



DEPARTMENT OF THE ARMY  
NORTH ATLANTIC DIVISION, CORPS OF ENGINEERS  
FORT HAMILTON MILITARY COMMUNITY  
GENERAL LEE AVENUE, BLDG 301  
BROOKLYN, NY 11252-6700

REPLY TO  
ATTENTION OF:

CENAD-RBT

DEC 14 2012

MEMORANDUM FOR Commander, Philadelphia District, ATTN: CENAP-EC (Mr. Tranchik),  
Wanamaker Building, 100 Penn Square East, Philadelphia, PA 19107-3390

SUBJECT: Review Plan Approval for Coastal Storm Damage Reduction Project, Barnegat Inlet  
to Little Egg Inlet, Long Beach Island, NJ

1. References:

a. E-Mail, CENAP-DP-CW (Mr. Master), 6 Dec 12, subject: NAP Review Plans

b. EC 1165-2-209 Change 1, Water Resources Policies and Authorities – Civil Works  
Review Policy, 31 Jan 12

2. The enclosed Review Plan for the Coastal Storm Damage Reduction Project, Barnegat Inlet to Little Egg Inlet, Long Beach Island, NJ has been prepared in accordance with Reference 1.b. The purpose of the overall project is to reduce infrastructure and property damages due to storm surges and waves from the Atlantic Ocean. The design consists of sand dune and beach berm construction along the Long Beach Island shoreline within the municipalities of Harvey Cedars, Surf City, Ship Bottom, Beach Haven, and Long Beach Township, NJ. Three project segments have been completed including the municipalities of Harvey Cedars and Surf City, and the Brant Beach section of Long Beach Township. This project will complete the initial construction of the remaining sections and conduct annual project monitoring.

3. NAD Business Technical Division is the Review Management Organization (RMO) for the Agency Technical Review (ATR). Initial analysis indicates that Independent External Peer Review is not required since the project does not involve potential hazards which pose a significant threat to human life. However, a more detailed risk assessment needs to be completed to verify the determination.

4. The enclosed Review Plan for Coastal Storm Damage Reduction Project, Barnegat Inlet to Little Egg Inlet, Long Beach Island, NJ is approved. The Review Plan is subject to change as circumstances require, 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.

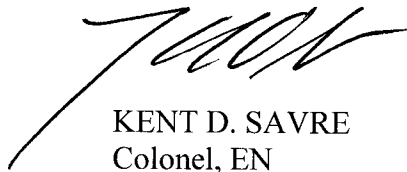
CENAD-RBT

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5. In accordance with Reference 1.b, Appendix B, Paragraph 5, this approved Review Plan shall be posted on your district website for public review and comment. The plan will also be posted on NAD's website for review and comment.

6. The Point of Contact in Business Technical Division for this action is Alan Huntley, 347-370-4664 or Alan.Huntley@usace.army.mil.

Encl  
as



KENT D. SAVRE  
Colonel, EN  
Commanding

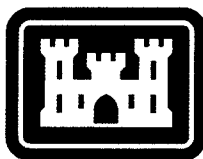
CF (w/ encl):  
CEMP-NAD (C. Shuman)  
CENAP-DP-CW (F. Master)  
CENAD-PD-X (L. Cocchieri)

# **REVIEW PLAN**

**For**

**The Barnegat Inlet to Little Egg Inlet,  
Long Beach Island, New Jersey  
Coastal Storm Damage Reduction Project**

**November 2012**



**US ARMY CORPS  
OF ENGINEERS  
PHILADELPHIA DISTRICT**

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, PHILADELPHIA DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.

## **1. PURPOSE AND REQUIREMENTS**

**a. Purpose.** The purpose of this Review Plan is to identify the requirements and plan of action for the review of the products for the Barnegat Inlet to Little Egg Inlet, Long Beach Island, New Jersey - Coastal Storm Damage Reduction Project. Since the project is in construction, the products being generated are implementation documents necessary for continuing construction. These implementation documents include: 1) Plans and Specifications, 2) Cost Estimate and 3) Project Monitoring report.

### **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) WRDA 2000 (Project Authorization)
- (4) EC 1165-2-209, Civil Works Review Policy, 31 January 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 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 Peer Review. Refer to the EC for the definitions and procedures for the three levels of review.

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

## **2. PROJECT INFORMATION AND BACKGROUND**

The purpose of the Barnegat Inlet to Little Egg Inlet, Long Beach Island, New Jersey - Coastal Storm Damage Reduction Project is to reduce Infrastructure and property damages due to storm surges and waves from the Atlantic Ocean. The plan developed by the district engineers consists of sand dune and beach berm construction along the Long Beach Island shoreline within the municipalities of Harvey Cedars, Surf City, Ship Bottom, Beach Haven, and Long Beach Township, New Jersey.

The authorized plan consists of a 125-foot-wide beach berm at elevation +8.0 feet North American Vertical Datum (NAVD) and a dune at an elevation +22 feet NAVD. The dune would be 30 feet wide at its crest and incorporate 347 acres of planted dune grasses and 540,000 linear feet of sand fencing. The total length of the dune/berm system would be about 16.9 miles. Initial construction would require placement of 7.4 million cubic yards of

sand fill. About 1.9 million cubic yards of sand would be required for periodic nourishment, on average, at 7-year intervals for a period of 50 years. All beach fill would be taken from designated offshore borrow areas. Three project segments of initial construction have been completed to date including the municipalities of Surf City in 2007, Harvey Cedars in 2010, and the Brant Beach section of Long Beach Township in 2012. This portion of LBI is seriously eroded and in jeopardy of sustaining significant damage to public and private infrastructure during the next nor'easter or Atlantic hurricane event. In Addition, without the entire project completed increased erosion occurs each winter from the ends of the already placed beachfill putting the homes and infrastructure at risk for future damages, and increasing the future periodic nourishment needs to maintain the project. LBI is narrow with a single causeway as its only access, making evacuation extremely lengthy, difficult and costly, prolonging the completion of initial construction increases the risk of breaching occurring in the critically eroded areas during future significant storms.

### **Current Project**

The current proposed project is to perform initial construction of the areas not yet constructed and to conduct the annual required project monitoring. The implementation documents include: 1) Plans and Specifications, 2) Cost Estimate and 3) Project Monitoring report.

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

District Quality Control and Quality Assurance activities for implementation documents (P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The subject project P&S will be prepared by the Philadelphia District using NAP procedures and will undergo DQC. DQC will be performed by Staff in the Home District that are not involved in the study. The required disciplines for review will vary by product. The DQC supplements the reviews provided by the Project Delivery Team during the course of completing these products. 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 external to Philadelphia District. The ATR Team Leader will be a Corps of Engineers Project Manager from outside the North 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 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) ; senior level experts; Center of Expertise staff; 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 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 the North Atlantic Division 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 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.

*The current proposed work would continue construction to establish the authorized design beach in an area that currently has not yet been constructed. The beach is designed to protect structures through its sacrificial nature and is continually monitored and periodically nourished in accordance with program requirements and constraints. Failure or loss of the beach fill will not pose a direct 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 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**

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.

Schedule. TBD

## 8. POINT OF CONTACT

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

Philadelphia District POC's:

Project Information (PM) & (ETL);

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Review Plan, ATR, and QM Process;

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North Atlantic Division;

Alan Huntley

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