REVIEW PLAN

Central and Southern Florida Project
Broward County Water Preserve Areas
Final Project Implementation Report and Environmental Impact Statement Update

Jacksonville District

MSC Approval Date: 1/25/12
Last Revision Date: None

US Army Corps of Engineers ®

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Update

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Central and Southern Florida Project Broward County Water Preserve Areas revised Final Project Implementation Report and Environmental Impact Statement (BCWPA FPIR).

b. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(2) EC 1105-2-412, Planning: Assuring Quality of Planning Models, 13 Mar 11
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 21 Jul 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) PMP for study

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, 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 1165-2-209) 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 Ecosystem Restoration Planning Center of Expertise (ECO-PCX).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. This is a single-purpose project. Therefore, coordination with other PCX is not anticipated.

3. STUDY INFORMATION

a. Decision Document. Central and Southern Florida Project Broward County Water Preserve Areas Final Project Implementation Report and Environmental Impact Statement (BCWPA FPIR) Update. The BCWPA is part of the overarching Comprehensive Everglades Restoration Plan (CERP). The original BCWPA FPIR was completed and underwent the Civil Works Review Board (CWRB) process on April 12, 2007. The revised Final Project Implementation Report is an update of the CWRB-approved version and reflects updates made as a result of new policy guidance concerning valuation of real estate interests for CERP projects and sponsor requested changes to the project footprint.

This review plan will focus on quality control processes for the revised FPIR; it does not address the review process that was applied to the original report.

Study/Project Description. The BCWPA FPIR was developed in accordance with the requirements of Sections 601(d), (f), and (h) of the Water Resources Development Act of 2000 (WRDA 2000) and recommends authorization of this project. The BCWPA Project addresses loss of ecosystem function within the Everglades as a result of 1) damaging discharges of runoff from developed areas in western Broward County into the Everglades (Water Conservation Area 3A); 2) excessive nutrient loading to the Everglades; and 3) excessive seepage of water out of the Everglades to developed areas in western Broward County. The project also addresses insufficient quantities of water available in the regional water management system during dry periods to meet municipal, agricultural, and environmental water supply demands.

The selected plan reflects an optimization of reservoir configuration, storage volume, and seepage management features. The selected plan includes two above-ground impoundments and associated pumps and water control structures: the C-11 Impoundment with an effective interior storage of 1,068 acres and two wetland marsh mitigation areas north of the C-11 Impoundment with 488 acres of wetland marsh; the C-9 Impoundment with an effective interior storage of 1,641 acres, accompanied by the purchase of offsite wetland mitigation bank credits (approximately 41 FCUs) to replace a 339 acre mitigation site adjacent to and north of the C-9 Impoundment; canal conveyance improvements to connect the two impoundments; and an approximately 4,591 acre seepage management area east of the Water Conservation Areas.

The selected plan will improve fish and wildlife habitat within the Everglades, including habitat for threatened and endangered species, such as the Everglades snail kite. The BCWPA FPIR describes public and agency involvement in project development (including comments received and responses), explains the plan formulation and alternative evaluation and plan selection processes, and documents recommended plan features, including costs and environmental benefits.

b. Factors Affecting the Scope and Level of Review. HQUSACE specified in policy guidance the level of review requirements for the BCWPA Revised FPIR, which is reflected in Appendix H. Specifically, Appendix H, Section H.4. d. Agency Technical Review (ATR) stated, "… It was determined by HQUSACE that ATR, model certification, and cost certification are required to update the report."

Further, Appendix H, Section H.4.e stated, "…HQUSACE concluded that this project is not subject to additional (Type I) IEPR requirements. The Chief's Report will document the review process that was undertaken, including the bi-annual programmatic reviews by the National Academy of Science. The district office is still evaluating the hazard status. In accordance with EC 1165-2-209, if any such hazards are found, the hazard status will be included in the PIR and a Type II IEPR will be conducted during the design phase."

The current hazard classification is based on available data at the time of the breach analysis. Both the C-11 and C-9 impoundments are shallow impoundments with a maximum depth of 4.3 feet. The hazard status is still being determined for these features, although the C-9 Impoundment has some potential that it may be classified as high hazard. A more detailed dam break analysis will be performed for the C-9 impoundment after all features and their locations are finalized. Once a more detailed dam break analysis is performed, flood inundation mapping will be completed to be in accordance with current Mapping, Modeling and Consequences (MMC) standards.

The hazard status is still being determined and will be finalized and addressed in an update to the Review Plan which addresses detailed design activities.

c. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and may be subject to ATR, and IEPR. There were no in-kind products and services provided by the non-federal sponsor for the Broward County Water Preserve Area Project Implementation Report/Environmental Impact Statement Update.

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 Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. Documentation of DQC. The DQC for the revised final PIR 2012 will be completed when the PIR is ready and the documentation will be posted to the Documentum Project Teams folder on CERPZone.

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 that 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.

a. Products to Undergo ATR. The BCWPA Revised FIPR/FEIS, with all Annexes and Appendices. Note that ATR for design products will be addressed in a subsequent revision of the Review Plan.

b. Required ATR Team Expertise. The ECO-PCX has established a dedicated Comprehensive Everglades Restoration Plan ATR Team. The expertise for the ATR team consisted of: civil engineering; cost engineering; economics; environmental; hydrology; plan formulation and real estate.

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 be 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 where there appears to be incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

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 the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

Any work product that undergoes DQC and ATR may be required to undergo IEPR 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 USACE is warranted. A risk-informed decision, as described in EC 1165-2-209,

is made as to whether IEPR is appropriate. 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. There are two types of IEPR:

- Type I IEPR. Type I IEPR is required for all **decision documents** except where no mandatory triggers apply, criteria for an exclusion are met, and a risk-informed recommendation justifies exclusion. 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 1165-2-209.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), 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. HQUSACE determined that due to the nature of the changes being made the BCWPA Revised FPIR does not need to undergo a Type I IEPR review. Regarding Type II IEPR, HQUSACE guidance directed that if any such hazards are found, the hazard status is be included in the PIR and a Type II IEPR will be conducted during the design phase. The Jacksonville District office is still evaluating the hazard status, however at this time the C-11 impoundment is believed likely to be a low hazard and the C-9 Impoundment has the potential to be considered a high hazard impoundment. Final determinations will be made during detailed design and features will undergo Type II IEPR, as appropriate, at that time. Type II review needs will be addressed in a subsequent update to the Review Plan covering design products.

a. Products to Undergo Type I IEPR. Not-Applicable

b. Required Type I IEPR Panel Expertise. Not-Applicable

c. Documentation of Type I IEPR. Not-Applicable

d. Products to Undergo Type II IEPR. Will be addressed in an implementation review plan during design.

e. Required Type II IEPR Panel Expertise. Will be defined in an implementation review plan during design.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All work products will be reviewed throughout their development process for compliance with law and policy. Guidance for policy and legal compliance reviews on decision documents is addressed in Appendix H, ER 1105-2-100. These reviews determine whether the recommendations in the reports, supporting analyses, and 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 DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX 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 DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

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 have been identified as preferred or acceptable for use on Corps studies and 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).

Planning Models. Three ecosystem planning models (the Ridge and Slough, Snail Kite Habitat Quality, and Cattail Spread Rate Reduction models) were used to quantify project benefits for this study. At the direction of the ECO-PCX, the Corps Engineering Research and Development Center (ERDC) reviewed the model documentation. ERDC provided documentation of its review, and the ECO-PCX recommended approval for use to HQ USACE.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. The BCWPA FIPR Update ATR was completed in March 2011 at a cost of approximately $44K.

b. Type I IEPR Schedule and Cost. Not-Applicable

c. Model Certification/Approval Schedule and Cost. On 1 February 2011 HQ USACE provided approval of the Ridge and Slough, Snail Kite Habitat Quality, and Cattail Spread Rate Reduction models for use on this project.

11. PUBLIC PARTICIPATION

Scoping for a prior study (Water Preserve Areas Feasibility Study) was conducted on 23 June 2000 and noticing of the draft feasibility study occurred in July 2000. Information related to the project area was incorporated into the planning for the BCWPA PIR. As required by NEPA, a scoping letter dated 28 Sept 2004 was mailed to Federal, state and local agencies. Native America Tribes private organizations and interested parties were notified to solicit their views, comments and information about the study PIR. During the public participation process no evidence of high or adverse and disproportionate impacts were found.

Public Meetings held to interact with the public include:

- Initiated for Project Implementation Report at Project Kickoff Meeting, Jan 2004,
- Regularly briefed at regional and project PDT meetings (publicly observed), Jan 2004-present
- Public meeting on draft report, March 2006
- Public comment period on draft report, 17 March to 1 May 2006

The BCWPA FPIR update will be re-coordinated with the appropriate State and Federal Agencies before signature of the Chief's Report.

12. REVIEW PLAN APPROVAL AND UPDATES

The South Atlantic Division Commander is responsible for approving this review plan, including by delegation within the MSC. The MSC 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. Minor changes to the review plan since the last MSC Commander approval will be documented in Attachment 3. Significant changes to the review plan (such as changes to the scope and/or level of review) must 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 MSC Commander's 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:

- Jacksonville District Project Manager, 904-232-2084
- South Atlantic Division POC, 404-562-5206
- Review Management Organization POC, ECO-PCX, 309-794-5448

ATTACHMENT 1: TEAM ROSTERS

Intentionally omitted.

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION 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 1165-2-209. 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 Corps 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 DrChecks[sm].

SIGNATURE _____ Date _____
Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____
Name
Project Manager
Office Symbol

SIGNATURE _____ Date _____
Name
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ Date _____
Name
Review Management Office Representative
Office Symbol

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 _____ Date _____
Name
Chief, Engineering Division
Office Symbol

SIGNATURE _____ Date _____
Name
Chief, Planning Division
Office Symbol

[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

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and Maintenance
DPR	Detailed Project Report	OMB	Office of Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	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	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
		WRDA	Water Resources Development Act