

REVIEW PLAN

For

Jones/Oysterbed Island Dike Raising

Jasper County, South Carolina

Savannah District

July 11, 2011

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**US Army Corps
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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of review activities for the Jones/Oysterbed Island Dike Improvements Project, Savannah Harbor, Jasper County South Carolina. Jones/Oysterbed Island is a major disposal area for placing dredged material resulting from maintenance dredging for the Savannah Harbor. Improvements needed included raising the dike along the river-side of the island, placing stone along washed out areas to prevent undermining of the dike, and repairing weirs.

b. References.

- (1). ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999.
- (2). ER 1110-2-12, Engineering and Design Quality Management, 21 Jul 2006
- (3). EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010

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 projects 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) 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.

d. Review Management Organization (RMO). The South Atlantic Division (SAD) is designated as the RMO responsible for managing any none DQC review activities.

2. PROJECT INFORMATION AND BACKGROUND

a. Project Background. Savannah Harbor is located at Savannah on the northern coast of Georgia / southern coast of South Carolina in Chatham and Jasper Counties, respectively. The Savannah River is the line of demarcation separating Georgia from South Carolina. Jones/Oysterbed Island, located along the north-east edge of the Savannah River north channel, lies in Jasper County, South Carolina. The

island is one of nine confined dredge material containment areas used for dredging the Savannah River channel. The 994 acre island parallels the Savannah River from the mouth of the river to Fields Cut, which is part of the Atlantic Intracoastal Waterway. The island began as two separate geographic features – Jones Island, 800 acres predominantly salt marsh, and an oyster shoal. Accumulated spoil from river and harbor improvements turned the oyster shoal into Oysterbed Island and increased the volume of Jones Island. Around 1930 a three mile stretch of hydraulic fill connected Jones and Oysterbed Islands. The northern portion of the island is owned the by Georgia Department of Transportation; the U.S. Fish and Wildlife Service owns the southern portion. The majority of the island is bordered by dikes for confined dredging. Eight weirs spaced along the northern dike are used to drain water from the disposal area. The three easternmost weirs are not functional and have been abandoned. The dikes are raised as needed to increase capacity for dredge spoils. A normal dike raising is considered to be 6 feet along the entire perimeter, however availability of funds usually dictate the project scope.

b. Project Description – Jones/Oysterbed Island. The Jones/Oysterbed island Dike Improvements Project consists of raising Jones/Oysterbed Island dredge material containment area (DMCA) dikes and ramps an average of three feet in elevation (totaling 270,000 CY) in order to increase DMCA capacity. Dike construction will only involve the dike on the Savannah River side of the island; the dike is being raised an average of three feet. However, some stretches will be raised up to 15 feet due to extensive erosion of the riverbank; these stretches total approximately 30% of the length of the new dike. Multiple areas of the island have eroded to the extent that there is no dike separating the interior of the disposal area from the river. As a result stone slope protection is required to prevent further erosion from occurring resulting in permanent lost capacity of the disposal area. Stone slope protection will be placed along two stretches of eroding dike totaling 1385 L.F. or 26,000 tons. Two contract options include slope protection in four additional stretches totaling 1690 L.F./32,000 tons and 2040 L.F./38,000 tons. The project also includes approximately 700 acres of clearing and 35 acres of grassing. The five usable weirs are to undergo repairs to ensure proper functioning.

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 design of the Jones/Oysterbed Island Dike Improvements Project was prepared by the Savannah District using the SAS 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 and DDR intermediate and pre-final submittals.

ATR will be conducted by individuals and organizations that are external to the Savannah 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 DrCheckssm model review documentation database. DrCheckssm is a module in the ProjNetsm 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 issues (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 disciplines; knowledge, skills, and abilities; and experience levels.

ATR Team Leader / Geotechnical Engineering. The team leader should be a registered professional. Experience needs to encompass geotechnical analyses that are used to support the development of Plans and Specifications for navigation projects including dike embankments and shoreline protection. Extensive knowledge of disposal area and dredging operations is also required. A minimum of 15 years of relative experience is required.

Structural Engineering. The team member should be a registered professional. Experience needs to encompass structural analyses that are used to support development of plans and specifications for projects including HDPE, sheet pile, and structural steel design. A minimum of 10 years of relative experience is required.

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).

b. Type I Independent External Peer Review (IEPR) Determination (Section 2034). A Type I IEPR is associated with decision documents. The results of the risk informed decision process performed by the District PDT indicates that the Jones/Oysterbed island Dike Improvements Project documents are not decision documents and Type I IEPR is not required/needed.

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 will include raising the dike along the front side of the Jones/Oysterbed Island disposal area approximately three feet, placing stone slope protection along the riverside slope of the dike, and performing repairs to the existing weirs. Failure or loss of the dike will not pose a significant threat to human life.

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

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

- (3) The project design lacks redundancy.

The design is in accordance with applicable USACE Engineer Manuals. The manuals do not address the concept of redundancy for dike design. The concept of redundancy is not applicable to this disposal area dike raising effort.

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

The Project is routine and does not have unique construction sequencing or a reduced or overlapping design construction schedule. The installation sequence and schedule have been used successfully by the Corps of Engineers on other similar works.

6. MODEL CERTIFICATION AND APPROVAL

This disposal area improvement 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 – 18 July 2011 to 27 July 2011

ATR Review – 4 August 2011 to 11 August 2011

BCOE Review – 18 August 2011 to 22 August 2011

Advertisement – TBD

Contract Award – TBD

b. ATR Estimated Cost. The ATR will be conducted 4-11 August 2011. Each reviewer will be provided funds based on level of effort for each discipline. The estimated cost is \$6,000.

8. POINTS OF CONTACT

Per guidance, the names of the following individuals will be posted on the Internet with the Review Plan. Their titles and responsibilities are listed below.

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