



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

CESPD-PDC

MEMORANDUM FOR Commander, Sacramento District, ATTN: CESPK-PD, Mr. Muha

Subject: Review Plan Approval for the West Sacramento, California Flood Risk Management and Ecosystem Restoration Feasibility Study.

1. The attached Review Plan for the West Sacramento, California Flood Risk Management and Ecosystem Restoration Feasibility Study has been prepared in accordance with EC 1105-2-410.
2. The Review Plan will be made available for public comment, and the comments received will be incorporated into future revisions of the Review Plan. The Review Plan has been coordinated with the Flood Risk Management Planning Center of Expertise (PCX) of the South Pacific Division which is the lead office to execute this plan. For further information, contact the PCX, Mr. Thaut, at 415-503-6852.
3. The Review Plan includes independent external peer review.
4. I hereby approve this Review Plan, which is subject to change as study circumstances require. This is consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

5 Encls

1. District Memo
2. Review Plan
3. FRM-PCX Memo
4. FRM-PCX Checklist
5. SPD Checklist

A handwritten signature in black ink, appearing to read "Janice L. Dombi".

JANICE L. DOMBI
COL, EN
Commanding



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

CESPK-PD-W

MEMORANDUM FOR: Commander, South Pacific Division (ATTN: CESPD-PD-C,
Berresford, Bowers)

SUBJECT: Request for Approval of Review Plan for the West Sacramento, California Flood
Risk Management and Ecosystem Restoration General Reevaluation Report

1. In accordance with EC 1105-2-410, Review of Decision Documents, dated 22 August 2008, the subject Review Plan is provided for approval by the Commander, South Pacific Division (Enclosure 1). This is the first submittal of a Review Plan for the subject study.
2. This Review Plan is in compliance with the EC and has been coordinated with the applicable Planning Centers of Expertise (PCX). The PCX for Flood Risk Management is designated as the lead PCX, and as such, coordinated the Review Plan with the PCX for Ecosystem Restoration for certain model certifications. The PCX concurrence memorandum is provided as Enclosure 2. Also, enclosed is the SPD Review Plan checklist.
3. Please address any questions about this Review Plan to Mr. Andrew Muha (916) 557-6756, who is the project planner. Upon approval of this Review Plan, please provide notification to this office so we can post it to the Sacramento District public website. Upon posting of the approved Review Plan, the District will notify the vertical team. I appreciate your quick attention to this matter.

Sincerely,


Francis C. Piccola
Chief, Planning Division
Sacramento District

Encls

REVIEW PLAN

**WEST SACRAMENTO, CALIFORNIA
FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION
GENERAL REEVALUATION REPORT**

SACRAMENTO DISTRICT

MARCH 2009

Revision 1 – N/A
FRM-PCX Review

REVIEW PLAN

WEST SACRAMENTO, CALIFORNIA

FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION

GENERAL REEVALUATION REPORT

SACRAMENTO DISTRICT

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REVIEW PLAN

WEST SACRAMENTO, CALIFORNIA FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION GENERAL REEVALUATION REPORT SACRAMENTO DISTRICT

1. PURPOSE AND REQUIREMENTS

A. Purpose. This document outlines the Review Plan for the West Sacramento, California, Flood Risk Management and Ecosystem Restoration General Reevaluation. Engineering Circular (EC) *Peer Review of Decision Documents* 1105-2-408, dated 31 May 2005, (1) established procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process, and (2) required that documents have a peer review plan. That EC applies to all feasibility studies and reports and any other reports that lead to decision documents that require authorization by Congress. The West Sacramento, California, General Reevaluation Report is anticipated to result in recommendations to Congress for reauthorization of a project and is therefore covered by this EC.

A subsequent circular, *Review of Decision Documents*, EC 1105-2-410, dated 22 August 2008, revises the technical and overall quality control review processes for decision documents. It formally distinguishes between technical review performed in-district (District Quality Control, "DQC") and out-of-district resources (formerly Independent Technical Review, "ITR," now Agency Technical Review, "ATR"). It also reaffirms the requirement for Independent External Peer Review (IEPR); this is the most independent level of review and is applied in cases that meet certain criteria where the risk and magnitude of a proposed project are such that a critical examination by a qualified team outside of the U.S. Army Corps of Engineers (USACE) is warranted.

B. Requirements. EC 1105-2-410 outlines the requirement of the three review approaches (DQC, ATR, and IEPR). EC 1105-2-408 provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate PCX. The West Sacramento, California, General Reevaluation Report will investigate flood risk management (FRM) and ecosystem restoration (ER) issues in the study area. The non-Federal partners have expressed a strong desire that FRM be considered the primary focus of the feasibility study, while identifying opportunities for ecosystem restoration where they are consistent with FRM features. Therefore, the PCX for FRM is considered to be the primary PCX for coordination. The PCX for FRM will coordinate with the PCX for ER as appropriate.

(1) District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the West Sacramento Feasibility Study Project Management Plan (PMP) for the study (to which this Review Plan will ultimately be appended). It is managed in the Sacramento District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan (QMP) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a

complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before the approval by the District Commander. For the West Sacramento General Reevaluation Report, non-PDT members and/or supervisory staff will conduct this review for major draft and final products, including products provided by the non-Federal sponsors as in-kind services following review of those products by the PDT. It is expected that the Major Subordinate Command (MSC)/District QMP address the conduct and documentation of this fundamental level of review. A Quality Control Plan (QCP) is included in the PMP for the subject study and addresses DQC and associated costs; DQC is not addressed further in this Review Plan. DQC is required for this study.

(2) Agency Technical Review. EC 1105-2-410 recharacterized ATR (which replaces the level of review formerly known as Independent Technical Review) is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-408 requires that DrChecks <https://www.projnet.org/projnet/> be used to document all ATR comments, responses, and associated resolution accomplished. This Review Plan outlines the proposed approach to meeting this requirement for the West Sacramento, California, General Reevaluation Report. ATR is required for this study.

(3) Independent External Peer Review. EC 1105-2-410 recharacterized the external peer review process that was originally added to the existing Corps review process via EC 1105-2-408. 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 USACE is warranted. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c) (3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. This Review Plan outlines the planned approach to meeting this requirement for the West Sacramento, California, General Reevaluation Report. IEPR is required for this study.

(4) Policy and Legal Compliance Review. In addition to the technical reviews, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. Technical review described in EC 105-2-410 are to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the

reviewers, the district will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers. Legal reviews will be conducted concurrent with ATR of the preliminary, draft and final feasibility report and environmental impact statement.

(5) Planning Center of Expertise (PCX) Coordination. EC 1105-2-408 and EC 1105-2-410 outline PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Flood Risk Management (FRM), who in turn will coordinate with the PCX for Ecosystem Restoration (ER) as appropriate. The PCX for FRM is responsible for the accomplishment and quality of ATR and IEPR for the West Sacramento, California, Feasibility Study. The PCX for FRM may conduct the review or manage the review to be conducted by others.

(6) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, South Pacific Division (SPD). Once the Review Plan is approved, the Sacramento District will post it to its district public website and notify SPD and the PCX for FRM.

(7) Safety Assurance Review (SAR). In accordance with Section 2034 and 2035 of WRDA 2007, EC 11052-410, and pending additional guidance requires that all projects addressing flooding or storm damage reduction undergo a SAR during design and construction. Safety assurance factors (significant threat to human life, project cost thresholds, etc) must be considered in the planning and studies phases and in all reviews for those studies. Implementation guidance for Section 2034 and 2035 is under development and due May 2009. This study will address safety assurance factors, which at a minimum will be included in the draft report and appendixes for public and agency review. Prior to preconstruction engineering and design (PED) of the identified for construction, a PMP will be developed that will include SAR's with the selection of external panels to perform the independent external peer reviews during design and construction.

2. PROJECT DESCRIPTION

A. Decision Document. The purpose of the study is to identify and flood-related and ecosystem-related issues in the West Sacramento, California, study area. The decision document will present planning, engineering, and implementation details of the recommended plan to allow final design and construction to proceed subsequent to approval of the recommended plan. The project is a General Reevaluation Report undertaken to evaluate structural and non-structural FRM measures including in-basin storage, re-operation of existing reservoirs, improvements to existing levees, construction of new levees, and other storage, conveyance and non-structural options. ER measures would likely include restoration of floodplain function and habitat. Because of the scope of the project an EIS/EIR will be prepared. At direction from HQUSACE, the GRR is being cost shared 50 percent Federal, 50 percent non-Federal with the project sponsor, the State of California Central Valley Flood Protection Board (CVFPB). The CVFPB in turn plans to enter into a local cooperation agreement with the City of West Sacramento.

The Water Resources Development Act (WRDA) of 1992 and the Energy and Water Development and Appropriations Act (EWDA) of 1999 authorized the West Sacramento Project. Although that project is largely constructed, it is not completely constructed.

Subsequent to authorization, additional information regarding deep under seepage of levees has become available. The project partners have requested additional investigation into the remaining flood-related issues in the study area. HQUSACE has determined that the subsequent investigation be pursued as a GRR.

B. General Site Description. The study area is in eastern Yolo County in the north central region of the Central Valley of California (see Figure 1). The City of West Sacramento is just west of the City of Sacramento, across the Sacramento River. The Sacramento River flows north to south, from its headwaters near the California-Oregon state border, to the Sacramento-San Joaquin Delta north east of San Francisco Bay. The study area fundamentally consists of the City of West Sacramento city limit. The city is almost completely bound by floodways and levees: Yolo Bypass to the west, the Sacramento Bypass to the north, and the Sacramento River to the east. The city is bifurcated by the Port of Sacramento Deep Water Ship Channel and Barge Canal.

C. Project Scope. The study will focus on FRM and ER alternatives in the West Sacramento area and consider flood and ecosystem related issues associated with the Sacramento River, the Yolo and Sacramento Bypasses, the Deep Water Ship Channel and Barge Canal, and along Reclamation Districts 900 and 537. The non-Federal sponsor is interested in reducing flood risk to the City of West Sacramento and surrounding area and is interested in accomplishing ecosystem restoration within this area of primary interest for FRM.

D. Problems and Opportunities. The primary flood-related problems in the study area stem from the potential for levee failure. Primary ecosystem problems are (1) construction of levees and land use changes have separated rivers from historic floodplains and (2) construction of reservoirs has altered historic flow regimes, both of which have resulted in loss of floodplain process and associated native habitats. Technical analysis completed to date within the proposed study area indicate the potential to restore the ecosystem with specific benefits to the following special-status species: Swainson's hawk; Cooper's hawk; Valley elderberry longhorn beetle; Giant garter snake; Central Valley steelhead; Sacramento River winter-run Chinook salmon; Central Valley spring-run Chinook salmon ESU; Central Valley fall-/late fall-run Chinook salmon ESU; Rose-mallow; and, Sanford's arrowhead. The project may also have high stakeholder and resource agency interest due to the existence of encroachments and vegetation on existing levees and potential impacts to endangered species habitat depending on how the vegetation and encroachment issues are addressed.

E. Potential Methods. Potential FRM measures range from modifying and/or increasing conveyance through raising and strengthening levees, widening channels and bypass areas, modifying weirs and bypasses. Non-structural floodplain management measures would also be considered. For ecosystem restoration, measures range from restoring riparian, wetlands, and floodplain habitats through conservation easements to constructing setback levees for habitat.

F. Product Delivery Team. The PDT is comprised of those individuals directly involved in the development of the decision document. Individual contact information and disciplines are presented in appendix B. In accordance with the PMP, it is planned that the non-Federal sponsors will contribute in-kind services for project management; public involvement, coordination and outreach; environmental and HTRW studies; GIS mapping and graphics; hydrology studies, hydraulic analysis; civil engineering; geotechnical studies; real estate; planning and report development; and participating in reviews. All in-kind work products will undergo review by the PDT for a determination of adequacy; products will ultimately undergo DQC. Some products will undergo IEPR (described later in the Review Plan).

G. Vertical Team. The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning of Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in appendix B.

H. Model Certification. The USACE Planning Models Improvement Program (PMIP) was established in 2003 to assess the state of planning models in the USACE and to make recommendations to assure that high quality methods and tools are available to enable informed decisions on investments in the Nation’s water resources infrastructure and natural environment. The main objective of the PMIP is to carry out “a process to review, improve and validate analytical tools and models for USACE Civil Works business programs.” In carrying out this initiative, a PMIP Task Force was established to examine planning model issues, assess the state of planning models in the Corps, and develop recommendations on improvements to planning models and related analytical tools. The PMIP Task Force collected the views of Corps leaders and recognized technical experts, and conducted investigations and numerous discussions and debates on issues related to planning models. It identified an array of model-related problems, conducted a survey of planning models, prepared papers on model-related issues, analyzed numerous options for addressing these issues, formulated recommendations, and wrote a final report that is the basis for the development of this Circular. The Task Force considered ongoing Corps initiatives to address planning capability, and built upon these where possible. Examples include several efforts under the Planning Excellence Program (training, specialized planning centers of expertise, modeling); the Science & Engineering Technology (SET) initiative and associated Technical Excellence Network (TEN), which endeavors to provide uniform Science and Engineering tools and practices to the Corps and share them throughout; and, recognition of existing Quality Assurance/Quality Control programs and internal technical review within the Districts.

For the purposes of this Circular, planning models 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. It includes all models used for planning, regardless of their scope or source, as specified in the following sub-paragraphs. This Circular does not cover engineering models used in planning which will be certified under a separate process to be established under SET.

The computational models to be employed in the West Sacramento, California, Feasibility Study have either been developed by or for the USACE. Model certification and approval for all identified planning models will be coordinated through the PCX as needed. Project schedules and resources will be adjusted to address this process for certification and PCX coordination.

The planning models to be utilized for this study include:

- 1 HEC-FDA: Version 1.3. This model, developed by the Corps’ Hydrological Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by, EM 1110-2-1419. This program:
 - Provides a repository for both the economic and hydrologic data required for the analysis
 - Provides the tools needed to understand the results
 - Calculates the Expected Annual Damages and the Equivalent Annual Damages

- Computes the Annual Exceedence Probability and the Conditional Non-Exceedence Probability
 - Implements the risk-based analysis procedures contained in EM 1110-2-1619
- 2 IWR-Planning Suite (Certified). 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 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.
 - 3 Various Habitat Evaluation Procedure models. The Ecosystem Restoration Planning Center of Expertise has responsibility for approving ecosystem output methodologies for use in ecosystem restoration planning and mitigation planning. The Ecosystem PCX will need to certify or approve for use each regionally modified version of these methodologies and individual models and guidebooks used in application of these methods. The PDT will coordinate with the Ecosystem PCX during the study to identify appropriate models and certification approval requirements.

The following are considered to be engineering models as opposed to planning models and undergo a different review and approval process for usage. Engineering tools anticipated to be used in this study are:

- 1 HEC-HMS, Version 3.3: By applying this model the PDT is able to:
 - Define the watersheds' physical features
 - Describe the metrological conditions
 - Estimate parameters
 - Analyze simulations
 - Obtain GIS connectivity
- 2 MCACES version MII: This is a cost estimating model that was developed by Building Systems Design Inc. Crystal Ball risk analysis software will also be used.
- 3 HEC-ResSim, Version 3.0: This model predicts the behavior of reservoirs and to help reservoir operators plan releases in real-time during day-to-day and emergency operations. The following describes the major features of HEC-ResSim
 - Graphical User Interface
 - Map-Based Schematic
 - Rule-Based Operations
- 4 HEC-RAS, Version 4.0: The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man made channels. HEC-RAS major capabilities are:
 - User interface
 - Hydraulic Analysis
 - Data storage and Management
 - Graphics and reporting
- 5 FLO-2D, Version 2007: This model will be used for the overbank reaches.

- 6 Groundwater Modeling System (GMS), Version 6.5: This model is used to conduct seepage analysis.
- 7 UteXas, Version 4: This model is used to conduct slope stability analysis.

3. AGENCY TECHNICAL REVIEW PLAN

For feasibility studies, ATR is managed by the PCX. For this feasibility study, due to the heavy emphasis on flood risk management, the PCX for FRM will identify individuals to perform ATR. Sacramento District can provide suggestions on possible reviewers.

A. General. An ATR Manager shall be designated for the ATR process. The proposed ATR Manager for this project is to be determined, but will have expertise in project planning. The ATR Manager is responsible for providing information necessary for setting up the review, communicating with the Study Manager, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy. ATR will be conducted for project planning, environmental compliance, economics, hydrology and reservoir operations, hydraulic design, civil design, geotechnical engineering, cost engineering, real estate, cultural resources; reviews of more specific disciplines may be identified if necessary.

B. ATR Team (ATRT). The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT and wherever possible, reside outside of the South Pacific Division region. It is anticipated that the team will consist of about 10 reviewers. The ATRT members will be identified at the time the review is conducted and will be presented in Appendix B. The respective ATRT members should have the following expertise/experience:

- Project Planning: Team member will be experienced with the civil works process, watershed level projects, current flood damage reduction planning and policy guidance, and have experience in plan formulation for multipurpose projects, specifically integrating measures for flood risk management, ecosystem restoration, recreation, watersheds, and planning in a collaborative environment.
- Environmental Compliance: Team member will be experienced in NEPA/CEQA process and analysis, and have a biological or environmental background that is familiar with the project area and ecosystem restoration.
- Economics: Team member will be experienced in civil works and related flood risk reduction projects, and have a thorough understanding of HEC-FDA.
- Hydrology and reservoir operations – Team member will be an expert in the field of hydrology and reservoir operations, application of detention / retention basins, effects of best management practices and low impact development on hydrology, approaches that can benefit water quality, and extensive experience with Corps hydrologic models.
- Hydraulic Design – Team member will be an expert in the field of urban hydraulics, have a thorough understanding of the dynamics of the both open channel flow systems, and enclosed systems, application of levees and flood walls in an urban environment with space constraints. The team member will have an understanding of computer modeling techniques that will be used for this project (HEC-HMS, HEC-RAS, UNET, and TABS).
- Civil Design – This discipline may require a dedicated team member, or may be satisfied by structural or geotechnical reviewer, depending on individual qualifications. Team

- member will have experience in utility relocations, positive closure requirements and internal drainage for levee construction, and application of non-structural flood damage reduction, specifically flood proofing. A certified professional engineer is suggested.
- Geotechnical Engineering – Team member will be experienced in levee & floodwall design, post-construction evaluation, and rehabilitation. A certified professional engineer is recommended.
 - Cost Engineering - Team member will be familiar with cost estimating for similar civil works projects using MCACES version MII. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. A separate process and coordination is also required through the Walla Walla District DX for cost engineering.
 - Real Estate - Team member will be experienced in federal civil work real estate laws, policies and guidance. Members shall have experience working with respective sponsor real estate issues.
 - Cultural Resources - Team member will be experienced in cultural resources and tribal issues, regulations, and laws.

C. Communication. The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The Study Manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in Word format at: <ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

(2) The PDT shall send the ATR manager one hard copy (with color pages as applicable) of the document and appendices for each ATRT member such that the copies are received at least one business day prior to the start of the comment period.

(3) The PDT shall host an ATR kick-off meeting virtually to orient the ATRT during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall provide a presentation about the project, including photos of the site, for the team.

(4) The Study Manager shall inform the ATR manager when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(5) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(6) Team members shall contact ATRT members or leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(7) Reviewers will be encouraged to contact PDT members directly via email or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

(8) The ATRT, the PDT, and the vertical team shall conduct an after action review (AAR) no later than 2 weeks after the policy guidance memo is received from HQUSACE for the AFB and draft reports.

D. Funding

(1) The PDT district shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through government order. The Study Manager will work with the ATR manager to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for this review is \$160,000. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

(2) The team leader shall provide organization codes for each team members and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.

(3) Reviewers shall monitor individual labor code balances and alert the ATRT Study Manager to any possible funding shortages.

E. Timing and Schedule

(1) Throughout the development of this document, the team will conduct seamless review to ensure planning quality.

(2) Due to funding and timing constraints the ATR team could not participate in the Technical Review Strategy Session. A Technical Review Strategy Session was conducted on January 20, 2009 with representatives of the PDT, the Sacramento District Planning Division Chief, and representatives from South Pacific Division Planning and Policy CoP and the Flood Risk Management Center of Expertise. Discussion included the strategy to conduct the ATR and IEPR, potential policy and technical issues including vegetation and encroachments on levees, and the documents to be reviewed.

(3) The ATR will be conducted on the Feasibility Scoping Meeting documentation and assumptions; the Alternative Formulation Briefing documentation; the draft Feasibility Report; and if changes are made to the draft report, those changes will be reviewed in the Final Feasibility Report.

(4) A Value Engineering study will be conducted in the period between the F3 Conference (Feasibility Scoping Meeting) and the F4 Conference (Alternative Review Conference). The aim of the VE studies should be to ensure that the widest range of engineeringly feasible and cost efficient measures are considered and that alternatives formulated from those measures are not limited to those that first come to mind at the initiation of the study. Putting this step into the process ensures consideration of the fullest range of measures and alternatives. The results will be presented in the feasibility report – integrated into the discussion of the formulation of alternatives. In implementing this policy, the agency technical review team should act as the core of the feasibility VE team.

(5) The PDT will hold a “page-turn” session to review the draft report to ensure consistency across the disciplines and resolve any issues prior to the start of ITR. Writer/editor services will be performed on the draft prior to ITR as well.

(6) The ATR and IEPR process for this document will follow the basic timeline below.

Actual dates will be scheduled once the period draws closer. All products produced for these milestones will be reviewed, including those produced by contractors and as in-kind services by the non-Federal sponsors.

ATR and IEPR Timeline

Task	Date
ATR Review of Interim Materials (Hydraulics, Geotech, Econ)	June 2010
IEPR Review of Interim Materials (Hydraulics, Geotech, Econ)	June 2010
ATR Feasibility Scoping Meeting material	June 2010
ATR Alternatives Review Conference material ¹	April 2011
ATR of Draft Report Comment Period	November 2011
Kickoff meeting	During 1 st week
ATR Comments	End 2 nd week
PDT Responses	End 3 rd week
Responses Back check	End 4 th week
Alternative Formulation Briefing (AFB)	September 2011
AFB Policy Memo Issued	September 2011
ATR Certification Draft Report	November 2011
IEPR of Draft Report	November 2011
Public Review of Draft Report	November 2011
ATR Certification Final Report	January 2012
ATR After Action	January 2012
Final Public Meeting	January 2012
Final District Report Review	February 2012

¹**Required by the Major Subordinate Command.**

F. Review

(1) ATRT responsibilities are as follows:

(a) Reviewers shall review conference material and the draft report to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the report shall be submitted into DrChecks.

(b) Reviewers shall pay particular attention to one's discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

(c) Grammatical and editorial comments shall not be submitted into DrChecks. Comments should be submitted to the ATR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ATR manager shall provide these comments to the Study Manager.

(d) Review comments shall contain these principal elements:

- 1 a clear statement of the concern

- 2 the basis for the concern, such as law, policy, or guidance
- 3 significance for the concern
- 4 specific actions needed to resolve the comment

(e) The “Critical” comment flag in DrChecks shall not be used unless the comment is discussed with the ATR manager and/or the Study Manager first.

(2) PDT Team responsibilities are as follows:

(a) The team shall review comments provided by the ATRT in DrChecks and provide responses to each comment using “*Concur*”, “*Non-Concur*”, or “*For Information Only*”. *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

(b) Team members shall contact the PDT and ATRT managers to discuss any “Non-Concur” responses prior to submission.

G. Resolution

(1) Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements. Conference calls shall be used to resolve any conflicting comments and responses.

(2) Reviewers may “agree to disagree” with any comment response and close the comment with a detailed explanation. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR manager and, if not resolved by the ATR Manager, it should be brought to the attention of the planning chief who will need to sign the certification. ATRT members shall keep the ATR manager informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during HQ review.

H. Certification

To fully document the ATR process, a statement of technical review will be prepared. Certification by the ATR Manager and the Study Manager will occur once issues raised by the reviewers have been addressed to the review team’s satisfaction and the final report is ready for submission for HQ review. Indication of this concurrence will be documented by the signing of a certification statement (Appendix A). A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process. An interim certification will be provided by the ATR team lead to indicate concurrence with the report to date until the final certification is performed when the report is considered final.

In addition, because of the critical need to establish the without-project hydrology early in a flood control planning study, the chief of the district element that is responsible for the hydrological analysis shall certify the hydrology prior to the first milestone conference in the feasibility phase. This certification shall be included in the review documentation.

I. Alternative Formulation Briefing (AFB)

The AFB for this project will occur after the majority of the ATR comments have been resolved. It is possible that the briefing will result in additional technical or policy comments from high level reviewers for resolution. The resolution of significant policy comments may result in major changes to the document. Therefore, the ATR Manager will perform a brief review of the report to ensure that technical issues are resolved.

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

This decision document will present the details of a feasibility study undertaken to evaluate structural and non-structural FRM and ER measures to address problems in the study area. EC 1105-2-408 set forth and EC 1105-2-410 reaffirmed thresholds that trigger IEPR: “In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than \$45 million, or has significant economic, environmental and social effects to the nation, IEPR will be conducted.” This study is not expected to contain influential scientific information nor be a highly influential scientific assessment. This study area is highly urbanized and consequently there are public safety concerns. The study will be highly complex because of the extensive river and bypass system; the existing levee system; and the high degree of urbanization. The project may have high stakeholder and resource agency interest due to the existence of encroachments and vegetation on existing levees and potential impacts to endangered species habitat depending on how the vegetation and encroachment issues are addressed. It can be assumed that the ultimate cost associated with a recommended plan is likely to be in the high hundreds of millions of dollars range. For these reasons, IEPR will be conducted. IEPR is currently estimated to be \$300,000. IEPR is a project cost. The IEPR panel review will be Federally funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost shared expenses. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers.

Disciplines that are anticipated to undergo IEPR are geotechnical and hydraulic engineering, economics, and environmental. A total of six IEPR reviewers will be needed. Three geotechnical engineers may be needed; one with general geotechnical engineering expertise, one with expertise in geotechnical risk analysis, and one with expertise in seismic characterization of soil and analyses. The general geotechnical engineer should have extensive experience in the evaluation and design of flood control structures and levee embankments. The geotechnical risk analysis engineer should have extensive experience in the application of probabilistic methods to geotechnical aspects of flood damage reduction planning studies. The geotechnical seismic analysis panel member should have extensive experience in liquefaction evaluations of flood control structures. One reviewer will be needed for hydraulic engineering; this reviewer should be familiar with the Corps application of risk and uncertainty in flood risk management studies and also familiar with corps hydrologic and hydraulic computer models. One reviewer will be needed for economics; this reviewer will need experience with water resource economic evaluation and utilization of the HEC-FDA models. One reviewer will be needed for environmental analysis; this reviewer will be experienced in NEPA/CEQA process and analysis and should have experience with evaluating and conducting NEPA cumulative effects analysis for complex multi-objective public works projects. Work undertaken as part of these technical disciplines is considered to be highly complex due to the size of the study area as well as the existing complex river and bypass system in the study area. Specific factors for this determination are (1) the large population center; (2) the complex existing levee and water conveyance system; (3)

through-levee seepage and under-levee seepage associated with the existing levees; (4) and the complex hydraulic system and associated floodplains. Of these products that will undergo IEPR, all will be reviewed by the PDT and undergo DCQ prior to submittal for IEPR. This includes products that are produced by the non-Federal sponsors as in-kind services.

It should be noted that Sacramento District intends to use for this GRR the basic future without-project hydrology developed as part of the American River Common Features GRR. That hydrology is undergoing IEPR as part of the Common Features GRR and therefore is not proposed for IEPR as part of the West Sacramento GRR. The Common Features PDT and West Sacramento PDT coordinate regularly on many matters and will coordinate regarding this as well.

A. Project Magnitude. For reasons described in the preceding paragraphs, the magnitude of this project is determined as high.

B. Project Risk. This project is considered to have high overall risk. The potential for failure is high because of the complex nature of the study area. It will be important to make sound planning assumptions in application of all the modeling and judgment and to do so will require application of multiple levels of review. Public and agency input will be sought in order to minimize the potential for controversy. Uncertainty of success of the project ultimately will be low to moderate – if the proposed review processes are implemented - because the methods used for evaluating the project are standard and the concept of implementing proposed project features is not innovative.

C. Vertical Team Consensus. This Review Plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX approval, the plan will be provide to the vertical team for approval. MSC approval of the plan will indicate vertical team consensus.

D. Products for Review. Interim products for hydraulic and geotechnical design and economics will be provided before the draft report is released for public review. The full IEPR panel will receive the entire draft feasibility report, environmental impact statement and all technical appendixes concurrent with public and agency review. The final report to be submitted by the IEPR panel must be submitted to the PDT within 60 days of the conclusion of public review. A representative of the IEPR panel must attend any public meeting(s) held during public and agency review of the draft report. The Sacramento District will draft a response to the IEPR final report and process it through the vertical team for discussion at the Civil Works Review Board (CWRB). An IEPR panel member must attend the CWRB. Following the CWRB, the Corps will issue final response to the IEPR panel and notify the public. The tentative schedule for IEPR activities is included in the table on page 10.

E. Communication and Documentation. The communication plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The Study Manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and IEPR panel members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in Word format at: <ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forwards the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response to DrChecks, and then return the proposed response to the panel. The panel

reply may or may not concur with the District's proposed response and the panels final response will indicate concurrence or briefly explain what issue is blocking concurrence. *There will be no will reply to the proposed response through the OEO, again using DrChecks. This final panel final closeout iteration.* The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panels reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the administrative record. However, only the initial panel comments and the final agency responses will be posted. This process will continue to be refined as experience shows need for changes. This is specifically in accordance with the EC 1105-2-410 Frequently Asked Questions, dated 3 November 2008.

(2) The PDT shall send each IEPR panel member one hard copy (with color pages as applicable) of the document and appendices such that the copies are received at least one business day prior to the start of the comment period.

(3) The Study Manager shall inform the IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(4) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(5) PDT members shall contact IEPR panel members as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(6) The IEPR panel shall produce a final Review Report to be provided to the PDT not later than 60 days after the close of the public and agency review of the draft report. This report shall be scoped as part of the effort to engage the IEPR panel. The Sacramento District will draft a response report to the IEPR final report and process it through the vertical team for discussion at the CWRB. Following direction at the CWRB and upon satisfactorily resolving any relevant follow-on actions, the Corps will finalize its response to the IEPR Review Report and will post both the Review Report and the Corps final responses to the public website.

F. Funding

The PCX for FRM will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The Sacramento District will provide funding to the IEPR panel.

5. PUBLIC AND AGENCY REVIEW

The public and agencies will have multiple opportunities to participate in this study. The earliest opportunity will be as part of the public scoping process during the first year of the study. Public review of the draft feasibility report will occur after issuance of the AFB policy guidance memo and 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 begin approximately 1 month after the completion of the ATR process and policy guidance memo. The period will last a minimum of 45 days as required for an Environmental Impact Statement. One or more public

workshops will be held during the public and agency 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 ATRT before review of the final Decision Document. The public review of necessary state or Federal permits will also take place during this period. A formal State and Agency review will occur concurrently with the public review. However, it is anticipated that intensive coordination with these agencies will have occurred concurrent with the planning process. 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. A plan for public participation will be developed early in the study which might identify informal as well as additional formal forums for participation in the study.

6. PCX COORDINATION

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at SPD. The PCX for FRM will coordinate with the National Ecosystem Restoration Planning Center of Expertise at MVD, as appropriate. This Review Plan will be submitted to the PCX for FRM Director, Eric Thaut, for review and comment. Since it was determined that this project is high risk, an IEPR will be required. As such, the PCX will be asked to manage the IEPR review. For ATR, the PCX is requested to nominate the ATR team as discussed in paragraph 3.b. above. The approved Review Plan will be posted to the Sacramento District's public website. Any public comments on the Review Plan will be collected by the Office of Water Project Review (OWPR) and provided to the Sacramento District for resolution and incorporation if needed.

7. APPROVALS

The PDT will carry out the Review Plan as described. The Study Manager will submit the plan to the PDT District Planning Chief for approval. Formal coordination with PCX for FRM will occur through the PDT District Planning Chief.

8. POINTS OF CONTACT

Questions about this Review Plan may be directed to Mr. Andrew T. Muha, Sacramento District Project Delivery Team Planning contact, at (916) 557-6756, or andrew.t.muha@usace.army.mil, or to Mr. Eric Thaut, Program Manager for the Planning Center of Expertise for Flood Risk Management, at (415) 503-6852, or eric.w.thaut@usace.army.mil.

REVIEW PLAN
WEST SACRAMENTO, CALIFORNIA
FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION
GENERAL REEVALUATION REPORT
SACRAMENTO DISTRICT

APPENDIX A
STATEMENT OF TECHNICAL REVIEW

COMPLETION OF AGENCY TECHNICAL REVIEW
WEST SACRAMENTO, CALIFORNIA
FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION
GENERAL REEVALUATION REPORT, ENVIRONMENTAL IMPACT
STATEMENT/ENVIRONMENTAL IMPACT REPORT AND APPENDICES

The Sacramento District has completed the project implementation report (feasibility report), environmental impact statement/environmental impact report and appendices of the West Sacramento General Reevaluation Report. Notice is hereby given that an agency technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the agency technical review, 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 result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an agency team composed of staff from multiple districts. All comments resulting from the ATR have been resolved.

TBD _____

NAME
Team Leader, West Sacramento
General Reevaluation Report
Agency Technical Review Team

_____ Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

A summary of all comments and responses is attached. Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact and resolution)

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

Francis C. Piccola
Chief, Planning Division

Date

REVIEW PLAN

WEST SACRAMENTO, CALIFORNIA
FLOOD RISK MANAGEMENT AND ECOSYSTEM RESTORATION
GENERAL REEVALAUTION REPORT

SACRAMENTO DISTRICT

APPENDIX B

PRODUCT DELIVERY TEAM

Name	Discipline	Phone	Email
Michelle Kuhl	Project Manager	916-557-7619	Michelle.M.Kuhl@usace.army.mil
Andrew Muha ¹	Study Manager/Planning	916-557-6756	Andrew.T.Muha@usace.army.mil
Elizabeth Wegenka	Geospatial Data Technical Lead	916-557-7640	Elizabeth.A.Wegenka@usace.army.mil
Richard Torbik	Civil Design	916-557-6698	Richard.A.Torbik@usace.army.mil
John Suazo	Environmental Analysis	916-557-6956	John.Suazo@useace.army.mil
Robert Collins	Hydrology/Reservoir	916-557-7132	Robert.F.Collins@usace.army.mil
Jesse Schlunegger	Hydraulic Design	916-557-6777	Jesse.J.Schlunegger@usace.army.mil
Nick Applegate	Economics	916-557-6711	Nicholas.J.Applegate@usace.army.mil
Sherman Fong	Cost Engineering	916-557-6983	Sherman.C.Fong@usace.army.mil
Laurie Parker	Real Estate/Lands	916-557-6741	Laurie.S.Parker@usace.army.mil
Dan Bell	Cultural Resources	916-557-6818	Daniel.A.Bell@usace.army.mil
Jeff Taylor	Geotechnical Engineering	916-557-5316	Jeffrey.W.Taylor@usace.army.mil
Jim Powers	Environmental Engineering	916-557-7903	James.C.Powers@usace.army.mil
Jim Oliver	GIS and Mapping	916-557-7469	James.M.Oliver@usace.army.mil
Sannie Osborn	Cultural Resources	916-557-6861	Sannie.K.Osborn@usace.army.mil
Tyler Stalker	Public Affairs	916-557-5107	Tyler.M.Stalker@usace.army.mil
Cindy Asbell	Budget Analyst	916-557-7975	Cynthia.D.Asbell@usace.army.mil
Andie Everhart	P2 Unit	916-557-7271	Andrea.L.Everhart@usace.army.mil

¹ Primary contact for this Review Plan.

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Phone	Email
TBD	ITR Manager/Plan Formulation		
TBD	Civil Design		

TBD	Environmental Resources		
TBD	Hydrology/Reservoir Operations		
TBD	Hydraulics		
TBD	Economics		
TBD	Cost Engineering ¹		
TBD	Real Estate/Lands		
TBD	Cultural Resources		
TBD	Geotechnical Engineering		

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

INDEPENDENT EXTERNAL PEER REVIEW PANEL

Name	Discipline	Phone	Email
TBD	Hydraulic Design		
TBD	Geotechnical Engineering		
TBD	Economics		

VERTICAL TEAM

Name	Discipline	Phone	Email
Karen Berresford	District Support Team Mgr	415-503-6557	Karen.G.Berresford@usace.army
Ken Zwickl	Regional Integration Team	202-761-4085	Kenneth.J.Zwickl:@usace.army

PLANNING CENTER OF EXPERTISE FLOOD RISK MANAGEMENT

Name	Discipline	Phone	Email
Eric Thaut ¹	Program Manager, PCX Flood Risk Management	415-503-6852	Eric.W.Thaut@usace.army.mil
David Vigh,	Program Manager, PCX Ecosystem Restoration	601-634-5854	David.A.Vigh@usace.army.mil

¹ Primary PCX is FRM, who will coordinate with PCX for ER as appropriate.

FRM-PCX Concurrence Memo

3 March 2009

MEMORANDUM FOR Andrew Muha, Sacramento District

SUBJECT: West Sacramento, California, Flood Risk Management and Ecosystem Restoration
General Evaluation Study Review Plan

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has reviewed the Review Plan (RP) for the subject study and concurs that the RP satisfies peer review policy requirements outlined in Engineering Circular (EC) 1105-2-410 Review of Decision Documents, dated 22 August 2008. This review has been coordinated with the Ecosystem Planning Center of Expertise.
2. The review was performed by Allen Holland of Kansas City District. The RP checklist documenting the review is attached.
3. The FRM-PCX recommends the RP for approval by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander approval memorandum, and the link to where the RP is posted on the District website to Eric Thaut, Program Manager for the FRM-PCX (eric.w.thaut@usace.army.mil) and Miki Fujitsubo, lead Regional Technical Specialist for the FRM-PCX (miki.fujitsubo@usace.army.mil).
4. Thank you for the opportunity to assist in the preparation of the RP. Please coordinate the Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Model Certification efforts outlined in the RP with Eric Thaut, Program Manager for the FRM-PCX at 415-503-6852.



Eric Thaut
Program Manager, FRM-PCX

Encl

Review Plan Checklist

Date: January 8, 2009

Originating District: SPK

Project/Study Title: West Sacramento Project/General Reevaluation Report

District POC: Andrew Muha - 916-557-6756

FRM-PCX Reviewer: Allen Holland/Eric Thaut

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"/>
a. Does it include a cover page identifying it as a RP and listing the project title, originating district or office, and date of the plan?		a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it include a table of contents?		b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced?		c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
d. Does it reference the Project Management Plan (PMP) of which the RP is a component?		d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent Technical Peer Review (IEPR)?		e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f. Does it clearly state that DQC and ATR are required for all decision documents and that IEPR may be required?		f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
g. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?	EC 1105-2-410, Appendix B, Para 4a	g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
h. Does it list the names and disciplines of the Project Delivery Team (PDT)?*		h. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<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>Comments:</p>

<p>2. Is the RP detailed enough to assess the necessary level and focus of peer review?</p>	<p>EC 1105-2-410, Appendix B, Para 3a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<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 include an environmental impact statement (EIS)?</p> <p><i>Is an EIS included? Yes <input checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input 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>f. Does it address if the project/study is likely to have significant interagency interest?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>h. Does it provide an estimated total project cost?</p> <p><i>What is the estimated cost: <u>\$500M-\$1B</u> (best current estimate; may be a range)</i></p> <p><i>Is it > \$45 million? Yes <input checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input 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: Did not find any text addressing point e, particularly on environmental effects. Also, on point c, an EIS is referred to in passing several times, but just to be absolutely clear, there ought to be a flat statement that there will in fact be an EIS.</p> <p>Discussed environmental effects/issues as part of 2.D. Problems and Opportunities (page 5) and 4. Independent External Technical Review. (page 12).</p> <p>Statement regarding EIS/EIR is in 2.A. (page 4) [AH response: Revisions are satisfactory.]</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 district Quality Management Plans?</p> <p>b. Does it state that ATR will be conducted or</p>	<p>EC 1105-2-410, Para 7a</p> <p>EC 1105-2-410,</p>	<p>a. Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>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>Appendix D, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 7c</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:</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?</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/MS?</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 checked="" 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:</p>
<p>5. Does the RP explain how IEPR will be accomplished?</p>	<p>EC 1105-2-410, Appendix B, Para 4k & Appendix D</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>
<p>a. Does it identify the anticipated number of</p>	<p>EC 1105-2-410,</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review?</p> <p>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?</p> <p>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?</p>	<p>Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p> <p>EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a</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>Comments: Did not find any mention of number of IEPR reviewers.</p> <p>Modified 2nd Paragraph of Page 12. [AH response: I think you mean page 18, but the revision is satisfactory.]</p>
<p>6. Does the RP address peer review of sponsor in-kind contributions?</p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP list the expected in-kind contributions to be provided by the sponsor?</p> <p>b. Does it explain how peer review will be accomplished for those in-kind contributions?</p>	<p>EC 1105-2-410, Appendix B, Para 4j</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>7. Does the RP address how the peer review will be documented?</p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks?</p> <p>b. Does the RP explain how the IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the IEPR Review Report will be prepared?</p> <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(1)</p> <p>EC1105-2-410, Appendix B, Para 4k(13)(b)</p> <p>EC 1105-2-410, Appendix B, Para 4l</p> <p>EC 1105-2-410, Para 8g(2) & Appendix B, Para 4l</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>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p>

8. Does the RP address Policy Compliance and Legal Review?	EC 1105-2-410, Para 7d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:
9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?	EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<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"/></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>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: Did not find any ATR for interim products on the schedule. Also, might consider adding IETR schedule to the ATR timeline table to make a single timeline for ATR and IETR (just a suggestion). Revised schedule as suggested (page 10). [AH response: I think you mean page 15, but the revisions are satisfactory.]</p>
<p>10. Does the RP indicate the study will address Safety Assurance factors (required for Flood Risk Management and Coastal Storm Damage Reduction projects)?</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 	EC 1105-2-410, Para 2 & Appendix D, Para 1c	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/> Comments:

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 type="checkbox"/> Multi <input checked="" type="checkbox"/></p> <p>b. Does it identify the lead PCX for peer review? Lead PCX: FRM</p> <p>c. If multi-purpose, has the lead PCX coordinated the review of the RP with the other PCXs as appropriate?</p>	EC 1105-2-410, Appendix D, Para 3c	<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: FRM PCX will coordinate with the PCX for Ecosystem Restoration as appropriate</p>

<p>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?</p>	<p>EC 1105-2-410, Appendix D, Para 3</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<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>13. 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>	<p>Comments:</p>
<p>Additional Comments:</p>		

SPD Review Plan Supplemental Checklist

CESPD SUPPLEMENTAL REVIEW PLAN CHECKLIST

18 February 2009

Approval of RP(s) rests with Division Commanders, but management and coordination with the appropriate Planning Center of Expertise. The Flood Risk Management PCX has developed a review checklist for its RP coordination and management responsibilities. Below is a regional supplemental checklist identifying the regional quality management requirements from CESPD's QMP, Appendix C, Planning.

Following are review process principles from EC 1105-2-410, Review of Decision Documents:

- Reviews significantly improve product quality
- Peer review is concurrent with product development
- Agency technical reviews by another district will be performed on all products
- ATR teams should be chaired by another Division
- Civil Works policy reviews must be consistent

CHECKLIST

1. Is there a Technical Review Strategy Session identified early in the study process? (See Appendix C paragraph 8.2,) Yes
2. Are there any potential Continuing Authority Program (CAP) "spinoffs" identified, and the appropriate QCP identified for them? N/A
3. Are the review costs identified? for District Quality Control (DCQ), ATR, and Independent External Technical Review (IETR)? Yes
4. Does the RP identify seamless technical review (8.4) including supervisory oversight of the technical products? (8.5) Yes
5. Does the RP identify the recommended review comment content and structure? (8.5.4) Yes
6. The RP should encourage face-to-face resolution of issues between PDT and reviewers. (8.5.5) Yes
7. And if issues remain, does the RP must identify an appropriate dispute resolution process? (8.6) Yes
8. The RP must require documentation of all the significant decision and leave a clear audit trail. (8.5.6) Yes
9. Does the RP identify all the requirements for technical certifications? (8.5.7) Yes

CESPD SUPPLEMENTAL REVIEW PLAN CHECKLIST

18 February 2009

10. Does the RP identify the requirement that without-project hydrology is certified at the Feasibility Scoping Meeting? (8.5.8) Yes
11. Does the RP fully address products developed by contractors? (8.10) Yes
12. Is the need for a VE study identified and incorporated into the review process subsequent to the feasibility scoping meeting? (8.11) Yes
13. Does the RP include a Feasibility Alternative Review Milestone, where CESPD buy-in to the recommended plan is obtained. (12.1) Yes
14. The RP should identify the final public meeting milestone. (See Appendix C, Enclosure 1, SPD Milestones) Yes
15. Does the RP identify the report approval process and if there is a delegated approval authority? Yes