REVIEW PLAN

For

Preconstruction Engineering and Design Phase

For

C-38 Reach 3 Backfill &
Bass Levee Degrade
of the
Kissimmee River Restoration Project

Jacksonville District

10 June 2011

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US Army Corps
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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope of review activities for the C-38 Reach 3 Backfill & Bass Levee Degrade of the Kissimmee River Restoration Project. Review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the Preconstruction Engineering Design (PED) Phase that consists of Plans and Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this review plan will be included into the Project Management Plan as an appendix to the Quality Management Plan.

b. References.

(1). EC 1165-2-209, Civil Works Review Policy, 31 January 2010
(2). ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
(3). ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
(4). Project Management Plan, Kissimmee River Restoration Projects, Section, is currently being updated to reflect updated costs and a revised schedule.

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 provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and work products. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review.

(1) District Quality Control (DQC). DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, or overseeing contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan 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 approval by the District Commander. The Major Subordinate Command (MSC)/District quality management plans address the conduct and documentation of this fundamental level of review.

(2) Agency Technical Review (ATR). ATR 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 the 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 parent MSC.

(3) Type II Independent External Peer Review (IEPR). 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. In accordance with Section 2035 of Water Resources Development Act (WRDA) of 2007 and EC 1165-2-209, a Type II IEPR (SAR) shall be conducted on design and construction activities for hurricane and storm risk management and flood risk management projects, as well as other projects where existing and potential hazards pose a significant threat to human life prior to initiation of physical construction and periodically thereafter until construction activities are completed. IEPR should occur on a regular schedule sufficient to inform the Chief of Engineers

on the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare.

d. Review Management Organization (RMO). The South Atlantic Division (SAD) is designated as the RMO for the C-38 Reach 3 Backfill & Bass Levee Degrade Project. The RMO is responsible for managing the review activities described in this Review Plan.

2. PROJECT INFORMATION AND BACKGROUND

The C-38 Reach 3 Backfill & Bass Levee Degrade project is part of the Kissimmee River Restoration Project and is located in both Highlands and Okeechobee Counties in central Florida. The scope of work is to backfill portions of the C-38 canal within reach 3 of the Kissimmee River Basin and to degrade the Bass levee located within the Pool D floodplain. The material used for the backfill of the C-38 will be sourced from existing spoil mounds located along the adjacent canal banks. The canal will be backfilled starting at approximately 1,400 LF south of the US HWY 98 bridge crossing, continuing south for approximately 7,700 LF. The Bass levee, located east of the C-38 and south of US-98, will be degraded with the resultant material used to backfill the drainage ditch adjacent to the levee. Approximately 18,500 LF of levee will be degraded.

Background: Historically, the Kissimmee River meandered approximately 103 miles from Lake Kissimmee to Lake Okeechobee through a one to two mile wide floodplain. In 1954, the Comprehensive Central and Southern Florida (C&SF) Flood Control project authorized the Kissimmee River Flood Control works to relieve flooding and minimize flood damages within the Kissimmee Basin and to improve navigation opportunities. With the construction of 13 structures, addition of multiple canals in the Upper Basin, and the channelization of the river floodplain with the C-38 Canal, two-thirds of the historical floodplain were drained and the hydrology of the Kissimmee Basin drastically modified. Excavation of the canal and placement of the spoil material destroyed one-third of the river channel.

In 1986, the Kissimmee River Restoration (KRR) project and Headwaters Revitalization, intended to restore the ecological integrity of the river and lakes, was authorized by the following Water Resource Development Act (WRDA) Sections:

- Section 1135 of the WRDA 1986 (Public Law 99-662)
- Section 46 of the WRDA 1988 (Public Law 100-676)
- Section 116 (h) of the WRDA 1990 (Public Law 101-640)
- Section 101 (8) of the WRDA 1992 (Public Law 102-580)

The project is intended to restore over 40 square miles of river and floodplain ecosystem including 43 miles of meandering river channel and 27,000 acres of wetlands. The project area covers 3,000 square miles, stretching from the southern Orlando area south to Lake Okeechobee. Restoration efforts will re-establish an environment conducive to the fauna and flora that existed there prior to the channeling efforts in the 1960s.

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for implementation documents (DDRs and P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The subject project DDR and P&S will be prepared by the Jacksonville District using the SAJ procedures and will undergo DQC. DQC Certification will be verified by the Agency Technical Review Team.

4. AGENCY TECHNICAL REVIEW

a. Scope. Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-209 and ER 1110-1-12. An ATR will be performed on the P&S pre-final submittals.

ATR will be conducted by individuals and organizations that are external to the Jacksonville District. The ATR Team Leader is a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments are documented in the DrChecks^{sm} model review documentation database. DrChecks^{sm} is a module in the ProjNet^{sm} suite of tools developed and operated at ERDC-CERL (www.projnet.org).

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 organization affiliations, and include a short paragraph on both the credentials and relevant expertise of each reviewer;
- Include the charge to the reviewer;
- 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 reviewers comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

b. ATR Disciplines. As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following discipline; knowledge, skills and abilities; and experience levels.

ATR Team Leader/Civil Engineering: The member/leader should be a registered professional engineer with civil/site work project experience that includes backfilling channels and ecosystem restoration features. Related project construction experience is desired.

5. INDEPENDENT EXTERNAL PEER REVIEW

a. General. EC 1165-2-209 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design Phases). The EC defines Section 2035 Safety Assurance Review (SAR), Type II Independent External Peer Review (IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers.

b. Type I Independent External Peer Review (IEPR) Determination (Section 2034). A Type I IEPR is associated with decision documents. No decision documents are addressed by this Review Plan

c. Type II Independent External Peer Review (IEPR) Determination (Section 2035). This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-209) and therefore, a review under Section 2035 is not required. The factors in determining whether a review of design and construction activities of a project is necessary as stated under Section 2035 along with this review plans applicability statement follow.

(1) The failure of the project would pose a significant threat to human life.

This project will backfill portions of the C-38 and degrade an existing farm levee to restore natural sheet flows. Failure of either feature will not pose a threat to human life.

(2) The project involves the use of innovative materials or techniques.

This project will utilize methods and procedures used by the Corps of Engineers on other similar works.

(3) The project design lacks redundancy.

The project features are not complex in nature and do not employee the concept of redundancy.

(4) The project has a unique construction sequencing or a reduced or overlapping design construction schedule.

This project's construction does not have unique sequencing or a reduced or overlapping design. The installation sequence and schedule has been used successfully by the Corps of Engineers on other similar works.

6. MODEL CERTIFICATION AND APPROVAL

This ecosystem restoration project does not use any engineering models that have not been approved for use by USACE.

7. BUDGET AND SCHEDULE

a. Project Milestones.

District Quality Control –

Agency Technical Review – *2-23 September 2011*

BCOE Review/Certification Complete – *21 October to 11 November 2011: Certification 3 January 2012*

Advertisement – *20 January 2012*

b. ATR Schedule and Cost. Funds are available to execute ATR and schedule as outlined above. It is envisioned that the reviewer will be afforded 24 hours for ATR plus 8 hours for coordination. The estimated cost range is $8,000 to $10,000.

8. POINTS OF CONTACT

Per guidance, the names of the following individual will not be posted on the Internet with the Review Plan. Their titles and responsibilities are listed below.

Jacksonville District POCs:

Review Plan, ATR and QM Process, [redacted]

Project Information (PM) & (ETL), [redacted]

[redacted]

South Atlantic Division, [redacted]