



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

30 April 2012

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

SUBJECT: Approval of the Review Plan for Cedar Hammock (Wares Creek), Flood Risk Management Project, Bradenton, Florida

1. References:

a. Memorandum, CESAJ-EN-QC, 29 March 2012, subject: Approval of Review Plan for Cedar Hammock (Wares Creek), Flood Risk Management Project, Bradenton, Florida (Enclosure).

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

2. The enclosed Review Plan for Cedar Hammock (Wares Creek), Flood Risk Management Project revision, dated 28 March 2012, submitted by reference 1.a, has been reviewed by this office and is approved in accordance with reference 1.b.

3. The South Atlantic Division (SAD) concurs with the determination that a Type II Independent External Peer Review (IEPR) is not required on this project. As indicated in the prior SAD 1 September 2011 approval of the review plan for this project, the primary basis for this concurrence is the determination that none of the project work (dredging, clearing and snagging, channel widening and deepening, etc.) poses a significant threat to human life. SAD approves this 28 March 2012 revision which deletes the intermediate Phase III ATR, and updates the final ATR schedule and costs for Phase III. Non-substantive changes to this RP do not require further approval.

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



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

REPLY TO  
ATTENTION OF

CESAJ-EN-QC

29 March 2012

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

SUBJECT: Approval of Review Plan Revision for Cedar Hammock (Wares Creek), Flood Risk Management Project, Bradenton, Florida

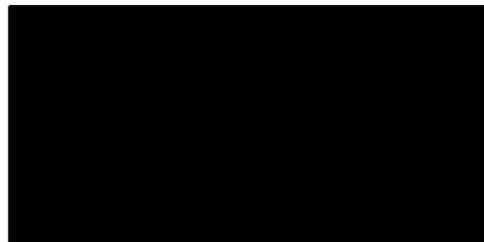
1. References.

- 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
- c. Memorandum, CESAD-RBT, 1 September 2011, Approval of Review Plan for Cedar Hammock (Wares Creek), Flood Risk Management Project, Bradenton, Florida

2. I hereby request approval of the enclosed revised 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 Preconstruction, Engineering and Design 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

# REVIEW PLAN

For

Preconstruction, Engineering and Design Phase

Implementation Documents

For

**Cedar Hammock (Wares Creek),  
Bradenton, Florida  
Flood Risk Management Project**

Jacksonville District

**Initial MSC Approval Date: 1 September 2011**

**Revision Date: 28 March 2012 \***

\* 28 March 2012 Revision Updated ATR Schedule and Costs for Phase III.

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** ®

**TABLE OF CONTENTS**

1. PURPOSE AND REQUIREMENTS ..... 2

2. PROJECT INFORMATION AND BACKGROUND ..... 2

3. DISTRICT QUALITY CONTROL ..... 3

4. AGENCY TECHNICAL REVIEW ..... 3

5. INDEPENDENT EXTERNAL PEER REVIEW ..... 5

6. MODEL CERTIFICATION AND APPROVAL ..... 7

7. SCHEDULE AND BUDGET (Revised 28Mar12) ..... 7

8. POINTS OF CONTACT ..... 8

**ATTACHMENT 1: REVIEW PLAN REVISIONS..... 9**

ATTACHMENT 1: REVIEW PLAN REVISIONS

## 1. PURPOSE AND REQUIREMENTS

**a. Purpose.** This Review Plan defines the scope of review activities for the Cedar Hammock (Wares Creek), Bradenton, FL, Flood Risk Management Project. Review activities consist of District Quality Control (DQC) and Agency Technical Review (ATR). The project is in the Preconstruction, Engineering and Design (PED) Phase. The related project 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 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (3). ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (4). Project Management Plan, Cedar Hammock (Wares Creek), Bradenton, FL, Flood Risk Management Project, P2#113886, is currently being updated to reflect updated costs and a revised schedule.

**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 project area is located within Manatee County, which lies on the Gulf Coast of Florida. The investigation focused on the East Branch of Cedar Hammock Drainage Canal, which flows northerly through Manatee County and into the City of Bradenton, where the name changes to Wares Creek, to its outlet at the Manatee River. The project area is urban, and existing development has encroached upon the channel in several areas. Heavy rains in September 1988 and June 1992 caused extensive flooding to the area and impacted residential as well as commercial development. Under existing conditions, average annual flood damages are estimated at \$6,725,700. The project provides for mechanical construction of channel improvements, it will include clearing and snagging the lower reach, widening the existing channel to a trapezoidal grass-lined channel, and installing vertical sheet pile wall channel, on 15,500 foot long section of the East Branch of Cedar Hammock and Wares Creek. The project will incorporate the improvements to the channel, as well as utility relocations. The plan provides a 10-year level of protection.

The project was authorized under Section 101(a)(10) of the Water Resources Development Act of 1996, Flood Damage Reduction Project. The P&S document the project post authorization activities and analyses. The Decision Document is the 1995 Cedar Hammock (Wares Creek) Section 205 Flood Control Project, Final Detailed Project Report (DPR) and Environmental Assessment, Manatee County, Florida. The project authorization adopted the final report by reference.

The project Plans and Specifications were prepared in 2004 to 90% completion by URS. URS used the 1995 DPR as the basis of design. Neither URS nor USACE conducted any additional hydrologic or hydraulic modeling or analyses or other engineering analyses. In 2008, there was a need to construct the project in phases because of funding. The phases are described below. It was decided to move forward with Phase I since it involved dredging only. Phase II is scheduled for award September 2011.

Phase I of the project included dredging Reaches 1 and 2 as well as clearing of mangroves. The sediment is to be dewatered and hauled to the County Landfill. Phase I of the project covers construction dredging and clearing and grubbing mangrove forest located in Wares Creek. Work extends from Manatee Ave Bridge (Baseline Station 26+80) to 9th Avenue Bridge (Station 46+00). Phase I was awarded in early July of this year and construction is supposed to start in September, 2011. Phase I was originally designed by URS Corporation to a 90% completion in 2004. The Jacksonville District completed the P&S and USACE conducted ATR in 2009.

Phase II consists of clearing and snagging approximately 3,400 linear feet of the channel (from Sta. 47+30 to Sta. 77+00), widening approximately 1,700 linear feet (from Sta. 77+50 to Sta. 94+75) the existing channel to a width of 26 feet and to an elevation of -1.1 feet with 1:1.5 side slopes, demolition of existing structures, and modification of existing drainage features. Phase II Project work covers Clearing and Snagging existing Wares Creek channel from 9th Avenue Bridge to 17th Avenue West. Phase II was originally designed by URS Corporation to a 90% completion in 2004. Phase II is being completed by the Jacksonville District.

Phase III includes approximately 4,000 linear feet of retaining walls, widening of part of the channel as well as deepening (elevation varies), demolition of existing structures, modification of existing drainage features, and excavation to channel dimensions. Phase III work covers Cedar Hammock Drainage Canal area from 17th Avenue West to 44th Avenue (Cortez Road). From 17th Avenue West to 21st Avenue West work includes construction of grass lined trapezoidal channel. From 21st Avenue West to 14th Street West (U S 41) work includes construction of rectangular channel with sheet pile walls on alternating banks. Final stretch from 14th Street West to Cortez Road work includes construction of grass lined trapezoidal channel. Phase III was originally designed by URS Corporation with a 90% completion in 2004. Phase III will be completed by the Jacksonville District.

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

District Quality Control (DQC) activities for engineering products are stipulated in ER 1110-1-12, Engineering & Design Quality Management and EC 1165-2-209. DQC will be performed on the P&S and DDR in accordance CESAJ Engineering Division Quality Management System (EN QMS). The EN QMS defines DQC as the sum of two reviews, Discipline Quality Control Review and Product Quality Control Review. Product Quality Control Review is the DQC Certification that will precede ATR.

### **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 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.

**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.

#### **Phase I:**

Contract completed and USACE completed ATR.

#### **Phase II:**

**Civil Engineering.** The team member should be a registered professional engineer with civil/site work project experience that encompasses dredging and channel project features for flood risk management project Plans and Specifications.

**Geotechnical Engineering.** The team member should be a registered professional. Experience needs to encompass riprap and channel design and analyses for flood risk management project Plans and Specifications.

**Cost Engineering.** The team member should have demonstrated experience in the preparation of cost estimates, cost risk analyses and cost engineering. Experience is needed for flood risk management projects. The cost engineering review will be on the PED Phase current working estimate and total project cost summary and not the IGE. The cost engineering review will be conducted as part of the ATR for the P&S final submittal.

**NEPA Compliance.** The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact Statements for civil works projects.

**ATR Team Leader.** The ATR Team Leader will be from outside SAD and should have experience with flood risk management projects. ATR Team Leader may also serve as a co-duty to one of the review disciplines.

### **Phase III:**

**Hydrology and Hydraulics.** The H&H team member should be a registered professional with a minimum of 8 years experience. Experience needs to encompass flood risk management project hydrology and hydraulics, channel design, and scour protection design. Familiarity with HEC-1, UNET and HEC-2, 1994 editions is desired.

**Structural Engineering.** The team member should be a registered professional. Experience needs to encompass retaining wall design and analyses that are used to support the development of Plans and Specifications. Related project construction experience is desired.

**Geotechnical Engineering.** The team member should be a registered. Experience needs to encompass riprap and retaining wall design and analyses that are used to support the development of Plans and Specifications. Related project construction experience is desired.

**Civil Engineering.** The team member should be a registered professional engineer with minimum of 8 years experience and have civil/site work project experience that includes channel design, relocations, and demolition of structures. Related project construction experience is desired.

**Real Estate Professional.** The team member should be a real estate professional with civil works project experience for Federal projects in urban areas. Work project experience should encompass rights-of-way and easement determinations, LERR&D considerations and Contractor access and work area delineations.

**Cost Engineering.** The team member should have demonstrated experience in the preparation of cost estimates for flood risk management projects.

**NEPA Compliance.** The team member should have experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact Statements for civil works projects.

**ATR Team Leader.** The ATR Team Leader will be from outside SAD and should have experience with flood risk management projects. ATR Team Leader may also serve as 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 (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 flood control 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 of a project is necessary as stated under Section 2035 along with this review plans applicability statement follow.

### **Phase I**

Project has already been awarded.

### **Phase II**

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

*This project will involve clearing and snagging and channel widening (which includes riprap at existing bridges). Being that this project is designed to utilize the creek to handle a 10-year storm event, failure of these features will only result in flooding areas that are now prone to flooding during rain events to pre-project conditions and will not pose a 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 does not apply to the Phase II channel work.*

(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 have been used successfully by the Corps of Engineers on other similar works.*

### **Phase III**

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

*Phase III completes the project. The completed project will involve clearing and grubbing, channel widening (which includes riprap at existing bridges) and sheet pile in-channel retaining walls. Being that this project is designed to utilize the creek to handle a 10-year storm event, failure of these features will only result in flooding areas that are now prone to flooding during rain events to pre-project conditions and will not pose a 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 does not apply to the Phase II channel work*

(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 have been used successfully by the Corps of Engineers on other similar works.*

**6. MODEL CERTIFICATION AND APPROVAL**

This flood risk management project does not use any engineering models that have not been approved for use by USACE. The related engineering and design is documented in the above referenced detailed project report. The hydrology and hydraulics were developed with HEC-1, UNET and HEC-2, 1994 editions.

**7. SCHEDULE AND BUDGET (Revised 28Mar12)**

**a. Schedule.**

**Phase II (not Revised)**

District Quality Control – 22 August 2011  
 Agency Technical Review – 25 August- 3 October 2011  
 BCOE Review/Certification Complete – 18 October 2011  
 Advertisement – 26 October 2011

**Phase III (Revised 28Mar12)**

Product Quality Control Review (PQCR) Start: 1 Mar 2012  
 PQCR Complete: 5 Apr 12  
 Per SAJ EN QMS, PQCR is a product review of the P&S and DDR and will look at the new updated product as a whole.

Milestone	Task	Duration	Start	Finish
	ATR Kickoff Meeting	1 day	11-Apr-12	11-Apr-12
EN8180	ATR Comments	11 days	12-Apr-12	26-Apr-12
	ATR Comment Evaluations	6 days	27-Apr-12	4-May-12
	ATR Comment Backchecks	3 days	7-May-12	9-May-12
EN8185	ATR Report & ATR Certification	5 days	10-May-12	16-May-12
EN8190	BCOE Review	15 days	11-Apr-12	1-May-12

**b. ATR Cost (Revised 28Mar12).** For Phase III, funds are available to execute ATR and schedule as outlined above. It is envisioned that each reviewer will be afforded 24 hours for ATR plus 8 hours for coordination and comment resolution. The ATR Team Leader is allotted 16 hours for leading the ATR Team, affirming ATR Charges and Team expertise, completing ATR Report and ATR Certification. The estimated cost range is \$20,000-\$26,000.

**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]  
[Redacted]  
[Redacted]

Project Information (PM) & (ETLs),

[Redacted]  
[Redacted]  
[Redacted]

[Redacted]  
[Redacted]  
[Redacted]

South Atlantic Division,

[Redacted]  
[Redacted]  
[Redacted]

**ATTACHMENT 1: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>
28Mar12	Deleted ATR Intermediate Submittal; Revised Phase III ATR Schedule and Cost	Page 7