



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
US ARMY CORPS OF ENGINEERS  
SOUTH ATLANTIC DIVISION  
60 FORSYTH STREET SW, ROOM 10M15  
ATLANTA, GA 30303-8801

CESAD-RBT

19 March 2012

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT (CESAJ-EN-Q/  
[REDACTED])

SUBJECT: Approval of the Review Plan for Periodic Nourishment Implementation Documents for Martin County Shore Protection Project, Beach Renourishment 2012, Hutchinson Island, Florida

1. References:

a. Memorandum, CESAJ-EN-Q, 25 January 2012, Subject: Approval of Review Plan for Periodic Nourishment Implementation Documents for Martin County Shore Protection Project, Beach Renourishment 2012, Hutchinson Island, Florida (Enclosure).

b. EC 1165-2-209, Civil Works Review Policy, 31 January 2010.

2. The enclosed Review Plan for Periodic Nourishment Implementation Documents for Martin County Shore Protection Project, Beach Renourishment 2012, dated 25 January 2012, submitted by reference 1.a, has been reviewed by this office and is approved in accordance with reference 1.b.

3. We concur with the conclusion of the District Chief of Engineering that Type II Independent External Peer Review (Type II IEPR) is not required for this periodic nourishment of the Martin County Shore Protection Project. The primary basis for the concurrence that a Type II IEPR is not required is the determination that failure of this project will not pose a significant threat to human life

4. The District should take steps to post the Review Plan to its web site and provide a link to CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed.

5. The SAD point of contact is [REDACTED].

FOR THE COMMANDER:

Encl

  
CHRISTOPHER T. SMITH, P.E.  
Chief, Business Technical Division



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**JACKSONVILLE DISTRICT CORPS OF ENGINEERS**  
**P.O. BOX 4970**  
**JACKSONVILLE, FLORIDA 32232-0019**

CESAJ-EN-Q

25 January 2012

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT)

SUBJECT: Approval of Review Plan for Periodic Nourishment Implementation Documents for For Martin County Shore Protection Project, Beach Renourishment 2012, Hutchinson Island, Florida

1. References.

- a. EC 1165-2-209, Civil Works Review Policy, 31 January 2010
- b. WRDA 2007 H. R. 1495 Public Law 110-114, 08 Nov 07

2. I hereby request approval of the enclosed Review Plan and concurrence with the conclusion that Type II Independent External Peer Review (IEPR) of this project is not required. The Type II IEPR determination is based on the EC 1165-2-209 Risk Informed Decision Process as presented in the Review Plan. Approval of this plan is for the Periodic Nourishment Implementation Documents. The Review Plan complies with applicable policy, provides Agency Technical Review and has been coordinated with the CESAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by CESAD.

3. The district will post the CESAD approved Review Plan to its website and provide a link to the CESAD for its use. Names of Corps/Army employees are withheld from the posted version, in accordance with guidance.

FOR THE COMMANDER:

Encl



# **REVIEW PLAN**

**For  
Periodic Nourishment  
Implementation Documents**

**For  
Martin County  
Shore Protection Project, Florida**

**Beach Renourishment 2012  
Hutchinson Island**

**Jacksonville District**

**25 January 2012**

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.



**US Army Corps  
of Engineers ®**

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## 1. PURPOSE AND REQUIREMENTS

**a. Purpose.** This Review Plan defines the scope and level of review activities for the Martin County Shore Protection Project. The review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the Periodic Nourishment Phase and the related documents are Implementation Documents that consist 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). ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (2). ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (3). FCA 1968, WRDA 1974, and WRDA of 1986 (Project Authorization)
- (4). EC 1165-2-209, Civil Works Review Policy, 31 January 2010
- (5) Project Management Plan, Dade County BEC, 113170

**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 other work products. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review. Refer to the EC for the definitions and procedures for the three levels of review.

**d. Review Management Organization (RMO).** The South Atlantic Division is designated as the RMO.

## 2. PROJECT INFORMATION AND BACKGROUND

The project was authorized by the Water Resource Development Act of 1990 (Public Law 101-640). The project function and features are established in the *Martin County, Florida, Shore Protection Project General Design Memorandum* (USACE, 1994). In this report, the function and features include 1) a protective beach berm and storm dune along four miles (mi) of Hutchinson Island, Florida; 2) periodic nourishment of the restored beach and such adjacent shoreline as needed and justified for the life of the project (note that federal participation expires in 2045); and 3) extensive multiyear beach performance monitoring.

Construction of the Martin County Shore Protection Project took place between 13 December 1995 and 10 April 1996. The project resulted in the placement of approximately 1.5 million cubic yards (mcy.) of beach quality sand obtained from an offshore borrow area located offshore of Stuart Public Beach (Taylor Engineering 2000). The project fill limits extend from the Martin County—St. Lucie County Line south of 3.75 miles (R-1 to R-23). The 1994 GDM optimized renourishment at 590,000 cys. every 11 years. The southern half of the project was renourished in 2002 when 350,000 cys. of material was placed from R-13 to R-25 to handle an erosional hot spot associated with the southern end of the project. A full nourishment of the project occurred in 2005 with the placement of 895,000 cys. of beach quality sand from R-1 to R-25. For the pre-hurricane profile of the beach, there was 269,000 cys placed using FCCE funds.

### **Current Project**

The proposed project is to renourish a beach along 4 miles of the Atlantic Ocean shoreline commencing immediately south of the northern boundary of Martin County between the FDEP

reference monuments R-1 through R-25, in Martin County. The approved beach fill design included a construction template with a +6.5 NAVD88 berm elevation, 90 ft berm width, and 1:10 foreshore construction slope, with a taper to monument R-25. The beach fill design also included a 20 ft wide (crest) dune with a crest elevation of +11.0 NAVD88. This construction cross section specified the basic template for the 1995, 2001/2002, and 2005 fill operations.

Martin County in cooperation with the Florida Department of Environmental Regulation (FDEP) and the Jacksonville District US Army Corps of Engineers (USACE) intend to adjust the construction fill template design for the proposed 2012 beach renourishment. This construction project will alternate equal length segments of shoreline renourished using the historical template (1995, 2001/2002, and 2005 projects) with an experimental milder slope construction template. The experimental "turtle friendly" template would consist of a construction berm commencing landward at an elevation of +6.5 NAVD88 with a 1 on 50 slope then 1 on 20 to MHW. The width of the experimental construction berm is 50 feet as evaluated by providing the equivalent volume per foot of linear beach as contained within the traditional construction template. The experimental segments of fill also include the dune feature with identical dimensions as specified for the historical construction template. The construction toe of the turtle friendly template will locate within the area previously impacted and mitigated by earlier nourishment projects. As the turtle friendly profile is simply advance equilibration, the final adjusted toe of fill with this template is essentially identical to that of the traditional template. The distance from R-1 to R-25 is 21,584 ft. Each segment would measure about 2,000 ft separated by a 700 foot transition between the successive 2,000 ft long traditional and turtle friendly template test cells. A 200 ft taper south from R-1 is included within the plan view design.

The beach fill material will come from an offshore borrow area some 6 nautical miles northeast of the project. This area is within Federal waters. An agreement will have to be negotiated with the local sponsor and the Bureau of Ocean Energy Management, Resource and Enforcement (BOEMRE).

### **3. DISTRICT QUALITY CONTROL**

District Quality Control and Quality Assurance activities for implementation documents (DDR 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<sup>sm</sup> model review documentation database. DrChecks<sup>sm</sup> is a module in the ProjNet<sup>sm</sup> suite of tools developed and operated at ERDC-CERL ([www.projnet.org](http://www.projnet.org)).

At the conclusion of ATR, the ATR Team Leader will prepare a Review Report that summarizes the review. The report will consist of the ATR Certification Form from EC 1165-2-209 and the DrChecks<sup>sm</sup> printout of the closed comments.

**b. ATR Disciplines.** As stipulated 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.

Geotechnical Engineering and Engineering Geology. The team member should be a registered professional. Experience needs to encompass geologic and geotechnical analyses that are used to support the development of Plans and Specifications for navigation and shore protection projects.

Civil Engineering/Dredging Operations. The team member should be a registered professional engineer with dredging operations and/or civil/site work project experience that includes dredging and disposal operations, embankments, channels, revetments and shore protection project features.

NEPA Compliance. The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact Statements for navigation or shore protection projects.

ATR Team Leader. The ATR Team Leader will be from outside SAD and should have experience with Navigation and/or Shore Protection Projects. ATR Team Leader may be a co-duty to one of the review disciplines.

## **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.** A Type I IEPR is associated with decision documents. No decision documents are addressed/covered by this Review Plan. A Type I IEPR is not applicable to the implementation documents covered by this Review Plan.

**c. Type II Independent External Peer Review (IEPR) Determination (Section 2035).** This shore protection 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 Type II IEPR review under Section 2035 and/or EC 1165-2-209 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 and EC 1165-2-209 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 perform a periodic nourishment that will re-establish a beach. The beach is designed to protect structures through its sacrificial nature and is continually monitored and renourished in accordance with program requirements and constraints. Failure or loss of the beach fill will not pose a significant threat to human life.*

*In addition, the prevention of loss of life within the project area from hurricanes and severe storms is via public education about the risks, warning of potential threats and evacuations before hurricane landfall.*

(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 beach fill design is in accordance with the USACE Coastal Engineering Manual. The manual does not employ the concept of redundancy for beach fill design.*

(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 Beach Erosion Control Project does not use any engineering models that have not been approved for use by USACE.

## **7. BUDGET AND SCHEDULE**

a. Project Milestones.

Complete Pre-Final Submittals (DRAFT) – 3 Oct 2011

District Quality Control – 11 Oct – 15 Dec 2011

ATR – 25 May – 18 Jul 2012

BCOE – 25 May – 8 Aug 2012

Advertisement – 16 Aug – 19 Sep 2012

b. ATR Estimated Cost. The ATR will be conducted as noted above. It is envisioned that each reviewer will be afforded 24 hours review plus 4 hours for coordination. It is envisioned that the ATR Leader will be 16 hours. The estimated ATR cost range is \$5,000-10,000.



**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]