dry Creek's confluence with the Russian River (Figure 1). WSD is operated by the U.S. Army Corps of Engineers (USACE) to manage flood risk and by SCWA, the non-federal sponsor, to supply potable water to 600,000 consumers in Sonoma and northern Marin Counties. The WSD facilities also include the Warm Springs Dam Fish Hatchery, which is also known as the Congressman Don Clausen Fish Hatchery at WSD. As authorized by Congress, the USACE's mission for this hatchery is to mitigate for the loss of fish resulting from the construction and operation of the dam, which blocks upstream spawning and rearing habitat for the Russian River salmonids.

There is a high level of support for restoration of this creek, both locally and nationally. Dry Creek is home to ESA-listed native fish, including: Central California Coast (CCC) coho salmon (endangered), CCC steelhead (threatened), and California Coastal (CC) Chinook salmon (threatened). Critical habitat was designated in the watershed for all three species and Essential Fish Habitat was designated for both CC Chinook and CCC coho salmon in the entire watershed. A September 24, 2008 Biological Opinion (BO) issued by the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) recommends that the USACE perform various actions to avoid jeopardy of these threatened salmonid species on the Russian River. Improvements to the ecosystem would enable the USACE and the SCWA to meet their obligations per the 2008 Biological Opinion and local stakeholders are very supportive of actions to restore habitat for listed species in the area. However, while the Biological Opinion outlines a number of Reasonable and Prudent Alternatives, the scope and scale of the Study will not be limited by the specific actions or requirements included in the BO. Alternatives will be formulated to reasonably maximize net National Ecosystem Restoration (NER) benefits using a range of structural measures to increase channel complexity including but not limited to: constructed riffles, log jam and boulder installations for pool habitat development, bank stabilization, anadromous fish spawning gravel placement, or restoration of anadromous fish juvenile rearing and adult refugia habitat elements such as large woody material, side channel and back water construction, floodplain refuge habitat enhancement, and enhancement of tributary spawning habitat. Non-structural measures such as vegetation management and predator control will also likely be assessed. While dam reoperations measures may potentially be considered during the feasibility phase, they will likely be screened out due to their complexity for this project. Therefore, they are not considered viable measures at this time and are not included in this review plan. In the future, if such measures are considered for implementation, the review plan and review strategy will be revised accordingly.

This study is authorized by Section 216 of the Flood Control Act of 1970 (33 USC § 426 et seq) as amended, which reads:

“The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the USACE of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.”

Section 209 of the Flood Control Act of 1962 (Pub. L. No. Public Law 87-874) also provides study authority, which reads:

“The Secretary of the Army is hereby authorized and directed to cause surveys for flood control and allied purposes, including channel and major drainage improvements, and floods aggravated by or due to wind or tidal effects, to be made under the direction of the Chief of Engineers, in drainage areas of the United States and its territorial possessions, which include the following named localities: . . . Sacramento River Basin and streams in northern California draining into the Pacific Ocean for the purposes of developing, where feasible, multiple-purpose water resource projects, particularly those which would be eligible under the provisions of Title III of Public Law 85-500.”

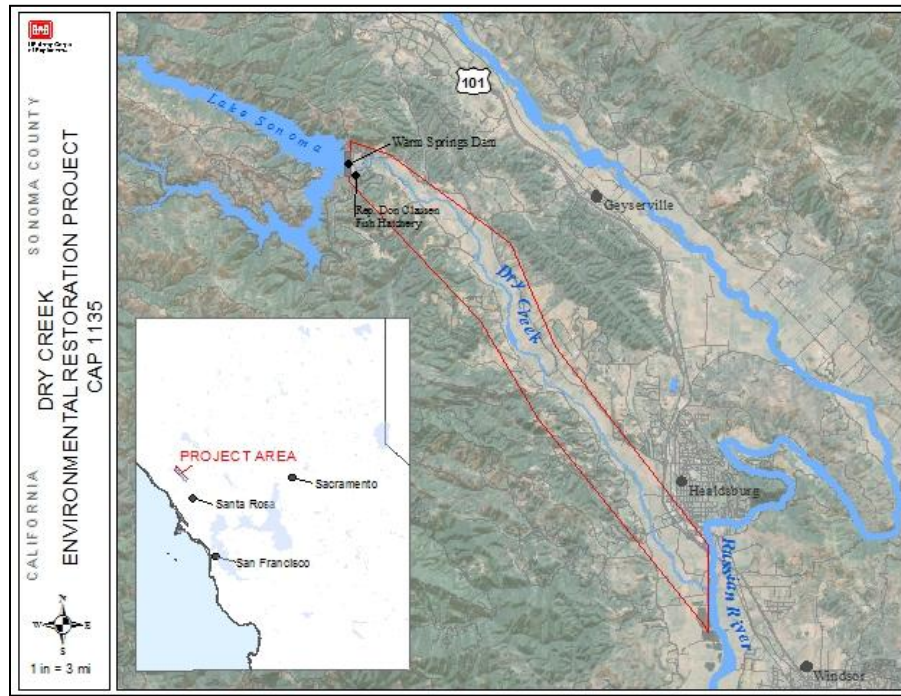


Figure 1. Project area. The project area includes the lower Dry Creek mainstem in the vicinity of the City of Healdsburg in Sonoma County.

- c. **Factors Affecting the Scope and Level of Review.** The aspects of the study that are likely to be the most challenging are the approval and application of the ecosystem restoration models, the Cost Effectiveness/Incremental Cost Analysis (CE/ICA), and Real Estate acquisition.

Model Approval: Planning models need to be approved in order to be used for planning decisions. The model approval process is discussed in Section 9. Models are chosen based on their usability, reliability and capability for evaluating the ecosystem restoration metrics decided upon by the PDT and vertical team. Identifying or developing the appropriate model can be a considerable effort, and the approval process can be challenging.

Appropriateness of Model Application: After models are approved and the PDT has applied them in the planning process, DQC and ATR reviewers will assess whether the models were used appropriately and whether the inputs were valid. Reviewers may not be familiar with the models.

CE/ICA: For the CE/ICA, USACE's Institute of Water Resources' (IWR) IWR-Plan software will be used. Reviews will focus on whether an adequate amount and range of measures are included, whether the analysis is set up properly and whether conclusions based on the analysis are valid.

Real Estate Acquisition: The USACE Real Estate Division will be responsible for this task with input from the sponsors. Work includes coordination, preparation of the Real Estate Plan, review and revision of report documents, preparation of gross appraisal, preparation of a real estate map, a physical taking analysis (if necessary), a preliminary opinion of compensability, rights of entry, cost estimates and real estate input to PMP as well as technical input.

Life Safety: The Study is an ecosystem restoration study and will not be justified by life safety. The study will avoid or minimize where practicable features that would increase flood risk or release soil contaminants. If any alternative that would potentially affect life safety is advanced beyond the initial array of alternatives, then the RMC will be consulted. The District Chief of Engineering concluded that there is not a significant threat to human life associated with the Study.

Other Considerations:

This study is not expected to contain influential scientific information nor is it expected to be a highly influential scientific assessment. The study will not be highly complex in comparison to other USACE studies.

This study has significant agency and public interest, mainly because of the high public interest in anadromous salmonids (CCC coho salmon, CC Chinook salmon and CCC steelhead).

Key construction risks are moderate and include the adequacy of real estate requirements.

A key risk to project performance includes the potential for restoration features to be washed out during extreme flood events. Due to the rarity of such events, this risk is low. Adaptive management will be employed to review project performance and respond to changing or unforeseen conditions.

The Governor did not request peer review. No novel methods will be used. The total project cost is not yet known, but is expected to be over \$10,000,000. As a result, the study will require a Certified Value Specialist (CVS) to lead the Value Engineering (VE). VE typically costs approximately \$65,000. There are a limited number of CVS in all of USACE and; therefore, assigning a CVS to the study may be challenging. The PDT may decide to contact out the facilitation of the VE, an option that could reduce or remove this risk.

Construction windows for fish and wildlife species may require minimally unique construction sequencing.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR and IEPR. The in-kind products and analyses to be provided by the non-Federal sponsor may include managing existing data, performing technical editing, and preparing preliminary designs, quantities and costs. In-kind contributions are identified in the Project Management Plan (PMP).

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. The home district shall manage DQC. Contractors are responsible for conducting Quality Control of their products prior to submittal. Documentation of DQC activities is required and will be in accordance with the Quality Manual of the home District and MSC.

- a. **Documentation of DQC.** DQC reviewers are requested to record comments in DrChecks; however, comments may also be recorded in either track changes, as comments in documents or in a Word

document. Once comments are addressed and back-checked, USACE management certifies that DQC took place. DQC documentation will be available for the ATR Team.

- b. Products to Undergo DQC.** All products will undergo DQC.
- c. Required DQC Expertise.** DQC reviewers will come from all disciplines reflected in the study documentation. An additional Real Estate Subject Matter Expert (SME) reviewer may be needed and would come from USACE’s Sacramento District, as they have expertise in Real Estate.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and whether the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

The leader of the ATR team will participate in milestone conferences and the Civil Works Review Board (CWRB) to address review concerns. The ATR leader must complete a statement of technical review for all final products and documents. In the case of civil works decision documents forwarded to HQUSACE for review, a statement of technical review will accompany both draft and final documents. The ATR team leader, project manager, RMO, and the chief of the function shall certify that the issues raised by the ATR team have been resolved.

- a. Products to Undergo ATR.** All products throughout the Study will undergo ATR. ATR will be conducted seamlessly, and the ATR team will be engaged at the beginning of the study during the Charette. Initial study documents include the report synopsis, risk register, and decision management plan. Later documents include the draft report and supporting technical appendices or memoranda.
- b. Required ATR Team Expertise.**

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR Lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The planning reviewer should be a senior water resources planner with experience in ecosystem restoration planning.
Economics	The economics reviewer should be a senior economist with experience in ecosystem restoration planning and CE/ICA.
Environmental Resources	The environmental reviewer should be a senior water resources

ATR Team Members/Disciplines	Expertise Required
	environmental manager with experience in ecosystem restoration studies and EAs/Environmental Impact Statements (EIS). Experience with Western riparian ecosystems and biology, specifically knowledge of salmonid species (spawning, rearing, freshwater migration), wetlands, riparian and floodplain habitats, knowledge of riverine systems, process-based restoration, etc. is desired. Experienced with NEPA, specifically EA documentation is also desired. Experience with the planning models described in Section 9a of this Review Plan.
Cultural Resources	The cultural reviewer should be a senior water resources archaeologist familiar with California tribes and have USACE experience regarding cultural resources on public and tribal lands.
Hydrologic & Hydraulic Engineering	The hydrologic and hydraulic engineering reviewer should be a senior water resources hydraulic engineer or hydrologist/geo-fluvial-morphologist with experience in two-dimensional modeling, as well as experience in rivers and climates of the Western United States with an understanding of ecosystem restoration projects, as well as sediment movement and channel morphology. The reviewer should be chosen from the H&H restoration list. Experience with the engineering models described in Section 9b of this Review Plan.
Civil Engineering	The civil reviewer should be a senior water resources civil engineer with experience in Civil Works planning and design of ecosystem restoration projects.
Cost Engineering	The cost engineering reviewer should be a senior water resources cost engineer with experience in Civil Works planning including Cost Mandatory Center of Expertise (MCX) Staff or Cost MCX Pre-Certified Professional with experience preparing cost estimates for ecosystem restoration projects.
Real Estate	The real estate reviewer should be a senior water resources real estate specialist with experience in Civil Works planning and have a thorough understanding of easements, right of ways, and land acquisition.

c. Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost),

- effectiveness (function/outputs), implementation responsibilities, safety, Federal interest or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist. Reviewers are encouraged to contact PDT members directly to resolve issues and clarify concerns through webinars, video teleconferencing, teleconference, email and/or phone. If an issue cannot be resolved this way, and the funds are available, reviewers may be flown in to visit the project site and resolve the issue face-to-face.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the District, RMO, MSC and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for draft report and any targeted technical areas or milestones. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of the USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels consist of independent, recognized experts from outside of the USACE

in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.
- **Type II IEPR.** Type II IEPR, or Safety Assurance Reviews (SARs), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

Decision on IEPR. The PDT will proceed with a Type I IEPR per EC 1165 2 214, Paragraph 11.d (1). Type I IEPR. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. Type I IEPR reviews are managed outside of the USACE. The review panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study.

- a. Products to Undergo Type I IEPR.** The Draft Integrated Feasibility Report/EA and technical appendices/ document(s) will be reviewed. All of the products will be reviewed by the PDT and undergo DQC prior to submittal for IEPR. This includes products that are produced by contractors and by the non-Federal sponsors as in-kind services.
- b. Required Type I IEPR Panel Expertise.** The proposed eight member panel includes the necessary expertise to assess the adequacy of the plan formulation, hydrology and hydraulics, geotechnical engineering, civil engineering, environmental, cultural, economic, and real estate methods and findings of the decision document, as required by EC 1165-2-214. Work undertaken as part of these technical disciplines is considered to be moderately complex. Specific factors for this determination are (1) population at risk with project exceedence or failure; (2) the existing water conveyance system; (3) earthquake and ground movement and; (4) potential impacts on ESA listed species and water quality. Of the products that will undergo IEPR, all will be reviewed by the PDT and undergo DQC prior to submittal for IEPR. The following table lists the suggested disciplines that may be

included on the panel. All panel members will have a minimum of 15 years demonstrated experience in the appropriate discipline(s).

IEPR Panel Members/Disciplines	Expertise Required
Plan Formulation	Experience with USACE plan formulation procedures for evaluating and comparing alternative plans.
Economics	Experience with procedures for USACE economic analysis, including National Economic Development analysis for flood risk management studies, Cost-effectiveness Analysis and Incremental Costs Analysis for mitigation plans, HEC-FDA flood damage analysis, and non-structural flood risk management.
Environmental	Knowledge of NEPA compliance, including consideration of impacts on riparian corridors, visual resources, and recreation resources; and extensive experience with anadromous salmonid fisheries in California including ESA listed species expertise and water quality.
Cultural Resources	Experience with surveying techniques and analysis of cultural resources, including Native American cultural resources and archeological sites, as well as knowledge of applicable laws pertaining to cultural resources, such as the National Historic Preservation Act.
Hydrology and Hydraulics Engineering	A registered professional engineer with experience with risk and uncertainty analysis, fluvial flood processes, sediment transport, levee overtopping and breaching, flood mapping, model calibration and verification.
Geotechnical Engineering	A registered professional engineer with experience in the general field, levee and flood wall safety analysis (including stability, seepage, erosion, and settlement), levee and flood wall failure modes and contributors to levee and flood wall failure, survey, and analysis techniques.
Civil Design	A registered professional engineer with experience in levee and floodwall construction, bank-protection removal or modification, and operations and maintenance requirements.
Real Estate	Expert in utility/facility relocations.

c. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO), per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 45.d c above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and

- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

The final Review Report will be submitted to the FRM-PCX by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through postings on the District and DDNPCX websites.

d. Type II IEPR/Safety Assurance Review (SAR). The type II IEPR (Safety Assurance Review) is mandated for USACE design and construction activities for those projects where potential hazards pose a significant threat to human life (public safety). Other factors to consider when determining whether to conduct SAR are, the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices; the project design requires redundancy, resiliency, and robustness; and/or the project has unique construction sequencing or a reduced or overlapping design construction schedule. The Dry Creek Warm Springs Retoration project will not be required to undergo Type II IEPR because it does not have the potential to pose a significant risk to public safety in the event of failure of the constructed features. The Study does not meet the criteria for conducting Type II IEPR as described in Paragraph 2 of Appendix D of EC 1165-2-214, including:

- It is not justified by life safety and failure of the project will not pose a significant threat to human life;
- It will not involve the use of innovative materials or techniques where the engineering is based on novel methods; it does not present complex challenges for interpretations, it does not contain precedent-setting methods or models; nor does it present conclusions that are likely to change prevailing practices;
- It will not require design with redundancy, resiliency and/or robustness; and/or
- It does not require unique construction sequencing or a reduced or overlapping design construction schedule.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and related coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING Mandatory Center of Expertise (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the MCX, located in the Walla Walla District. The MCX

will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The MCX will also provide the MCX certification. The RMO is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models were identified as preferred or acceptable for use on USACE studies. These models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEC-EFM (Ecosystem Functions Model)	The model evaluates benefits to aquatic species as well riparian restoration	Approved
Habitat Suitability Index (HSI) for Coho	The model evaluates impacts on fish and wildlife habitat resulting from water or land use changes and benefits of restoration based on species-habitat relationships.	Approved
Combined Habitat Assessment Protocol (CHAP) - <i>tentative</i>	The CHAP model generates Habitat Units based on an assessment of multiple species, habitat features, and functions by habitat type. If the PDT decides that CHAP is an appropriate model to use in this study, the PDT will coordinate with the ECO-PCX.	This is model is in the process of being reviewed by the ECO-PCX for approval.
IWR-Planning Suite	This software assists with the formulation and comparison of alternative plans. While IWR-PLAN was initially developed to assist with environmental restoration and watershed planning studies, the program can be useful in planning studies	Certified

	addressing a wide variety of problems. IWR-PLAN can assist with plan formulation by combining solutions to planning problems and calculating the additive effects of each combination, or "plan." IWR-PLAN can assist with plan comparison by conducting cost effectiveness and incremental cost analyses, identifying the plans which are the best financial investments and displaying the effects of each on a range of decision variables.	
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- b. Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.0 (River Analysis System)	The Hydrologic Engineering Center’s River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the Wild River and its tributaries. [For a particular study the model could be used for unsteady flow analysis or both steady and unsteady flow analysis. The review plan should indicate how the model will be used for a particular study.]	HH&C CoP Preferred Model
TUFLOW	TUFLOW is a suite of numerical engines and supporting tools for simulating free-surface water flow for urban waterways, rivers, floodplains, estuaries and coastlines. This project will utilize the 2D model to solve questions regarding physical processes.	Approved

10. REVIEW SCHEDULES AND COSTS

- a. DQC Schedule.** DQC will be conducted seamlessly throughout the study. During Fiscal Year 2015, the DQC team will review the read ahead materials for the Charette in May 2015 and will review documents in September 2015 in advance of the Alternatives Milestone. The DQC team will also review the read ahead materials prior to and will review the Draft Report following the Tentatively Selected Plan milestone scheduled for the fall of 2016. The DQC team will review the Final Report in July of 2017. The tentative feasibility study schedule is shown below.

Milestone	Date
DQC of Charette materials	April 2015
Charette	May 2015
DQC of Alternatives materials	Sep 2015
ATR of Alternatives materials	Sep 2015
Alternatives	Oct 2015
DQC of TSP materials	Aug 2016

Milestone	Date
ATR of TSP materials	Aug 2016
Tentatively Selected Plan	Sep 2016
DQC/ATR/IEPR concurrent with Public Review of Draft Report	Fall 2016
Agency Decision	Mar 2017
DQC/ATR of Final Report	July 2017
Final Report (district submittal)	Aug 2017
Civil Works Review Board	Nov 2017
Chief's Report	Mar 2018

- b. ATR Schedule and Cost.** ATR will be conducted seamlessly throughout the study. During Fiscal Year 2015, the ATR team will be engaged during the Charette in May 2015 and will review documents in September 2015 in advance of the Alternatives Milestone. After review of the Draft Report, following the Tentatively Selected Plan milestone scheduled for the fall of 2016, the ATR Lead will prepare the ATR Review Report. The tentative feasibility study schedule is shown below.

Milestone	Date
ATR of Alternatives materials	Sep 2015
Alternatives	Oct 2015
ATR of TSP materials	Aug 2016
Tentatively Selected Plan	Sep 2016
DQC/ATR/IEPR concurrent with Public Review of Draft Report	Fall 2016
Agency Decision	Mar 2017
DQC/ATR of Final Report	July 2017
Final Report (district submittal)	Aug 2017
Civil Works Review Board	Nov 2017
Chief's Report	Mar 2018

ATR is expected to cost approximately \$100,000 over the course of the 3-year study. The ATR Leader shall provide organization codes for each team member and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes. Reviewers shall monitor individual labor code balances and alert the ATR Leader to any possible funding shortages.

- c. Type I IEPR Schedule and Cost.** Type I IEPR of the Draft Integrated Feasibility Report/EA and technical appendices will occur between the TSP Milestone and the ADM Milestone, and is currently scheduled for completion in the fall of 2016. The cost of Type I IEPR is estimated at \$250,000.

Milestone	Date
Tentatively Selected Plan	Sep 2016
DCQ/ATR/IEPR concurrent with Public Review of Draft Report	Fall 2016
Agency Decision	Mar 2017
Final Report (district submittal)	Aug 2017
Civil Works Review Board	Nov 2017
Chief's Report	Mar 2018

d. Type II IEPR (Safety Assurance Review) Schedule and Cost. Not Applicable

e. Model Certification/Approval Schedule and Cost. The Eco-PCX has approved HEC-EFM and the HSI model for coho salmon and is in the process of approving the CHAP model. Therefore, there should be no impact to budget or schedule. However, regional approval of CHAP has taken longer than anticipated and is not guaranteed so there is some risk to the assumption that it will be approved. For this reason, the PDT has identified to multiple models that are approved.

11. PUBLIC PARTICIPATION

The USACE has completed initial coordination and outreach with National Marine Fisheries Service, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, California Department of Fish and Wildlife, and the Historic Preservation Officer of the Dry Creek Rancheria Band of the Pomo Tribe. Coordination and outreach with agencies, stakeholders, tribes and members of the public will continue throughout the feasibility phase. The public will have opportunities to participate in this study. Prior to the Charette, public input will be sought through the scoping process. Public review of the draft report, which is tentatively scheduled for the fall of 2016, will occur after concurrence by HQUSACE that the document is ready for public release. As such, public comments other than those provided at any public meetings held during the planning process will not be available to the review teams. Public review of the draft report will last a minimum of 45 days as required for an EA. One or more public meetings will be held during the public review period. Comments received during the public comment period for the draft report could be provided to the IEPR team prior to completion of the final Review Report and to the ATR team before review of the final decision document. A formal State and Agency Review will occur concurrently with the public review of the final report. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A comment resolution meeting will take place if needed to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the document.

12. REVIEW PLAN APPROVAL AND UPDATES

The South Pacific Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Any minor or editorial changes to this review plan after MSC Commander's approval will be documented in Attachment 3. Significant changes to the Review Plan (such as changes

to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- District Point of Contact: Kelly Janes, Planner, 415-503-6856
- MSC Point of Contact: Paul Bowers, District Support Team Leader, 415-503-6556
- Eco-PCX Point of Contact: Jodi Creswell, Eco-PCX Program Manager, 309-794-5448

ATTACHMENT 1: TEAM ROSTERS

**Dry Creek, California
Feasibility Study
San Francisco District**

PROJECT DELIVERY TEAM

Name	Discipline
Joél Benegar	Project Manager
Kelly Janes	Lead Planner
Roxanne Grillo	Environmental Resources
Arden Sansom	Economics
Kathleen Ungvarsky	Cultural Resources
Legese Abebe	Civil Design
Ben Snyder	Hydraulics and Hydrology
Bonieeve Delapaz	Real Estate
Mike Dillabough	Operations
TBD	Cost Engineering
Mike Stevens	Geotechnical

DISTRICT QUALITY CONTROL/ASSURANCE REVIEWERS¹

Name	Discipline	Supervisor
James Howells	Chief of Plan Formulation	Thomas Kendall
TBD	Chief of Environmental A	Thomas Kendall
TBD	Chief of Environmental B	Thomas Kendall
TBD	Economics	Thomas Kendall
Rita Foti	Chief of Civil Design	Harrison Sutcliffe
Janice Lera-Chan	Chief of Water Resources	Harrison Sutcliffe
Jeff Ide	Chief of Cost Engineering	Harrison Sutcliffe
Paul Zianno	Chief of Real Estate	TBD
Paul Schimelfenyg	Chief of Geotechnical	Harrison Sutcliffe

¹Any products submitted by contractors will be subject to quality assurance by the Sacramento District.

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline
Marshall Plumley	ATR Manager/Plan
TBD	Plan Formulation
TBD	Civil Design
TBD	Environmental Resources
TBD	Hydrology
TBD	Hydraulic Engineering
TBD	Economics

Name	Discipline
TBD	Cost Engineering ¹
TBD	Real Estate
TBD	Cultural Resources

¹The cost engineering team member nomination will be coordinated with the NWW Cost Engineering MCX as required. The MCX will determine if the cost estimate will need to be reviewed by MCX staff.

INDEPENDENT EXTERNAL PEER REVIEW PANEL

Name	Discipline
TBD	Planning
TBD	Economics
TBD	Environmental Compliance
TBD	Fish Biology
TBD	Engineering

VERTICAL TEAM

Name	Discipline	Phone	Email
Paul Bowers	District Support Team	415-503-6556	Paul.W.Bowers@usace.army.mil
Bradd Schwichtenberg	Regional Integration Team	202-761-1367	Bradd.R.Schwichtenberg@usace.army.mil

**PLANNING CENTER OF EXPERTISE
ECOSYSTEM RESTORATION**

Name	Discipline	Phone	Email
Jodi Creswell	Program Manager, Ecosystem Restoration PCX	309-794-5448	Jodi.k.creswell@usace.army.mil

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army USACE of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Name
Project Manager
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name
Chief, Engineering Division
Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NER	National Ecosystem Restoration
ASA(CW)	Assistant Secretary of the Army for Civil Works	NEPA	National Environmental Policy Act
ATR	Agency Technical Review	O&M	Operation and maintenance
CHAP	Combined Habitat Assessment Protocol	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
ECO-PCX	Ecosystem Restoration Planning Center of Expertise	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EFM	Ecosystem Functions Model	PAC	Post Authorization Change
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
ER	Ecosystem Restoration	QMP	Quality Management Plan
GRR	General Reevaluation Report	QA	Quality Assurance
HEC	Hydraulic Engineering Center	QC	Quality Control
Home District/MS	The District or MSC responsible for the preparation of the decision document	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
LRR	Limited Reevaluation Report	VE	Value Engineering
MSC	Major Subordinate Command	SAR	Safety Assurance Review
MCX	Mandatory Center of Expertise (Walla Walla)	USACE	U.S. Army Corps of Engineers
NMFS	National Marine Fisheries Service	WRDA	Water Resources Development Act
NOAA	National Oceanic and Atmospheric Administration		

Review Plan Checklist For Decision Documents

Date: 19 August 2015

Originating District: SPN

Project/Study Title: Dry Creek Warm Springs Dam) Ecosystem Restoration General Investigation Feasibility Study

PWI #:

District POC: Patrick Howell, Project Manager

PCX Reviewer: Elliott Stefanik , Acting Operational Director, National Ecosystem Planning Center of Expertise

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate PCX. Any evaluation boxes checked 'No' indicate the RP may not comply with ER 1105-2-410 (22 Aug 2008) and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a stand alone document?	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan?</p> <p>b. Does it include a table of contents?</p> <p>c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced?</p> <p>d. Does it reference the Project Management Plan (PMP) of which the RP is a component?</p> <p>e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)?</p> <p>f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?</p> <p>g. Does it list the names and disciplines of the Project Delivery Team (PDT)?*</p>	EC 1105-2-410, Appendix B, Para 4a	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members</i></p>		

<i>change or the RP is updated.</i>		
2. Is the RP detailed enough to assess the necessary level and focus of peer review?	EC 1105-2-410, Appendix B, Para 3a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it indicate which parts of the study will likely be challenging?</p> <p>b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?</p> <p>c. Does it indicate if the project/study will require preparation of an environmental impact statement (EIS)?</p> <p><i>Will an EIS be prepared? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>e. Does it address if the project is likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):</p> <ul style="list-style-type: none"> • more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources? • substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation? • more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation? <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p>	<p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410 Para 7c & 8f</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>

<p>f. Does it address if the project/study is likely to have significant interagency interest?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>g. Does it address if the project/study likely involves significant threat to human life (safety assurance)?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>h. Does it provide an estimated total project cost?</p> <p><u>What is the estimated cost: >\$10,000,000 and <\$45,000,000</u> <i>(best current estimate; may be a range)</i></p> <p><i>Is it > \$45 million? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p>	<p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p>	<p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>h. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>j. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p>3. Does the RP define the appropriate level of peer review for the project/study?</p>	<p>EC 1105-2-410, Para 8a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and</p>	<p>EC 1105-2-410, Para 7a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>district Quality Management Plans?</p> <p>b. Does it state that ATR will be conducted or managed by the lead PCX?</p> <p>c. Does it state whether IEPR will be performed?</p> <p><i>Will IEPR be performed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i></p> <p>d. Does it provide a defensible rationale for the decision on IEPR?</p> <p>e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?</p>	<p>EC 1105-2-410, Appendix D, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 7c</p>	<p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: If in the future an IEPR exclusion is granted, per EC1165-2-214 , the Review Plan the RP will be updated and resubmitted.</p>
<p>4. Does the RP explain how ATR will be accomplished?</p>	<p>EC 1105-2-410, Appendix B, Para 4l</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p> <p>c. Does it indicate that ATR team members will be from outside the home district?</p> <p>d. Does it indicate that the ATR team leader will be from outside the home MSC?</p> <p>e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MSc?</p> <p>f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/></p> <p>Comments: 4.f, at this time the RP has the disciplines required for the ATR and the PDT will work with the PCX on the required qualifications in selecting ATR team members</p>

5. Does the RP explain how IEPR will be accomplished?	EC 1105-2-410, Appendix B, Para 4k & Appendix D	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>
a. Does it identify the anticipated number of reviewers?	EC 1105-2-410, Appendix B, Para 4f	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?	EC 1105-2-410, Appendix B, Para 4g	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers?	EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?	EC 1105-2-410, Para 7c	d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments: In the event that an IEPR exclusion is granted in the future, the Review Plan will be revised.
6. Does the RP address peer review of sponsor in-kind contributions?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does the RP list the expected in-kind contributions to be provided by the sponsor?	EC 1105-2-410, Appendix B, Para 4j	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it explain how peer review will be accomplished for those in-kind contributions?		b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/> Comments:
7. Does the RP address how the peer review will be documented?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks?	EC 1105-2-410, Para 8g(1)	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does the RP explain how the IEPR will be documented in a Review Report?	EC1105-2-410, Appendix B, Para 4k(13)(b)	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>
c. Does the RP document how written responses to the IEPR Review Report will be prepared?	EC 1105-2-410, Appendix B, Para 4l	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>

<p>d. Does the RP detail how the district/PCX will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?</p>	<p>EC 1105-2-410, Para 8g(2) & Appendix B, Para 4l</p>	<p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/> Comments:</p>
<p>8. Does the RP address Policy Compliance and Legal Review?</p>	<p>EC 1105-2-410, Para 7d</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:</p>
<p>9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?</p>	<p>EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report?</p> <p>b. Does it include interim ATR reviews for key technical products?</p> <p>c. Does it present the timing and sequencing for IEPR?</p> <p>d. Does it include cost estimates for the peer reviews?</p>	<p>EC 1105-2-410, Appendix C, Para 3g</p> <p>EC 1105-2-410, Appendix C, Para 3g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/> d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments: 9.c. the general timeline for the IEPR is provided.</p>
<p>10. Does the RP indicate the study will address Safety Assurance factors?</p> <p>Factors to be considered include:</p> <ul style="list-style-type: none"> • Where failure leads to significant threat to human life • Novel methods\complexity\ precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction 	<p>EC 1105-2-410, Para 2 & Appendix D, Para 1c</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/> Comments: The IEPR Type II will be evaluated at the end of the Feasibility Phase and beginning of PED.</p>

schedule		
11. Does the RP address model certification requirements?	EC 1105-2-407	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)?</p> <p>b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	EC 1105-2-410, Appendix B, Para 4i	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p>
12. Does the RP address opportunities for public participation?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it indicate how and when there will be opportunities for public comment on the decision document?</p> <p>b. Does it indicate when significant and relevant public comments will be provided to reviewers before they conduct their review?</p> <p>c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers?</p> <p>d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?</p>	<p>EC 1105-2-410, Appendix B, Para 4d</p> <p>EC 1105-2-410, Appendix B, Para 4e</p> <p>EC 1105-2-410, Appendix B, Para 4h</p> <p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
13. Does the RP address coordination with the appropriate Planning Centers of Expertise?	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it state if the project is single or multi-purpose? Single <input checked="" type="checkbox"/> Multi <input type="checkbox"/></p> <p>List purposes: Ecosystem Restoration</p> <p>b. Does it identify the lead PCX for peer review? Lead PCX: ECO</p> <p>c. If multi-purpose, has the lead PCX coordinated the review of the RP with the</p>	EC 1105-2-410, Appendix D,	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/></p> <p>Comments: 13.c. at this time the ECO PCX supported single purpose but if changes</p>

other PCXs as appropriate?	Para 3c	PCX coordination and RP update will be made.
14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?	EC 1105-2-410, Appendix D, Para 3	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it state if the decision document will require Congressional authorization?</p> <p>b. If Congressional authorization is required, does the state that coordination will occur with the Cost Engineering DX?</p>		<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p>
<p>15. Other Considerations: This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to consider in preparation of the RP include, but may not be limited to:</p> <p>a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely?</p> <p>b. Is the home district expecting to submit a waiver to exclude the project study from IEPR?</p> <p>c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)?</p> <p>d. Are there additional Peer Review needs unique to the project study?</p>	<p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1d</p>	Comments:
Detailed Comments and Backcheck:		

**DISTRICT QUALITY CONTROL CERTIFICATION
COMPLETION OF QUALITY CONTROL ACTIVITIES**

The District Quality Control (DQC) of the Dry Creek (Warm Springs) Ecosystem Restoration Project, CA Review Plan has been completed.

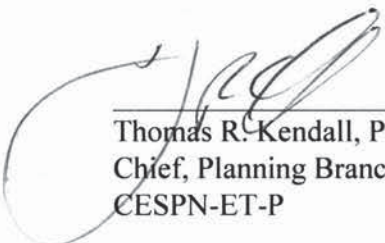
Certification is hereby given that all quality control activities appropriate to the level of risk and complexity inherent in the product have been completed.

GENERAL FINDINGS

Compliance with clearly established policy principles and procedures, utilizing clearly justified and valid assumptions, has been verified. This includes assumptions; methods, procedures and materials used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and the reasonableness of the results. The undersigned recommends certification of the quality control process for this product.

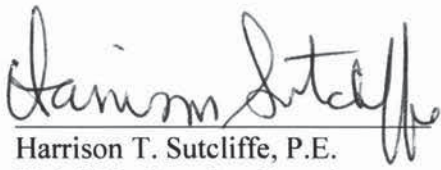
CERTIFICATION

Certification is hereby given that all quality control activities appropriate to the level of risk and complexity inherent with the completed product.



Thomas R. Kendall, P.E.
Chief, Planning Branch
CESPN-ET-P

7/30/15
Date



Harrison T. Sutcliffe, P.E.
Chief, Engineering Branch
CESPN-ET-E

8/3/15
Date



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-N

10 April 2015

MEMORANDUM FOR Commander, South Pacific Division
ATTN: (Paul Bowers, SPD-PDC)

SUBJECT: Dry Creek (Warm Springs Dam) Ecosystem Restoration Project, Sonoma County, California, San Francisco District, Ecosystem Planning Center of Expertise Recommendation for Review Plan Approval

1. References:

- a. Engineering Circular (EC) 1165-2-214, Water Resources Policies and Authorities, CIVIL WORKS REVIEW, 15 December 2012
- b. EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2011
- c. Engineering Regulation (ER) 1110-2-12, Quality Management, 30 Sep 2006

2. The Ecosystem Planning Center of Expertise (ECO-PCX) has reviewed the enclosed Review Plan (RP). The RP complies with all applicable policy and provides an adequate approach to District Quality Control (DQC) and Agency Technical Review (ATR) of the plan formulation, engineering, and environmental analyses, and other aspects of plan development.

3. The RP includes a risk informed decision for exclusion from Type I Independent External Peer Review (IEPR) for this study. The exclusion request has not yet been made. The ECO-PCX should be included on the coordination of this request. Final approval for exclusion must be obtained from the Director of Civil Works (DCW).

4. The Combined Habitat Assessment Protocol (CHAP) Model used in this study is under review by the ECO-PCX. ECO-PCX will need to recommend single-use application of this model on the study if the model certification is not completed prior to submission of the feasibility report to Headquarters. ATR team members for this study should include the review of model application in light of comments in the model review report.

5. The ECO-PCX concurs with the RP pending the final approval from the DCW to exclude the study from IEPR. Upon approval by the MSC Commander, please provide the approved RP, the MSC Commander's approval memorandum, and the link to the District posting of the RP to the ECO-PCX. When substantive revisions are made to the RP, due to a decision on IEPR, changes in project scope, or Corps policy, a revised RP should be provided to the ECO-PCX for review. Non-substantive changes do not require further PCX review.

6. Thank you for the opportunity to assist in the preparation of the RP. We look forward to working with you on the ATR. Please keep us informed of decisions regarding IEPR. Also let us know if we may be of any further assistance with planning efforts for this study.

CEMVD-PD-N

10 April 2015

SUBJECT: Dry Creek (Warm Springs Dam Ecosystem Restoration Project Sonoma County, California, San Francisco District, Ecosystem Planning Center of Expertise Recommendation for Review Plan Approval

Enclosures (1)

Elliott Stefanik
Acting Operational Director,
National Ecosystem Planning
Center of Expertise

CF:

CEMVD-PD-N (Wilbanks, Lachney)
CESPD-PDP (Skaggs, Kennedy, Keilman)
CESPN-ET-P (Kendall)
CEMP-SPD-RIT (Schwichtenberg)
CEMVR-PD-P (Richards)
CELRN-PM-P (Scuderi)



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

CESPN-ET-PF

19 August 2015

MEMORANDUM FOR: South Pacific Division District Support Team (ATTN: CESPD-PDC Mr. Paul Bowers)

SUBJECT: Review Plan for the Dry Creek (Warm Springs) Ecosystem Restoration Feasibility Study, California

1. In accordance with Engineering Circular (EC) 1165-2-214, Water Resources Policies and Authorities, Civil Works Review, dated 15 December 2012, the subject Review Plan is provided for MSC approval by the Commander, South Pacific Division (Enclosure 1).
2. This Review Plan is in compliance with the aforementioned EC and has been coordinated with the District's Planning and Engineering Branches.
3. The South Pacific Division Supplemental Review Plan Checklist and Review Plan District Quality Control (DQC) Certification are provided with this submittal (Enclosures 2 and 3).
4. This Review Plan has been endorsed by the Planning Center of Expertise (PCX) for Ecosystem Restoration, which is the responsible PCX for this study. A copy of the endorsement memo is provided as Enclosure 4.
5. Please address any questions about this Review Plan to the lead planner, Ms. Kelly Janes, at 415-503-6856 or kelly.a.janes@usace.army.mil. Upon approval of the Review Plan; please notify this office so that we can post it to the District's public website. Upon posting of the approved Review Plan, the District will notify the vertical team.

- 4 Encls
1. Review Plan
 2. Review Plan Checklist
 3. DQC Certification
 4. PCX Endorsement

A handwritten signature in black ink, appearing to read "T. Kendall", written over a large, stylized circular flourish.

THOMAS R. KENDALL, P.E.
Chief, Planning Branch