



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

22 APR 2013

CESAD-PDP

MEMORANDUM FOR Commander, Wilmington District, 69 Darlington Avenue, Wilmington, North Carolina 28403

SUBJECT: Cooperative Agreement Package for North Carolina Estuaries Restoration Project, Estuary Habitat Restoration Program, North Carolina

1. References:

- a. Memorandum, 8 March 2013, CESA-W-PM-C, subject as above.
- b. Memorandum, 4 December 2012, CESAD-PDP, subject as above.
- c. Memorandum, 12 September 2012, CESA-W-PM-C, subject as above.
- d. Implementation Guidance, Estuary Restoration Program, Cooperative Agreement, June 2011.
- e. EC 1165-2-214, Civil Works Review Policy, 15 December 2012.

2. The Cooperative Agreement (CA), including attachments A-G and the Review Plan, for the North Carolina Estuaries Restoration Project, Estuary Habitat Restoration Program is approved (enclosure 1). The Review Plan has been prepared in accordance with Engineer Circular (EC) 1165-2-214. The District should take steps to post the approved Review Plan and a copy of this approval memorandum to the SAW District public internet website.

3. The District Commander, through the use of the Charleston District Grants Officer, Mr. Henry Wigfall, is hereby authorized to execute the approved CA, and is responsible for complying with requirements set forth in reference 1.d. (enclosure 2).

4. The point of contact for this action is Ms. Karen Dove-Jackson at (404) 562-5225.

DONALD E. JACKSON, JR.  
COL, EN  
Commanding

2 Encls

**Estuary Restoration Act of 2000**

**Estuary Habitat Restoration Program**

**REVIEW PLAN**

**NORTH CAROLINA ESTUARIES RESTORATION PROJECT**

**Wilmington District**

**South Atlantic Division Approval Date: April 2013**



**US Army Corps  
of Engineers®**

**NORTH CAROLINA ESTUARIES RETORATION PROJECT  
REVIEW PLAN**

**The Estuary Habitat Restoration Program (EHRP) is authorized by the Estuary Restoration Act of 2000, Title I of PL 106-457 of the Estuaries and Clean Waters Act of 2000, as amended (33 U.S.C. 2903)**

**TABLE OF CONTENTS**

**1. PURPOSE AND REQUIREMENTS..... 1**

**2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION ..... 6**

**3. STUDY INFORMATION..... 6**

**4. PUBLIC PARTICIPATION ..... 8**

**5. REVIEW PLAN APPROVAL AND UPDATES..... 8**

**6. REVIEW PLAN POINTS OF CONTACT ..... 8**

**ATTACHMENT 1: TEAM ROSTERS..... 9**

**ATTACHMENT 2: REVIEW PLAN MINOR REVISIONS..... 10**

## 1. PURPOSE AND REQUIREMENTS

- a. Purpose.** This review plan defines the scope and level of peer review for project documents related to the North Carolina Estuaries Restoration Project, North Carolina. A HQ review needs to be completed on the Cooperative Agreement Package which includes: 1) Cooperative Agreement, 2) Approved Proposal, 3) Project Management Plan with work and payment schedules developed and agreed to by the U.S. Army Corps of Engineers (USACE) Wilmington District and Local Sponsor, 4) Estuary Habitat Restoration Program Cooperative Agreement Standard Terms and Conditions, 5) Certifications and Representations; 6) Monitoring Plan, 7) a Site Specific Operations and Maintenance Manual, and 8) Documentation of Required Real Estate,.

This is a small Federal grant/cost shared project that falls under the Estuary Restoration Act (ERA). The purpose of the ERA, as amended, is to promote the restoration of estuary habitat; to develop and implement a national estuary habitat restoration strategy for creating and maintaining effective partnerships within the Federal government and with the private sector; to provide Federal assistance for and promote efficient financing of estuary habitat restoration projects; and to develop and enhance monitoring, and research capabilities.

The proposed action for the NC Estuaries Restoration Project is a project under the Estuary Habitat Restoration Program (EHRP), which is authorized by the Estuary Restoration Act of 2000, Title I of PL 106-457 of the Estuaries and Clean Waters Act of 2000, as amended (33 U.S.C. 2903). The Estuary Restoration Act authorizes the Secretary of the Army to carry out estuary habitat restoration projects and establishes the Estuary Habitat Restoration Council (Council), comprised of the USACE as the Secretary's designee, Department of the Interior (acting through the U.S. Fish and Wildlife Service), National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA), and Department of Agriculture (DOA). The USACE or other agencies represented on the Council that have available funds may fund projects the Army approves. Costs of projects funded under the ERA must be shared with non-Federal parties. District offices, subject to HQ USACE and Major Subordinate Command (MSC) oversight, are responsible for carrying out approved projects funded by the USACE in cooperation with non-Federal interests.

- b. Applicability.** The documents covered by this review plan are "other work products" as defined by EC 1165-2-214. The documents are associated with the Cooperative Agreement and the final design and construction phase of the project. Specifically, these documents supplement the Council's decision to fund the project, inform regulatory agencies that will separately make permit decisions on each of the project sites, and provide documentation that the proper processes were followed in execution of the Cooperative Agreement.

**c. References**

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 12 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 21 Jul 2006
- (4) Implementation Guidance for the Estuary Habitat Restoration Program (Cooperative Agreement), June 2011

- d. Requirements.** This Review Plan was developed in accordance with EC 1165-2-214, which outlines four general levels of review: District Quality Control /Quality Assurance (DQC), Agency Technical

Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. Consistent with the guidance received on EHRP implementation, we will comply with the EC “at a level appropriate for the nature of the project; including but not necessarily limited to performance of appropriate District Quality Control/Quality Assurance, and application of the Risk Informed Decision process as appropriate to determine if Agency technical Review is appropriate.” In this case, the decision to fund the project has been made by the Council, and the individual project actions will be reviewed through the Regulatory permit process and associated NC Division of Coastal Management permitting process. A NEPA document has been prepared to cover, and more holistically address, the involvement of the Corps in implementing the NC Estuaries project as a whole.

- (1) District Quality Control/Quality Assurance (DQC). All major documents associated with this project (Project Management Plan, Monitoring Plan, O&M Manual, Plans and Specifications, etc.) shall undergo DQC as provided in EC 1165-2-214, paragraph 8. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). For this project, the USACE Wilmington District Planning and Environmental Division Coastal Team Leader will be responsible for DQC efforts. However, project plans and specifications developed by the sponsor will undergo DQC by Engineering Division.

The PDT review team will be responsible for performing a technical review of the plans and specifications, cost estimates, real estate documents, and environmental compliance. The DQC review will be completed before each phase of the construction. Duties of the DQC team include the following:

- Reviewing report contents for compliance with established principles and procedures, using clearly justified and valid assumptions.
  - Reviewing plans and specifications to ensure they are correct and reasonable.
  - Providing the PDT leader with documentation of comments, issues, and decisions arising out of the DQC review. Comments and resolutions will be collected by the Project Manager and documented in the project file. Corrections will be made to the reviewed documents before construction begins.
- (2) Agency Technical Review (ATR). The implementation guidance for the Estuary Habitat Restoration Program (reference c (4)) clarifies that the Risk Informed Decision process is applied, as appropriate to determine if Agency Technical Review is appropriate.
    - (1) Does it include any design (structural, mechanical, hydraulic, etc)?
      - The project design is not technically complex, using mostly oyster shell/marl bag sills for the living shorelines and using oyster shell mounds to create the patch reefs. The low level of complexity reduces risk of failure. Any structural failure would possibly lessen the biological impact intended by construction. No engineering risks are assumed by constructing this project.
    - (2) Does it evaluate alternatives?
      - The EA identified an action alternative, the proposed patch oyster reefs and living shorelines, which is the Selected Action. The EA also analyzed a No Action

Alternative. The project uses a design that the non-federal sponsor has successfully constructed at multiple sites over the past decade. Their experience in selecting sites and implementing techniques for creating patch oyster reefs and living shorelines leaves no need to evaluate additional alternatives. The project grant proposal was approved by the Council to construct a set amount of living shorelines and patch oyster reefs.

(3) Does it include a recommendation?

- The recommended, selected action will construct patch oyster reefs and living shorelines, as the project was approved by the Council for funding and construction by the ERA Council.

(4) Does it have a formal cost estimate?

- Project costs were outlined in the sponsor's application. USACE has reviewed the expected costs and believe they are reasonable to complete the entire project as scoped in the approved grant application. USACE has no need to perform a cost analysis for the project.

(5) Does it have or will it require a NEPA document?

- Yes, a FONSI was signed in February 2013. The project has completed the NEPA process.

(6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks?

- There are no life safety risks associated with the project.

(7) What are the consequences of non-performance?

- There are minor risks associated with non-performance. Any structural failure would possibly lessen the biological benefit intended by construction. No engineering risks are assumed by constructing this project.

(8) Does it support a significant investment of public monies?

- No, the project is cost shared 65%/35% with the sponsor, and does not involve significant investment of public monies. The only investment of public funds are specifically for construction and monitoring of the project. There are no secondary costs or benefits claimed by constructing this project.

(9) Does it support a budget request?

- This project does not support budget requests. Approval to expend funds has been received for this project.

(10) Does it change the operation of the project?

- There are no impacts or changes to existing projects.

(11) Does it involve excavation, subsurface investigations (drilling or sampling or both), or placement of soil?

- There is no excavation or subsurface investigations. The project involves placement of oyster cultch to form mounds in random patches. These will create oyster reef habitat in the estuaries. The living shoreline portion of the project will involve

minor grading to create planting sites for marsh grass. This construction process has minimal risk of failure.

(12) Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?

- No effect on special features.

(13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?

- All construction activities will be performed below Mean High Water, therefore all activities will be subject to review and approval of USACE Regulatory.

(14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?

- This project does not include any hazardous waste risk.

(15) Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?

- There are no engineering references used in design and construction of the project.

(16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?

- There is no reliance on local authorities for the project.

(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?

- This estuary restoration project is not controversial. The EA was sent out for public review, comments were received and addressed, followed by a FONSI in February 2013.

After applying this process, it was determined that an ATR was not appropriate or necessary for this project. A technical review of the project has been conducted by a qualified team within the Wilmington District. This review team consisted of personnel from Real Estate, Design, Cost Engineering, Planning and Environmental, and Coastal Engineering. This project is designed by the local sponsor, which has experience constructing many similar projects. The design of the project is not technically complex, and will primarily consist of natural materials placed in the water to encourage oyster growth and/or reduce shoreline erosion and encourage marsh growth. There are no safety concerns associated with this project, and the risks of failure or damage to property or ecosystems are minimal. All construction activities will be performed below Mean High Water, therefore all activities will be subject to review and approval of USACE Regulatory. The Risk Informed Decision Process has led the District to conclude that ATR is not required. Specifically, while NEPA was done for this action, NEPA was accomplished to supplement the information available to the public, and does not replace the independent decision made by the Council to fund the project and decisions to be made by the regulatory agencies, who have full authority to issue or deny permits for the actions associated with this project. This project does not support budget requests or significant investment of public monies, has no life safety risk, no risks associated with non-performance, no impact on existing projects, very limited

ground disturbance, no effect on special features, no other hazardous consequences, and is not controversial.

(3) Independent External Peer Review (IEPR). IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. There are two types of IEPR: Type I is generally for decision documents and Type II is generally for implementation products. A Type I IEPR is not required because this review plan does not cover any decisions documents. A Type II IEPR is not required because the project does not involve a significant threat to human life/safety assurance. Based on the types of documents to be reviewed, the EHRP implementation guidance, and conclusion that for this project all of the following specific criteria are met:

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project is not likely to have significant economic, environmental, and/or social effects to the Nation;
- The project/study is not likely to have significant interagency interest;
- The project/study is not likely highly controversial;
- The decision document is not likely to contain influential scientific information or be a highly influential scientific project; and
- The information in the decision document or proposed project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

The project has not been deemed by the USACE Director of Civil Works or Chief of Engineers to be controversial in nature. This project is a relatively small estuary restoration project. It has been reviewed by local federal and state resource agencies and gone through a public review process during the permitting phase over the past two years. There have not been any significant public disputes over the size, nature, or environmental effects or benefits of the project. All questions and concerns have been thoroughly addressed and all outstanding issues have been resolved. Therefore, neither a Type I IEPR is nor a Type II IEPR is required for the project.

- (4) Policy and Legal Compliance Review. Project documents will be reviewed for their compliance with applicable law and policy.
- (5) Cost Engineering Review and Certification. There are no decision documents requiring cost review. The basic material, labor and construction costs for this project were reviewed and certified by the Wilmington District Cost Estimator Section.
- (6) Model Certification/Approval. EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically

sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. This estuary habitat restoration project does not require any modeling.

## **2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION**

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for EHRP projects is the South Atlantic Division (SAD). SAD will coordinate and approve the review plan.

## **3. STUDY INFORMATION**

- a. Study/Project Description.** The North Carolina Coastal Federation will work with the North Carolina Division of Marine Fisheries, Hammocks Beach State Park, University of North Carolina at Wilmington, community volunteers and students to restore over 10.5 acres of oyster reef and saltmarsh habitats in several targeted estuarine systems (Lockwood Folly River, Masonboro Sound, Stump Sound and White Oak River). More than nine acres of oyster patch reefs will be created in combination with establishing 1.24 acres of fringing shoreline saltmarsh habitat. This combination of restoration activities will be designed to restore and enhance intertidal and shallow subtidal patch oyster reef habitat and reduce shoreline erosion caused by storm activity and rising sea levels, providing an innovative approach to managing the declining habitats in these estuaries. The results of this project will be monitored by university researchers and volunteers to document its success. The project will use loose shell and small limestone marl for the patch reefs, and oyster shell bags, limestone marl bags and oyster domes for the shoreline sills. Approximately 900 linear feet of living shoreline will be restored by planting over 45,000 marsh plants. Public awareness and support for the protection and restoration of these habitats will be expanded through educational and outreach activities and public participation in the project by teachers, students, community members and volunteers. The project will implement estuarine habitat creation and restoration objectives described in the North Carolina Oyster Protection and Restoration Action Plan, the N.C. Oyster Fishery Management Plan, and the N.C. Coastal Habitat Protection Plan, the Onslow Bight Conservation Forum and the Cape Fear Arch Conservation Council plan. These estuarine systems have some of the highest species diversity and productivity in the Southeastern Atlantic region.

Region	Year	Project Area # & Project Type	Project Size & Habitat Created	Materials
Southeast	2013	Area #1: Lockwood Folly Oyster Reef	3 acres patch oyster reef habitat	12,000 BU oyster shell
	2013	Area #1: Lockwood Folly Living Shoreline	200' long x 9' wide oyster sill with marsh planting = 0.1 acre oyster reef; 0.2 acre saltmarsh	3,000 oyster shell bags (1,000 BU); 5,000 <i>Spartina alterniflora</i> plugs
	2013	Area #2: Masonboro-Myrtle Grove Sound Oyster Reef	1-2 acres patch oyster reef habitat	5-10,000 BU oyster shell
	2013	Area #3: Stump Sound Oyster Reef	1-2 acres patch oyster reef habitat	5-10,000 BU oyster shell
	2013	Area #3: Stump Sound Living Shoreline	200' long x 9' wide oyster sill with marsh planting = 0.1 acre oyster reef; 0.2 acre saltmarsh	3,000 oyster shellbags (1,000BU); 5,000 <i>Spartina alterniflora</i> plugs
Central	2013	Area #4: White Oak River - Jones Island Living Shorelines	500' long x 6' wide oyster sill with marsh planting = 0.1 acre oyster reef; 0.50 acre saltmarsh	6,000 oyster shell bags (2,000 BU); 20,000 <i>Spartina alterniflora</i> plugs
	2013	Area #4: White Oak River - Jones Island Oyster Reefs	3 acres patch oyster reef habitat	15,000 BU oyster shell
	2013	Area #4: White Oak River - Jones Island Living Shorelines	0.34 acre saltmarsh	20,000 <i>Spartina alterniflora</i> plugs

Figure 1. Project Sites and Acreages

The project is not likely to have significant economic, environmental, or social effects to the Nation or involve a significant threat to human life/safety. The project is an estuary habitat restoration project consisting of oyster reef construction, and erosion control and shoreline restoration. The project is designed to enhance the biological productivity of the areas. The project will also provide educational and research opportunities. The project is not likely to have significant interagency interest, be highly controversial, contain influential scientific information or be a highly influential scientific assessment due to the relatively small footprint of the projects. The information in the Project Management Plan or proposed project design is not based on novel methods, nor does it involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

**In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to review and editing by District personnel. Final versions of all documents, whether prepared by non-Federal sponsors or by USACE, will be subject to DQC as described above. ,

#### **4. PUBLIC PARTICIPATION**

**State and Federal resource** agencies have been actively involved in this project for the last several years and are currently involved in resolving final permit issues. Agencies with regulatory review responsibilities have been contacted for coordination as required by applicable laws and procedures. The public has had the opportunity to comment on the project through the public notice process and notifications in the local news media. The project sponsor actively solicits volunteers to aid in placement of oyster reef materials and planting of marsh plants as described in project documents.

#### **5. REVIEW PLAN APPROVAL AND UPDATES**

6. The South Atlantic Division Commander is responsible for approving this review plan. The review plan is a living document and may change as the study progresses. The Wilmington District Project Manager is responsible for keeping the review plan up to date. After approval by SAD, minor changes to the review plan will be documented in Attachment 2 of this plan. Significant changes to the review plan (such as changes to the scope and/or level of review) will be re-approved by SAD following the process used for initially approving the plan. The latest version of the review plan will be posted on the home district's webpage.**REVIEW PLAN POINTS OF CONTACT**

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Project Manager, 910-251-4258
- South Atlantic Division Point of Contact, 404-562-5229



**ATTACHMENT 2: REVIEW PLAN MINOR REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>