



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

27 MAR 2014

CESAD-RBT

MEMORANDUM FOR COMMANDER WILMINGTON DISTRICT (CESAW-TS-E/
GREGORY L. WILLIAMS)

SUBJECT: Approval of the Review Plan for Plans and Specifications and Design Documentation Report for Periodic Maintenance Nourishment of Carolina Beach, North Carolina

1. References:

a. Memorandum, CESAW-TS-E, 15 January 2014, subject: Approval of the Review Plan for Plans and Specifications and Design Documentation Report (DDR) for Periodic Maintenance Nourishment of Carolina Beach, North Carolina (Enclosure).

b. EC 1165-2-214, Civil Works Review, 15 December 2012.

2. The Review Plan for the Plans and Specifications and Design Documentation Report for this beach periodic nourishment project submitted by reference 1.a has been reviewed by this office. As a result of this review, minor changes were coordinated with your staff. The enclosed Review Plan with the coordinated changes incorporated is hereby approved in accordance with references 1.b above.

3. We concur with the conclusion of the District Chief of Engineering that a Safety Assurance Review, also known as a Type II Independent External Peer Review (Type II IEPR), is not required for this beach periodic nourishment project. The primary basis for the concurrence that a Type II IEPR is not required is the determination that the failure or loss of this beach periodic nourishment project would not pose a significant threat to human life. We also concur with the conclusion that Agency Technical Review (ATR) is not required on this periodic nourishment effort since the design duplicates previous editions of the Plans and Specification that have been successfully used in the past.

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 Not Applicable CESAD-RBT, Not Applicable.

Encl

DONALD E. JACKSON, JR.
Brigadier General, USA
Commanding



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

CESAW-TS-E

15 January 2014

MEMORANDUM FOR Commander, US Army Corps of Engineers, South Atlantic Division (CESAD-RBT), ATTN: Not, CESAD-RBT, Rm 10M15, 60 Forsyth Street, SW, Atlanta, Georgia 30303-8801

SUBJECT: Approval of Review Plan for Plans and Specifications and Design Documentation Report (DDR) for Periodic Maintenance Nourishment of Carolina Beach, North Carolina.


1. References

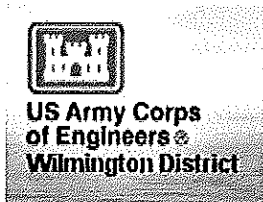
a. EC 1165-2-214, Civil Works Review Policy, 15 Dec 2012

2. I hereby request approval of the enclosed Review Plan for the Plans and Specifications and Design Documentation Report (DDR) for Periodic Maintenance Nourishment of Carolina Beach, North Carolina. The Review Plan complies with applicable policy and includes our DQC and ATR plans for this project.

3. The district will post the Corps of Engineers, South Atlantic Division (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.

Encl


STEVEN A. BAKER
Colonel, EN
Commanding



Draft Review Plan

For

Plans & Specifications and Design Documentation Report

For

Periodic Maintenance Nourishment:

**Carolina Beach, North Carolina
Coastal Storm Damage Reduction Project**

**Beach Renourishment
Carolina Beach 2014 &
Carolina Beach (Area South) 2016
P2 #: 113752**

**U.S. Army Corps of Engineers
Wilmington District
Wilmington, North Carolina**

13 January 2014

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

TABLE OF CONTENTS

1. Purpose and Requirements.....	3
1.1 Purpose.....	3
1.2 References.....	3
1.3 Requirements.....	3
1.4 Review Management Organization (RMO).....	3
2. Project Information and Background.....	3
2.1 Project Description.....	3
3. District Quality Control	4
4. Agency Technical Review	4
4.1 ATR Determination.....	5
5. Independent External Peer Review.....	6
5.1 Type I IEPR	6
5.2 Type II IEPR, Determination.....	6
6. Model Certification and Approval.....	7
7. Estimated Costs and Schedule	7
7.1 Project Milestones.....	7
8. Points of Contact.....	8
9. MSC Approval	8

Attachment 1: Acronyms and Abbreviations

1. PURPOSE AND REQUIREMENTS

1.1 Purpose

This Review Plan defines the scope and level of review activities for design of the Carolina Beach Hurricane Wave and Shore Protection Beach Renourishment Project. The review activity consists of District Quality Control (DQC). The project is in the Periodic Nourishment Phase and the related documents are other work products 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.

1.2 References

- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug. 1999
- ER 1110-1-12, Engineering and Design Quality Management, 31 March 2011
- EC 1165-2-214, Civil Works Review, 15 December 2012

1.3 Requirements

This review plan was developed in accordance with EC 1165-2-214, 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 applicable levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review. Refer to the EC for the definitions and procedures for these three levels of review.

1.4 Review Management Organization (RMO).

The South Atlantic Division is designated as the RMO.

2. PROJECT INFORMATION AND BACKGROUND

2.1 Project Description

The Carolina Beach project was originally authorized by Congress in 1962 (House Document Number 418, 87th Congress, 2nd Session). This original authorization divided the 25,800-foot long project into two separable elements. The Carolina Beach element called for protecting the 12,800 feet of shoreline within the town limits of Carolina Beach. The Carolina Beach (Area South) element would protect the adjacent 13,000 feet of shoreline south of Carolina Beach, which would extend to the southern town limits of Kure Beach. The Carolina Beach (Area South) element was later increased to a total length of 18,000 feet in a Post Authorization Change Report. Along the southern 11,950 feet of the Carolina Beach element the project consists of a of a dune with a base generally bordering at or near the building line with a crown width of 25

feet at an elevation of 13.5 feet national geodetic vertical datum (NGVD) together with an integral shoreline berm with a crown width of 50 feet at elevation 10.5 feet NGVD. The northern segment of the Carolina Beach element consists of a rock revetment with a crown width of 6 feet at an elevation of 10.5 feet NGVD fronted by a 130-foot-wide beach berm at elevation 6.5 feet NGVD. The protection provided comes from the reduction of damage from storms and loss of land and structures due to long-term erosion. Similar to the Carolina Beach element, the Carolina Beach (Area South) element consists of a of a dune with a base generally bordering at or near the building line with a crown width of 25 feet at an elevation of 13.5 feet national geodetic vertical datum (NGVD) together with an integral shoreline berm with a crown width of 50 feet at elevation 10.5 feet NGVD.

Construction of the Carolina Beach element was initiated in 1964 with the placement of 2,632,000 cubic yards of material along the 14,000 feet of the authorized shoreline. Material to initially construct the project was obtained from Carolina Beach Harbor area. Rapid material erosion required several additional beachfill efforts with the project template finally being considered completed in July 1982. The Carolina Beach element is renourished at approximately 3-year increments with the last renourishment being completed in May 2013 with a volume of about 900,000 cubic yards from the designated Carolina Beach Inlet borrow area. The proposed renourishment in 2014 will restore the authorized design dune and berm template and advance maintenance volume from the northern limits of the project southward approximately 13,000 feet.

Construction of the Carolina Beach (Area South) element was performed in 1998 (post hurricane Fran) placing 3,406,00 cubic yard of material. The Area South element is renourished at approximately 3-year increments with the last renourishment being completed in May 2013 with a volume of about 560,000 cubic yards from the designated offshore borrow area. The proposed renourishment in 2016 will restore the authorized design dune and berm template and advance maintenance volume along the project limits.

3. DISTRICT QUALITY CONTROL

District Quality Control (DQC) and Quality Assurance activities for Design Documentation Reports (DDR) and Plans and Specifications (P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The subject project Design Documentation Report (DDR) and Plans and Specifications (P&S) will be prepared by the Wilmington District using the SAW procedures and will undergo DQC.

4. AGENCY TECHNICAL REVIEW

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and ER 1110-1-12. The P&S and DDR for this project are considered as an other work product based on the fact that the P&S and DDR having been successfully used on prior renourishment efforts. For other work products, judgment will be used in determining "whether ATR is appropriate for products that are not either a decision or implementation document."

4.1 ATR Determination

The Project consists of periodic maintenance consisting of beach renourishment for Carolina Beach. The District has completed the maintenance cycle nine times since 1982 for the Carolina Beach element and four times since 1998 for the Carolina Beach (Area South) element utilizing the borrow areas identified for this work. The project will be completed within the authorized boundary limits and design template. In order to make a risk-informed decision in determining the appropriate levels of review, the following questions have been considered:

- (1) Does it include *any* design (structural, mechanical, hydraulic, etc)? *Yes. Hydraulic analysis will be required to ensure optimum placement of material based on funding available, however, no revisions to the project template will be required.*
- (2) Does it evaluate alternatives? *No*
- (3) Does it include a recommendation? *No*
- (4) Does it have a formal cost estimate? *No*
- (5) Does it have or will it require a NEPA document? *No revision to the existing NEPA document will be required.*
- (6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks? *No*
- (7) What are the consequences of non-performance? *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.*
- (8) Does it support a significant investment of public monies? *Yes. Significant investment was made during the initial construction 1964 to 1982 and subsequent renourishments. The scope and estimated cost for this maintenance cycle falls within the Section 902 limits for the project.*
- (9) Does it support a budget request? *No*
- (10) Does it change the operation of the project? *No*
- (11) Does it involve ground disturbances? *Yes. Ground disturbances are consistent with those contemplated in the project authorization.*
- (12) Does it affect any special features, such as cultural resources, historic properties, survey marker, etc, that should be protected or avoided? *No*
- (13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions? *No*

- (14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos? *No*
- (15) Does it reference use of or reliance on manufacturer's engineers and specifications for items such as prefabricated buildings, playground equipment, etc? *No*
- (16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc? *No*
- (17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product? *No*

Based on the above analysis of the project scope, risks associated with the project do not indicate that it should be considered as decision or implementation documents. As previously stated the P&S and DDR have previously been successfully used on prior renourishment efforts and therefore are considered a replacement-in-kind and an other work product under EC 1165-2-214. Also based on the above answers and that the P&S and DDR have previously been successfully used on prior renourishment efforts an ATR is not recommended.

If the project scope is changed, the determination that an ATR is not needed/recommended will be reevaluated.

5. INDEPENDENT EXTERNAL PEER REVIEW (WRDA 2007 Section 2035 Safety Assurance Review)

EC 1165-2-214 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.

5.1 Type I IEPR

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 P&S and DDR covered by this Review Plan.

5.2 Type II IEPR, Determination

This shore protection project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-214) and therefore, a Type II IEPR review under Section 2035 and/or EC 1165-2-214 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 1165-2-214 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 as previously indicated.

(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 the other similar works.

As indicated above, this project does not pose a significant threat to human life, and does not trigger any of the EC 1165-2-214 factors for Type II IEPR. Therefore, the District Chief of Engineers, as the Engineer in Responsible Charge, recommends not undertaking a Type II IEPR of these P&S and DDR.

6. MODEL CERTIFICATION AND APPROVAL

Use of additional models are not necessary for the preparation of the P&S and DDR for this Periodic Nourishment effort.

7. ESTIMATED COSTS AND SCHEDULE

7.1 Project Milestones

District Quality Control	TBD
District BCOE	TBD
BCOE Certification	TBD

Issue Date	TBD
Bid Opening	TBD
Construction Contract Award	TBD

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.

Wilmington District POCs:

Review Plan, ATR and QM Process,

Not Applicable

Project Manager (PM):

Chief of Engineering Branch:

South Atlantic Division POC:

9. MSC APPROVAL

The MSC that oversees the home district is the South Atlantic Division and it is responsible for approving the review plan. Approval will be provided by the MSC Commander. The commander's approval should reflect vertical team input (involving district, MSC, and HQUSACE members) as to the appropriate scope and level of review for the pre-construction and engineering design phase of this effort. Like a PMP, the Review Plan (RP) is a living document and may change as work progresses. Significant changes to the RP shall be approved by following the process used for initially approving the RP. In all cases the MSCs will review the decision on the level of review and any changes made in updates to the project scope.

Attachment 1

ACRONYMS AND ABBREVIATIONS

ATR – Agency Technical Review
BCOE – Biddability, Constructability, Operability and Environmental
CESAD – U.S. Army Corps of Engineers South Atlantic Division
DCP – District Control Plan
DDR – Design Documentation Report
DQC – District Quality Control
EC – Engineer Circular
EIS – Environmental Impact Statements
ER – Engineer Regulations
GRANDUC – Generalized Risk And Uncertainty Coastal
HQUSACE – Headquarters U.S. Army Corps of Engineers
IEPR – Independent External Peer Review
MSC – Major Subordinate Command
PDT – Project Delivery Team
PMP – Project Management Plan
P&S – Plans and Specifications
RMC – USACE Risk Management Center
RMO – Review Management Organization
RP – Review Plan
RTS – Regional Technical Specialists
SAD – South Atlantic Division
SAJ – Jacksonville District
SAW – Wilmington District
SAR – Safety Assurance Review
SME – Subject Matter Expert
USACE – U.S. Army Corps of Engineers
WRDA – Water Resources Development Act