



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

9 January 2012

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT (CESAJ-EN-QC/  
LUIS A. RUIZ)

SUBJECT: Approval of the Review Plan for Design and Implementation Phase (Implementation Documents) for Whitcomb and Kreamer Bayous Revetment Section 103 Project, City of Tarpon Springs, Pinellas County, FL

1. References:

a. Memorandum, CESAJ-EN-QC, 2 December 2011, Subject: Approval of the Review Plan for Design and Implementation Phase (Implementation Documents) for Whitcomb and Kreamer Bayous Revetment Section 103 Project, City of Tarpon Springs, Pinellas County, FL (Enclosure).

b. Memorandum, CECW-P, 19 January 2011, Director of Civil Works' Policy Memorandum # 1, Subject Continuing Authority Program Planning Process Improvements.

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

2. The Review Plan for the for Design and Implementation Phase (Implementation Documents) for Whitcomb and Kreamer Bayous Revetment Section 103 Project, City of Tarpon Springs, Pinellas County, FL Project dated 2 December 2011 submitted by reference 1.a has been reviewed by this office. Some minor edits to the Review Plan were coordinated with Sandra Cassata of your organization. The enclosed Review Plan, with the coordinated edits incorporated, is approved in accordance with reference 1.c above.

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 Continuing Authority Program (CAP) Section 103 Hurricane and Storm Damage Reduction Project. The primary basis for the concurrence that a Type II IEPR is not required is the determination that the failure of this Whitcomb and Kreamer Bayous Revetment Section 103, City of Tarpon Springs Project would not pose a significant threat to human life.

4. This Review Plan presents a justification for an exception to the guidance that the Agency Technical Review lead to be from outside the home MSC. As authorized by reference 1.b we hereby approve an exception and the ATR lead of the Implementation Documents for this CAP 103 Project can be within the South Atlantic Division.

CESAD-RBT


9 January 2012

SUBJECT: Approval of the Review Plan for Design and Implementation Phase (Implementation Documents) for Whitcomb and Kreamer Bayous Revetment Section 103 Project, City of Tarpon Springs, Pinellas County, FL

5. 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.
6. 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



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

REPLY TO  
ATTENTION OF

CESAJ-EN-QC

2 December 2011

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

SUBJECT: Approval of Review Plan for Design and Implementation Phase (Implementation Documents) for Whitcomb and Kreamer Bayous Revetment Section 103 Project, City of Tarpon Springs, Pinellas County, FL

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 Design and Implementation Phase (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

  
LUIS A. RUIZ, P.E.  
Chief, Engineering Division

**Continuing Authorities Program (CAP)  
Section 103 Project**

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**Review Plan**

for

**Whitcomb and Kreamer Bayous Revetment Project**

**City of Tarpon Springs, Pinellas County, FL**

for

**Implementation Documents (D&I Phase)**

2 December 2011

Prepared By:



**US Army Corps  
of Engineers** ®  
Jacksonville District

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THE INFORMATION CONTAINED IN THIS QUALITY CONTROL 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.

## **1.0 Purpose**

The purpose of this Review Plan is to outline the review processes that will be executed for the City of Tarpon Springs, Pinellas County, FL, Section 103, Shore Protection Project. The project is in design and implementation phase and will produce implementation documents including Plans & Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this Review Plan will be included in the Project Management Plan (PMP) as an appendix to the Quality Management Plan (QMP).

## **2.0 References**

- (1) EC 1165-2-209, Civil Works Review Policy, 31 January 2010
- (2) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (3) ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (4) ER 1110-1-8159 Engineering and Design, DrChecks, 10 May 01

## **3.0 Project Information**

This project is authorized under the Continuing Authorities Program (CAP) Section 103, Shore Protection. The project is located in Tarpon Springs, Pinellas County, Florida. The project will consist of two sites: Whitcomb Bayou and Kreamer Bayou. The eastern and southern shorelines along both bayous have experienced significant erosion over time. This erosion is now threatening the adjacent roadways that are important transportation corridors for the city as well as critical hurricane evacuation routes. The purpose of this project is to install revetment along these shorelines to reduce future bank erosion.

## **4.0 Design Considerations**

### *4.1 Design Criteria*

Design criteria is based on standard engineering practice and applicable USACE engineering regulations, criteria, guides, memoranda, policies, and procedures. Engineering considerations and conclusions will be documented in the Design Documentation Report (DDR).

### *4.2 Design Complexity*

The project includes proposed construction features for which the engineering analyses and design is considered non-complex. These features include grading and installation of riprap and retaining wall.

### *4.3 Construction Complexity*

Construction of the project components is considered non-complex, and primarily includes routine earthwork operations.

#### *4.4 Special Considerations*

Both bayous of the project have varying densities of mangroves along the shorelines. All precautions shall be taken to avoid impacts to the mangroves, thus requiring hand placement of riprap in and around the mangroves.

#### *4.5 Model certifications/acceptance*

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

### **5.0 Review Process**

The review process will consist of multiple standard reviews of all work products. The work products for this phase include the final plans, specifications, and DDR as well as any environmental compliance or documentation. The reviews to be conducted include a discipline quality check of each design discipline prior to Product Quality Control Review (PQCR). Review information and processes are summarized below:

#### *5.1 Review Management Organization (RMO)*

The South Atlantic Division (SAD) is designated as the RMO for the Whitcomb and Kreamer Bayous Revetment Project.

#### *5.2 Design Review and Checking System (DrChecks<sup>sm</sup>)*

The PQCR, ATR, BCOE, and Sponsor review teams will document all comments and recommendations in the DrChecks<sup>sm</sup> module in ProjNet<sup>sm</sup> in accordance with ER 1110-1-8159. Comments will be written to give a clear statement of the concern, basis of concern, and actions necessary to resolve the concern. Comments should cite appropriate references (ER, design memorandums, etc.). The PDT will evaluate and respond to each comment in DrChecks<sup>sm</sup>. Responses will clearly state concurrence or non-concurrence with the comment. Non-concurrence will include an explanation or a proposed alternative action to address the concern. Concurrence will include what corrective action will be taken, when, and where it will be done (plan sheet #, specifications section #, etc.). All comments shall be resolved and backchecked in the DrChecks<sup>sm</sup> project record prior to the corresponding review certification.

#### *5.3 Issue Resolution*

If issues cannot be resolved between the PDT team member and the reviewer counterpart, the issue will be raised to the next level of management for both the PDT discipline and the review team discipline and if necessary to the MSC or HQUSACE.

#### *5.4 Product Quality Control Review (District Quality Control)*

The Product Quality Control Review (PQCR) is the term used for District Quality Control (DQC) by SAJ Engineering Division per its Quality Management System. PQCR (DQC) is

conducted to include a comprehensive evaluation of correct application of methods, validity of assumptions, adequacy of basic data, completeness of documentation, compliance with guidance and standards, biddability, constructability, operability, and environmental considerations.

#### 5.4.1 Process

The PQCR comments shall be provided in DrChecks<sup>sm</sup> in accordance with paragraph 5.2 above. The PQCR team members upon review of the revised final work products shall complete the Statement of PQCR Certification per SAJ EN QMS standard.

#### 5.4.2 Review Team Members and Responsibilities

The PQCR team members shall include EN staff members not directly involved in the design, Section and/or Branch Chiefs, and/or their representative staff member to ensure consistency and effective coordination across all disciplines and to assure overall coherence and integrity of the final products.

### 5.5 *Agency Technical Review*

Agency Technical Review's (ATR) goal is to ensure that the work products are consistent with all established and applicable criteria, guidance, procedures, and policy. This review will also cover any necessary NEPA documents and other environmental compliance products and any in-kind services provided by local sponsors.

#### 5.5.1 Process

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 documents.

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 typically from outside the South Atlantic Division (SAD). However, based on the experience within SAD on shore protection projects along the Gulf and Atlantic shores as well as the importance of protecting the mangrove tree in the project area, an exception is justified and the ATR Team Leader can be from within SAD. The ATR Team required disciplines and experience are described below.

ATR comments are documented in the DrChecks<sup>sm</sup> 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.

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.

The ATR team upon review of the revised final work products shall complete the Statement of ATR Certification.

#### 5.5.2 *ATR Team Members and Responsibilities*

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:

**5.5.2.1 Hydraulic Engineering.** The team member should have at least 15 years of experience. Experience should encompass coastal design projects for coastal revetment design in support of the development of Plans and Specifications.

**5.5.2.2 Geotechnical Engineering.** The team member should be a registered professional with experience in the design, analysis and construction of rip-rap revetments and sea walls in coastal regions. Related project construction experience is desired.

**5.5.2.3 Structural Engineering.** The team member should be a registered professional engineer with project experience that includes design concrete T or L-Wall, sheet pile type structures. Related project construction experience is desired.



5.5.2.4 **Civil Engineering.** The team member should be a registered professional engineer with civil/site work project experience that includes earthwork operations, embankments, LERRD considerations and slope protection features. Related project construction experience is desired.

5.5.2.5 **Cost Engineering.** The team member should be a senior level Cost Engineer with experience in projects relating to earthwork operations, embankments, and slope protection features for coastal projects. The team member should be selected by the Walla Walla Cost Center of Expertise. This person will be selected from a pre-qualified group of senior level Cost Engineers established by Walla Walla.

5.5.2.6 **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.

5.5.2.7 **ATR Team Leader.** The ATR Team Leader should have experience with flood risk management projects. ATR Team Leader may be a co-duty to one of the review disciplines.

## 5.6 *Independent External Peer Review*

### 5.6.1 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

### 5.6.2 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.

### 5.6.3 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 review under Section 2035 is not required. The factors in determining whether a review of design and construction activities for a project is necessary are stated under Section 2035. Below are these factors along with this project's applicability statement.

- (1) The failure of the project would pose a significant threat to human life.

*Failure of the proposed features would revert back to the existing condition, with continuous eroding of the banks that could threaten the main evacuation routes for the City of Tarpon Springs residents. However, failure of this project would not pose a significant or immediate threat to human life.*

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

*This project anticipates utilizing methods and procedures used by the Corps of Engineers on other similar works.*

- (3) The project design requires redundancy, resiliency, and robustness.

*The concepts of redundancy, resiliency and robustness do not apply to this coastal revetment project.*

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

*The construction of this project does not have unique sequencing or a reduced or overlapping design. The anticipated installation sequence and schedule has been used successfully by the Corps of Engineers on other similar works.*

#### **5.7 Biddability, Constructability, Operability, and Environmental Review**

Biddability, Constructability, Operability, and Environmental (BCOE) Review are conducted to ensure that the designed project can be built with ease; contract documents can be understood, bid, administered, and executed; project can be operated and maintained with ease; and protection of air, water, land, animals, plants, and other natural resources from the effects of the construction and operation of the project.

##### **5.7.1 Process**

The BCOE team members will review the work products for biddability, constructability, operability, and Environmental in accordance with ER 415-1-11 and CESAJR 1110-4-1. All comments and responses shall be stated and provided in DrChecks in accordance with paragraph 5.1 above. The BCOE team upon review of the revised final work products shall complete the Statement of BCOE Certification.

## 5.8 Customer Review

A customer review will be conducted to ensure the customer's expectations as agreed upon for the project are met. The customer review will take place concurrently with the ATR.

### 5.8.1 Process

The Sponsor review team members will review the work products. All comments and responses shall be stated and provided in DrChecks in accordance with paragraph 5.1 above.

## 6.0 Project Delivery Team Leads

Project Manager (CESAJ-PM-WF): Jim Suggs  
Engineering Technical Lead (CESAJ-EN-DL): Ann Cassata, P.E.  
Planning Lead (CESAJ-PD-PN): Samantha Borer

Civil Engineer (CESAJ-EN-DL): Ann Cassata, P.E.  
Structural Engineer (CESAJ-EN-DS): Corey Press, E.I.  
Geotechnical Engineer (CESAJ-EN-GS): Brad Cox, E.I.  
Geologist (CESAJ-EN-GG): Alan Fong, C.P.G.  
Hydraulic Engineer (CESAJ-EN-WC): Tom Martin, P.E.  
Cost Estimator: (CESAJ-EN-C): Tony Ledford, E.I.  
Specifications Writer (CESAJ-EN-DC): Barbara Harrison  
Geomatics (CESAJ-EN-DG): Rob Swilley, P.S.M.

## 7.0 Project Budget

### 7.1 Construction Estimate

The construction cost estimate at the time of the feasibility study (detailed project report) was \$2,808,000. However, the additional scope of installation of retaining walls in certain areas and guardrail where necessary to meet highway safety requirements was not accounted for in this estimate.

### 7.2 ATR Schedule and Cost

Funds are available to execute ATR and schedule as outlined above. It is envisioned that each reviewer will be afforded 16 hours of review, plus 3 hours for coordination and 4 hours for the ATR Team Leader. The estimated cost range is \$12,000.

## 8.0 Project Schedule

### 8.1 Review Schedule

The major project milestones and review dates are listed below:

Final Plans & Specifications, DDR Complete:	5 March 2012
Product Quality Control Certification:	23 March 2012
ATR:	27 March - 18 April 2012
ATR Certification:	19 April 2012
BCOE Review:	4 - 17 April 2012

BCOE Review Certification:  
Ready to Advertise:

11 May 2012  
18 May 2012

### 8.2 Estimated Construction Duration

The estimated construction duration for the project is 180 days. This duration was estimated at the time of the feasibility study and does not account for the addition of scope for the retaining wall and guardrail.

## 9.0 Documentation

The engineering technical team leader (ETL) will maintain a file of quality control records for the project. Documents to be stored in the project quality control file will include, but not be limited to: QCP, annotated DrChecks comments for all reviews, and review certifications. In addition, each PDT member is responsible for keeping adequate records of all design decisions, calculations, and process. Records should include applicable emails, meeting notes, telephone notes, and design notes. Design data, process including communications leading up to a design decision, and final design shall be documented in the DDR for a compilation of design records.

## 10.0 Points of Contact

Jacksonville District Points of Contact (POCs):

Review Plan, ATR and QM Process	Jimmy D. Matthews 904-232-2087 <a href="mailto:Jimmy.D.Matthews@usace.army.mil">Jimmy.D.Matthews@usace.army.mil</a>
Project Manager (PM)	Jim Suggs 904-232-1018 <a href="mailto:jim.l.suggs@usace.army.mil">jim.l.suggs@usace.army.mil</a>
Engineering Technical Lead (ETL)	Ann Cassata 904-232-2588 <a href="mailto:sandra.a.cassata@usace.army.mil">sandra.a.cassata@usace.army.mil</a>
South Atlantic Division (SAD)	James C. Truelove 404-562-5121 <a href="mailto:James.C.Truelove@usace.army.mil">James.C.Truelove@usace.army.mil</a>