



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

20 June 2012

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

SUBJECT: Approval of the Review Plan for the Plans and Specifications and Design
Documentation Report for Wilmington Harbor 96 Act Deepening – FY13 Project, New Hanover
and Brunswick Counties, NC

1. References:

a. Memorandum, CESAW-TS-E, 2 May 2012, subject: Approval of Review Plan for Plans
and Specifications (PS) and Design Documentation Report (DDR) for Wilmington Harbor 96
Act Deepening – FY13 Project, New Hanover and Brunswick Counties, NC (Enclosure).

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

2. The enclosed Review Plan for the Plans and Specifications for Plans and Specifications and
Design Documentation Report for Wilmington Harbor 96 Act Deepening – FY13 Project dated
18 April 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, updated 11 June
2012 with the coordinated changes incorporated, is hereby approved in accordance with
reference 1.b above.

3. The South Atlantic Division concurs with the District Chief of Engineering that a Type II
Independent External Peer Review (Type II IEPR) is not required on this 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 Mr. James Truelove, CESAD-RBT, 404-562-5121.

FOR THE COMMANDER:

Encl


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



REPLY TO
ATTENTION OF:

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

CESAW-TS-E

2 May 2012

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT), ATTN: Jim Truelove, CESAD-RBT, Rm 10M15, 60 Forsyth Street, SW, Atlanta, Georgia 30303-8801

SUBJECT: Approval of Review Plan for Plans and Specifications (PS) and Design Documentation Report (DDR) for Wilmington Harbor 96 Act Deepening – FY13 Project, New Hanover and Brunswick Counties, NC

1. References.

- a. EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010

2. I hereby request approval of the enclosed Review Plan for the Plans and Specifications (PS) and Design Documentation Report (DDR) for Wilmington Harbor 96 Act Deepening – FY13 Project, New Hanover and Brunswick Counties, NC. The Review Plan complies with applicable policy and includes our DQC and ATR plans for this project.

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:

A handwritten signature in black ink, appearing to read "Gregory L. Williams".

GREGORY L. WILLIAMS, Ph.D., P.E.
Chief, Engineering Branch

Encl

REVIEW PLAN

For

**Wilmington Harbor 96 Act Deepening –
FY13 Project**

**New Hanover and Brunswick Counties, North
Carolina**

Wilmington District

18 April 2012

**Updated 11 June 2012 based on
SAD coordination prior to approval**

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

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of review activities for The Wilmington Harbor 96 Act Deepening – FY13 Project. Review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the Pre-Construction, Engineering and Design (PED) Phase. 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). EC 1165-2-209, Civil Works Review Policy, 31 January 2010
- (2). ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (3). Project Management Plan, Wilmington Harbor, 114359, to be updated Summer 2012.

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. The RMO is responsible for managing the review activities described in this Review Plan.

2. PROJECT INFORMATION AND BACKGROUND

The Wilmington Harbor Deepening Project was authorized by the Water Resources Development Acts of 1986 and 1996 and is located along the Cape Fear and Northeast Cape Fear Rivers in New Hanover and Brunswick Counties, North Carolina. Portions of the authorized deepening have been completed under previous construction projects and include; deepening the ocean bar and entrance channels from the authorized depth of 40 feet to 44 feet, deepening the authorized 38-foot project to 42 feet including the anchorage basin through the North Carolina State Ports Authority dock, widening the existing 400-foot wide channel to 600 feet over a total length of 6.2 miles including Lower and Upper Midnight and Lower Lilliput reaches; widening five turns and bends by 100 to 200 feet; and widening the Fourth East Jetty channel to 500 feet over a total length of 1.5 miles. Authorized features yet to be completed include deepening the navigation channel from the state ports to a point upstream of downtown Wilmington.

The purpose of this Project is to deepen the remaining portion of the anchorage basin immediately upriver from the North Carolina State Ports Authority dock from 38 feet to 42 feet. The portion of the project between the state ports and the Cape Fear Memorial Bridge has a BCR of 3.8.

The project work consists of deepening a portion of the existing Federally authorized navigation channel. The upstream and downstream limits of the work area are located approximately 800 feet and 4,000 feet downstream of the Cape Fear Memorial Bridge respectively. The total quantity of material to be dredged, including allowable overdepth, is approximately 800,000 cubic yards including approximately 200,000 cubic yards of rock. The work will require the removal and disposal of sediment and rock to provide a channel depth of –43 feet mean lower low water (MLLW) plus 2 feet of allowable overdepth. Types of dredge plant allowed to perform the work include hydraulic cutterhead suction dredge, clamshell dredge and dipper/backhoe dredge.

Onboard observers would be required for manatee and/or whales depending on the location of the action to avoid contact with these listed species. Government approved disposal sites for dredged material includes the Eagle Island Disposal Area located on the west side of the Cape Fear River opposite the North Carolina State Ports Authority and/or the Wilmington Ocean Dredged Material Disposal Site (ODMDS) located approximately 7 miles offshore from Bald Head Island. Rock, if free of significant amounts of silt, may be disposed of in the Wilmington Offshore Fishery Enhancement Structure located approximately 4.5 miles offshore from Bald Head Island.

In addition to dredging, the work may involve drilling and blasting to remove rock from some parts of the project which will require a combination of measures to be used to reduce blasting impacts including strict limitations on timing, placement, and control of explosives, with monitoring of blast peak pressure. Important species will be protected by capture and relocation, visual and sonic survey, pre-blast scare charge, and monitoring of fish mortality. Blasting will be restricted to the months of August through January and may be performed during daylight hours only, between 2 hours after sunrise and 1 hour before sunset.

The work may also include maintenance dredging of the navigation channel from the Cape Fear Memorial Bridge to a point approximately 6 miles downstream. The Government approved disposal sites for maintenance dredging material include the Eagle Island Disposal Area and the ODMDS. The maintenance dredging must be completed by 31 January 2013.

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 Wilmington District using the SAW 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 pre-final submittal.

ATR will be conducted by individuals and organizations that are external to the Wilmington 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 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 DrCheckssm printout of the closed comments.

b. ATR Disciplines. As stipulated ER 1110-1-12, ATR members were 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 is 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 projects to include blasting and blast plans.

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

NEPA Compliance. The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact Statements for navigation projects. Experience with navigation projects that involve blasting and blast plans is required.

ATR Team Leader. The ATR Team Leader should have experience with Navigation and/or Shore Protection Projects and have performed ATR Team Leader duties. ATR Team Leader can also serve co-duty as one of the review disciplines.

5. TYPE II INDEPENDENT EXTERNAL PEER REVIEW (WRDA 2007 Section 2035 Safety Assurance 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 (PED) phases and incorporates requirements for conduct of Type II Independent External Peer Review/Safety Assurance Review. 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 navigation 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 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 consists of channel dredging and failure of the navigation channel will not pose a significant 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 concept of redundancy is not applicable to channel dredging projects.

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

This project's construction sequence and schedule have been used successfully by the Corps of Engineers on other similar works.

6. MODEL CERTIFICATION AND APPROVAL

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

7. BUDGET AND SCHEDULE

a. Project Milestones.

Completion of Final Submittal – 22 June 2012

District Quality Control – 29 June 2012

Agency Technical Review – 9-20 July 2012

BCOE/Sponsor Review – 9-20 July 2012

Advertisement – 7 August 2012

b. ATR Schedule and Cost. The ATR will be conducted 9 July -20 July 2012. It is envisioned that each reviewer will be afforded 28 hours review plus 4 hours for coordination. The estimated cost range is \$10-15,000.