

## DEPARTMENT OF THE ARMY US ARMY CORPS OF ENGINEERS SOUTH ATLANTIC DIVISION FOR EORSYTH STREET SW. POOM 10M46

SOUTH ATLANTIC DIVISION 60 FORSYTH STREET SW, ROOM 10M15 ATLANTA, GA 30303-8801

2 9 MAY 2014

**CESAD-RBT** 

MEMORANDUM FOR COMMANDER MOBILE DISTRICT (CESAM-EN-H/DOUGLAS C. OTTO)

SUBJECT: Approval of the Review Plan for the Mississippi Coastal Improvements Program (MsCIP) Comprehensive Barrier Island Restoration Plan, Ship Island, Mississippi

#### 1. References:

- a. Memorandum, CESAM-EN-H, 6 May 2014, subject: Review Plan Mississippi Coastal Improvements Program (MsCIP) Comprehensive Barrier Island Restoration Plan, Ship Island, Mississippi; Amended 2014 (Enclosure).
  - b. EC 1165-2-214, Civil Works Review, 15 December 2012.
- 2. The amended Review Plan for the MsCIP (MsCIP) Comprehensive Barrier Island Restoration Plan Pre-Construction, Engineering and Design Phase submitted by reference 1.a has been reviewed by this office and is approved in accordance with reference 1.b above.
- 3. We concur with the conclusion of the District Chief of Engineering that a Type II Independent External Peer Review (Type II IEPR) is not required for this 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 project would not pose a significant threat to human life.
- 4. The District should take steps to post the approved 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. Subsequent significant changes to this Review Plan, should they become necessary, will require new written approval from this office.
- 5. The SAD point of contact is Mr. James Truelove, CESAD-RBT, 404-562-5121.

Encl

DONALD L. WALKER

COL, EN

Commanding



## DEPARTMENT OF THE ARMY MOBILE DISTRICT, CORPS OF ENGINEERS P.O. BOX 2288 MOBILE, ALABAMA 36628-0001

REPLY TO ATTENTION OF

CESAM-EN-H

6 May 2014

MEMORANDUM FOR CDR, SOUTH ATLANTIC DIVISION ATTN: CESAD-RBT (MR. CHRISTOPHER SMITH)

SUBJECT: Review Plan – Mississippi Coastal Improvements Program (MsCIP) Comprehensive Barrier Island Restoration Plan, Ship Island, Mississippi; Amended May 2014

- 1. A copy of the subject report is enclosed for review and approval.
- 2. The Review Plan (RP) was prepared in accordance with EC-1165-2-214 and has been by approved by the SAM Chief of Engineering.
- 3. If you have any questions, please call Thomas Smith, Project Manager, at (251) 690-3270 or Justin McDonald, Lead MsCIP Project Engineer, at (251) 690-3314.

FOR THE COMMANDER:

Encl

DOUGLAS C. OTTO, JR. P.E. Chief, Engineering Division

## **REVIEW PLAN**

## MISSISSIPPI COASTAL IMPROVEMENTS PROGRAM (MSCIP) - COMPREHENSIVE BARRIER ISLAND RESTORATION PLAN SHIP ISLAND, MS

Mobile District

Amended, May 2014

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



#### **REVIEW PLAN**

# MISSISSIPPI COASTAL IMPROVEMENTS PROGRAM (MSCIP) - COMPREHENSIVE BARRIER ISLAND RESTORATION PLAN SHIP ISLAND, MS

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# MISSISSIPPI COASTAL IMPROVEMENTS PROGRAM (MSCIP) - COMPREHENSIVE BARRIER ISLAND RESTORATION PLAN SHIP ISLAND, MS

#### 1. PURPOSE AND NEED

This Review Plan defines the scope and level of review activities for the MsCIP Comprehensive Barrier Island Restoration Plan. 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 for review consist of a Supplemental Environmental Impact Statement (SEIS), Plans and Specifications (P&S), and a Design Documentation Report (DDR). The Review Management Organization is the South Atlantic Division.

#### 2. DESCRIPTION OF PROJECT

Hurricane Katrina devastated the Mississippi Gulf Coast on August 29, 2005. Immediately following the storm, the State of Mississippi proposed restoring the barrier islands, particularly Ship Island, to a pre-Hurricane Camille condition with hopes that this would reduce the storm surge of future hurricanes on the mainland. Later modeling efforts by the U.S. Army Corps of Engineers (USACE) indicated, however, that restoration of the barrier islands would have minimal impact on storm surge reduction. Modeling did show, though, that the increase in wave heights would be significant and the ecology and estuary between the barrier islands and the Mississippi mainland would be changed if the barrier islands eroded away. Further analysis of the islands also showed that over 1600 acres of land had been lost between 1917 and 2006 and that the islands would continue to erode and probably be totally lost in the future. Removal of sand from the regional sediment budget due to a combination of severe storm events, proximity to sand sources, and dredging of the Pascagoula navigation channel is believed to be the reason for the continual loss of the islands.

To help mitigate some of the loss of the islands and prolong their existence, the USACE, State of Mississippi, and National Park Service (NPS) formulated a comprehensive restoration plan to restore the sediment budget of the barrier island chain. The plan, known as the Comprehensive Barrier Island Restoration Plan, was implemented under the USACE Mississippi Coastal Improvements Program (MsCIP). It consists of the placement of approximately 19 million cubic yards (c.y.) of sand on Ship Island, within the Mississippi Unit of the NPS Gulf Islands National Seashore, and another approximately 2 million c.y. on Cat Island, predominately outside of NPS jurisdiction. A revision to the management of dredged material from the Pascagoula Federal Navigation project to enhance the littoral transport of sand westward along the island chain is also included in the plan. These restoration elements are discussed in more detail in the following sections. The restoration of the northern shoreline of West Ship Island is another component of the Comprehensive Barrier Island Restoration Plan. This project, however, has already been constructed and, therefore, will not be included as part of this review plan.

#### 2.1. SHIP ISLAND RESTORATION

The proposed restoration of Ship Island consists of the placement of approximately 13.5 million c.y. of sand in the breach of Ship Island, referred to as Camille Cut, and approximately 5.5 million c.y. the along the southern shoreline of East Ship Island. The closure of Camille Cut and introduction of sand into the littoral zone at East Ship Island will restore the barrier island sediment budget to a natural state as much as possible given the realities of navigation channel dredging, climate change, and other anthropogenic activities as well as provide significant system-wide ecosystem benefits to Mississippi coastal environment. The project area for the proposed Camille Cut and East Ship Island restoration is shown in Figure 1.

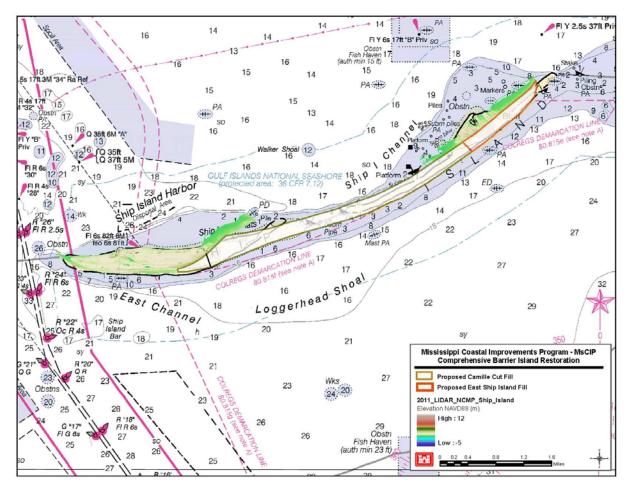


Figure 1. Camille Cut & East Ship Island Restoration Project Area

Sand for the construction of the Ship Island Restoration Project will potentially be obtained from six separate borrow sources identified as the following:

- Ship Island
- Sand Island/DA-10
- Horn Island Pass

- Petit Bois Pass

   Alabama
- Petit Bois Pass Mississippi
- Petit Bois Pass Outer Continental Shelf (OCS)

Other potential borrow sites were identified in the vicinity of the barrier islands but were not considered suitable and, therefore, were eliminated from further consideration. The locations of the six suitable borrow sites are shown in Figure 2. The borrow site for the Cat Island Restoration Project (i.e. Cat Island in Figure 2) is also shown below and discussed in the following section.

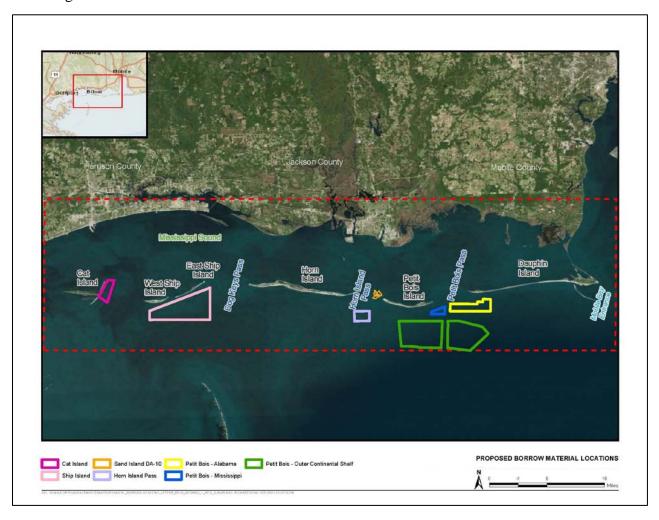


Figure 2. Locations of Suitable Borrow Sites

#### 2.2. CAT ISLAND RESTORATION

The proposed restoration of Cat Island consists of the direct placement of approximately 2 million c.y. of sand on the eastern shoreline. This will restore island habitats, thereby enhancing the island's ability to absorb energy from westward-propagating waves. The Cat Island

restoration will also provide an element of risk reduction for the western Harrison and Hancock County mainland shorelines. Currently, however, the Cat Island project area is mostly privately owned. Therefore, construction of the project cannot occur until the real estate issues are resolved. The project area for the proposed Cat Island restoration is shown in Figure 3.

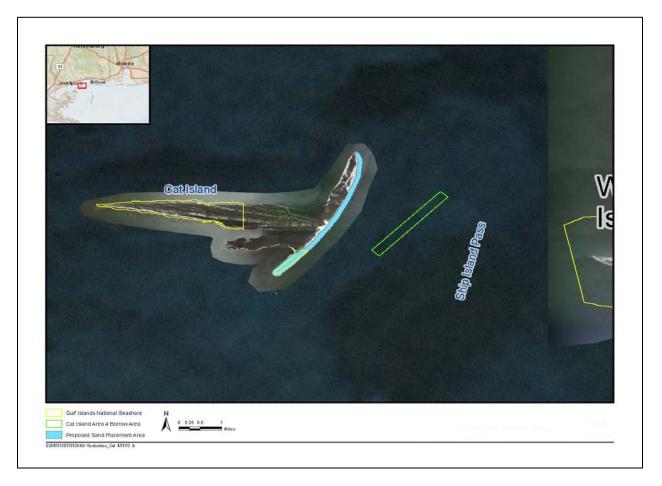


Figure 3. Cat Island Restoration Project Area

Sand for the construction of the Cat Island Restoration Project will be obtained from a borrow site approximately 1.5 miles east of Cat Island as shown in Figure 2 and Figure 3 above. Other potential borrow sites were identified in the vicinity of the barrier islands but were not considered suitable and, therefore, were eliminated from further consideration.

## 2.3. REVISION TO THE MANAGEMENT OF DREDGED MATERIAL FROM THE PASCAGOULA FEDERAL NAVIGATION CHANNEL

To address regional sediment management issues along the Mississippi barrier islands, USACE proposes to modify the management of dredged material from the Pascagoula Federal Navigation project to enhance the littoral transport of sand westward along the island chain. This modification would involve reorientation of placement within the existing disposal areas (DA-10 and the littoral zone placement site). No new placement sites are included in this modification, and only slight changes to the site placement boundaries are proposed. Figure 4 shows the

existing area of sand placement at DA-10 and in the littoral zone. Figure 5 shows the proposed revision to the dredged material disposal sites to ensure more effective littoral transport of sediment to the downdrift islands.

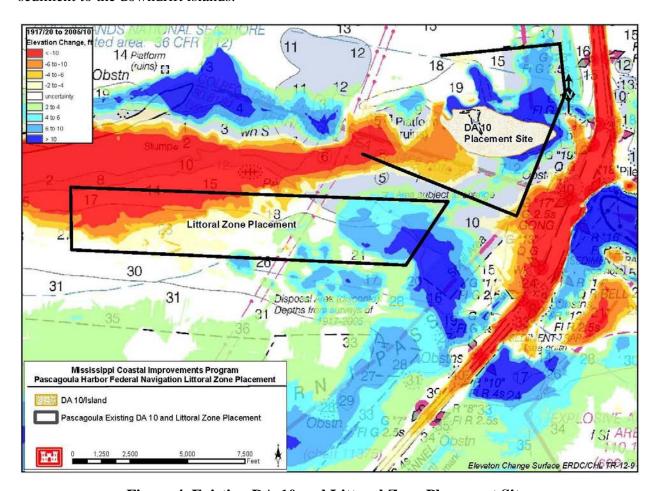


Figure 4. Existing DA-10 and Littoral Zone Placement Sites

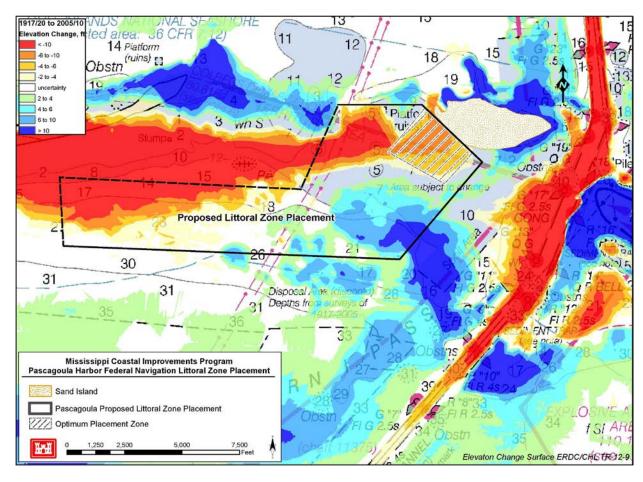


Figure 5. Proposed DA-10/Littoral Zone Placement Site

#### 3. DESCRIPTION OF WORK FOR REVIEW

The MsCIP Comprehensive Barrier Island Restoration Plan is a component of the MsCIP Comprehensive Plan and Integrated Programmatic Environmental Impact Statement, hereafter referred to as the MsCIP PEIS. The MsCIP PEIS was developed in June 2009 to support the long-term recovery of Hancock, Harrison, and Jackson counties in Mississippi with the goal of enhancing the resilience of the coastal area and its communities against future events, including storms. The MsCIP PEIS evaluated the need for restoring the Mississippi Barrier Islands as part of a comprehensive plan to increase the resiliency of the coast to future storm events. The PEIS recommended a general plan that included the placement of up to 22 million cubic yards to restore islands within the GUIS Mississippi unit and an additional 2 million cubic yards on Cat Island. The PEIS also discussed the need to evaluate refinements to the barrier island restoration plan including locating additional borrow sites and specific design options. Therefore, a supplement to the PEIS is being prepared to evaluate and document the impacts of specific alternatives for sand borrow areas, placement options, engineering and design alternatives, and construction methods. This supplement, referred to as the Supplemental Environmental Impact Statement (SEIS), will ensure full compliance with the National Environmental Policy Act (NEPA) and is one of the subjects of this review. Additionally, a letter report is being prepared to present the information provided in the SEIS in a more consolidated form. It, however, will not

undergo review since the information contained in the report will also be provided in the reviewed SEIS.

The designs for the Ship and Cat Island restoration projects, which are components of the MsCIP Comprehensive Barrier Island Restoration Plan, are also the subject of this review. The Ship Island restoration project will be constructed in five phases which includes four separate dredging and placement contracts as well as a planting contract to vegetate the newly placed fill. The Cat Island restoration project, which is currently on hold due to a majority of the project area being privately owned, will likely be constructed in two phases – one dredging and placement contract and one planting contract. Products to be reviewed for the two restoration projects include the plans and specifications (P&S) for each phase and the DDRs. The DDRs will be comprehensive documents (one for Ship Island restoration and one for Cat Island restoration) that will capture all of the phases of work. The National Environmental Policy Act (NEPA) coordination and supporting documentation will also be included in the DDRs as appendices. The DDRs will be amended, if necessary, as the phases of design and construction progress to accommodate for unforeseeable circumstances that may present themselves (changes in site conditions due to hurricanes, etc.).

#### 4. BACKGROUND

The MsCIP PEIS was developed by the U.S. Army Corps of Engineers in the aftermath of Hurricane Katrina. The objective of the plan was to identify comprehensive improvement projects that would make the Mississippi coast more resilient in the areas of hurricane and storm damage reduction, prevention of saltwater intrusion, preservation of fish and wildlife, and prevention of erosion. The comprehensive plan outlined 12 elements, including both structural and non-structural components, to aid in the recovery of coastal Mississippi. Structural elements included restoring protective beaches and systems, restoring native habitats, and raising an existing levee. Non-structural elements included removing structures from within floodplains or raising structures that are highly vulnerable to storm damage. Implementation of the 12 elements would provide for the restoration of over 3,000 acres of coastal forest and wetlands, approximately 30 miles of beach and dune restoration, and flood-proofing or acquisition of approximately 2,000 tracts within the 100-year floodplain. The restoration of the Mississippi barrier islands, which is the focus of this review plan, was included in this plan.

An Agency Technical Review (ATR) and an Independent External Peer Review (IEPR) were performed on the MsCIP PEIS in August 2008 and November 2008, respectively. The ATR was performed by the National Planning Center of Expertise for Coastal Storm Damage Reduction (PCX-CSDR) in accordance with *Peer Review of Decision Documents* (EC-1105-2-408) dated May 31, 2005 and *Review of Decision Documents* (EC-1105-2-410) dated August 22, 2008. Critical documents utilized during the ATR included the Project Management Plan (March 9, 2006), Program Guidance Memorandum (April 28, 2006), Supplemental Policy Guidance Memorandum (December 5, 2007), Policy Compliance Review Memorandum (April 17, 2008), three MsCIP Comprehensive Plans (September 24, 2007; January 18, 2008; August 12, 2008), and the MsCIP Interim Report (May 1, 2006). The ATR team included over 25 technical experts that were selected from a wide range of backgrounds including plan formulation, coastal modeling and design, risk analyses, cost engineering, structural and non-structural design, civil

engineering, deep draft navigation, hydrology, geology, geotechnical engineering, spatial analysis, environmental design and restoration, cultural resources, real estate, and economics. Following the review, the team offered formal certification of the MsCIP PEIS.

As mentioned previously, an IEPR was also performed on the MsCIP PEIS. The IEPR was prepared by Battelle Memorial Institute on November 7, 2008 in accordance with the following guidance: *Peer Review of Decision Documents* (EC-1105-2-410) dated August 22, 2008; CECW-CP Memorandum dated March 30, 2007; and the Office of Management and Budget's *Final Information Quality Bulletin for Peer Review* released December 16, 2004. Battelle is a non-profit science and technology organization with experience in establishing and administering review panels for USACE. The IEPR was conducted by 7 panel members with expertise in engineering (civil and geotechnical), geology/geomorphology, hydrology, hydraulics, coastal environmental science, water quality/resource management, floodplain management, meteorology/hurricanes, socioeconomics, real estate, risk management, and modeling. The IEPR panel identified 14 final comments for future consideration during the design and execution of the projects outlined in the MsCIP PEIS. The comments were segmented into rankings of high, medium, and low significance with four being high significance, eight being medium significance, and two being low significance.

Currently, a supplement to the MsCIP PEIS is being prepared to specifically incorporate the design details of the MsCIP Comprehensive Barrier Island Restoration Plan. The SEIS will undergo DQC and ATR and be fully vetted for NEPA compliance prior to advertisement of the Ship and Cat Island restoration projects. DQC and ATR reviews of the plans, specifications, and DDR for the Ship and Cat Island Restoration Projects will also occur prior to advertisement of any construction contract.

#### 5. PROJECT DELIVERY TEAM

The Project Delivery Team (PDT) is comprised of those individuals involved directly in the development of the implementation documents. The individual contact information and disciplines of the District PDT are included in Attachment 1 of this document.

#### 6. LEVELS OF REVIEW

This Review Plan (RP) describes the levels of review and the anticipated review process for the various documents to be produced. All levels of review are addressed in this RP: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR).

## 7. DISTRICT QUALITY CONTROL

All documents to be produced will undergo District Quality Control (DQC). DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. DQC will be managed by SAM in accordance with ER 1110-

1-12, Engineering & Design Quality Management, EC 1165-2-214, Civil Works Review Policy, and the District Quality Management Plan. The DQC will include quality checks and reviews, supervisory reviews, PDT reviews, and Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) reviews required by ER-1110-1-12. The DQC review will be completed prior to submitting documents for ATR. Documentation of the DQC review as contained in DrChecks will be certified during the ATR that DQC activities were sufficient and documented.

#### 8. AGENCY TECHNICAL REVIEW

All documents produced as part of this effort will undergo Agency Technical Review (ATR) to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published Corps guidance, and that design P&S and supporting DDR are clear, constructible, environmental sustainable, operable, and maintainable. The ATR will also ensure that the P&S, DDR, and supporting SEIS are consistent with the approved/authorized plan.

The ATR team will consist of the individuals that represent the significant disciplines involved in the accomplishment of the work. ATR will be managed within the Corps and conducted by senior USACE personnel outside of the Mobile District that are not involved in the day to day production of the project. DrChecks review software will be used to document all ATR comments, responses, and associated resolutions accomplished throughout the review process. The documents to be reviewed are the SEIS, P&S, and DDR. The PDT will evaluate comments in DrChecks and revise materials as necessary. The ATR leader will be from outside the MSC, and must complete a statement of technical review for all final products and final documents. By signing the ATR certification, the district leadership certifies policy compliance of the document and also that the DQC activities were sufficient and documented.

**Disciplines Required for Review.** At a minimum, the following disciplines should be represented on the ATR team. All technical engineering ATR members shall be certified in the Corps of Engineers Reviewer Certification and Access Program (CERCAP) system.

Discipline	Required Expertise
ATR Lead	The team member should have minimum
	expertise such as having led prior ATRs, etc.
	The ATR lead may also serve as one of the
	review disciplines in addition to team leader
	duties.
Coastal Hydraulics	The team member should have experience in
	beach/breach fill design considerations. The
	team member should also be knowledgeable
	in the use of applicable modeling tools (e.g.
	STWAVE, ADCIRC, CH3D, GENESIS,
	C2SHORE, CEQUAL-ICM, and Delft-3D)
	to inform beach/breach fill design decisions.
	This includes familiarity with model

	applicability, capabilities, inputs, forcing factors, and outputs.
Civil Engineer (Operations/Construction)	The team member should have experience with administration of contracts for dredging and beach/breach fill construction.
Geotechnical Engineer/Geologist	The team member should have experience in the geotechnical evaluation of boring logs and test data relative to beach fill design projects.
Environmental Specialist	The team member should have experience with environmental evaluation and compliance requirements, pursuant to national environmental statutes (NEPA), section 404 of the Clean Water Act (CWA), applicable executive orders and other Federal planning requirements. Familiarity with beach/breach fill projects is also beneficial.

#### 9. INDEPENDENT EXTERNAL PEER REVIEW

Independent External Peer Review (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 the USACE is warranted. This project is in the implementation phase; thus, the Type I IEPR is not required.

Based on criteria contained in EC 1165-2-214, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review (SAR). The Federal action is not justified by life safety, and project failure would not pose a significant threat to human life. Innovative materials or novel engineering methods will not be used. Redundancy, resiliency, or robustness are not required for design. Also, the project has no unique construction sequencing, or a reduced or overlapping design construction schedule.

#### 10. REVIEW MANAGEMENT ORGANIZATION

It is the responsibility of the Review Management Organization (RMO) to develop and prepare a "charge" to the reviewer. SAD is the RMO for this project, and SAM will assist with development of the "charge". The purpose of agency reviews throughout the project life cycle, including ATR, policy compliance and legal reviews, generally, is to ensure that the appropriate problems and opportunities are addressed as well as assure that accurate cost, scheduling, and associated risks are presented.

#### 11. POLICY AND LEGAL COMPLIANCE

The National Environmental Policy Act (NEPA) compliance is required for the construction of this project. This includes consideration of no adverse impacts to the environment. NEPA documentation will be prepared and coordinated prior to preparation of P&S. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

#### 12. MODEL CERTIFICATION AND APPROVAL

The models used for this project that have been approved for use include: STWAVE, ADCIRC, CH3D, GENESIS, C2SHORE, CEQUAL-ICM, and Delft-3D.

#### 13. REVIEW SCHEDULE AND COSTS

The total cost for DQC review and ATR is estimated to be approximately \$400,000. The documents to be reviewed and scheduled dates for reviews are as follows:

Milestone	Review	Schedule Dates		
Draft SEIS	DQC	Complete		
Draft SEIS	ATR	Complete		
100% Unreviewed P&S and DDR for Ship Island Restoration: Phases 1 – 5	DQC	Phase 1: June 23 – 27, 2014 Phase 2: March 16 – 20, 2015 Phase 3: October 12 – 16, 2015* Phase 4: July 13 – 17, 2015* Phase 5: October 26 – 30, 2015*		
Final P&S and DDR for Ship Island Restoration: Phases 1 – 5	ATR	Phase 1: July 21 –25, 2014 Phase 2: April 13 – 17, 2015 Phase 3: November 9 – 13, 2015* Phase 4: August 10 – 14, 2015* Phase 5: November 30 – December 4, 2015*		
100% Unreviewed P&S and DDR for Cat Island Restoration: Phases 1 and 2	DQC	Phase 1: TBD** Phase 2: TBD**		
Final P&S and DDR for Cat Island Restoration: Phases 1 and 2	ATR	Phase 1: TBD** Phase 2: TBD**		

<sup>\*</sup> Phases 3, 4, and 5 will be designed and constructed concurrently. This is possible because the work being performed under Phases 3 and 4 are at different locations. Work under Phases 3 and

5 will occur in the same location but the start of Phase 5 will be staggered by a couple of months. This will allow for the Phase 5 effort to occur on the portion of the Phase 3 work that will have already been completed.

\*\* The Cat Island Restoration project is on hold due to most of the project area being privately owned.

#### 14. PUBLIC PARTICIPATION

The review plan will be made accessible to the public through the Mobile District website link <a href="http://www.sam.usace.army.mil">http://www.sam.usace.army.mil</a>. Public review of the review plan can begin as soon as it is approved by the Division Commander and posted by the Mobile District. Comments made by the public will be available to the review team. Public and interagency review for the EA will be conducted in accordance with NEPA, as outlined in ER 1105-2-100.

#### 15. MAJOR SUBORDINATE COMMAND (MSC) APPROVAL

The MSC (Division Commander) is responsible for approving the review plan as prepared by the Mobile District. Approval is provided by the MSC Commander. The Commander's approval should reflect team input as to the appropriate scope and level of review for the implementation document. Like the PMP, the review plan is a living document and may change as the project progresses. Changes in the review plan should be approved by following the process used for initially approving the plan. In all cases the MSC will review decisions on the level of review and any changes made in updates to the project.

## ATTACHMENT 1 – TEAM ROSTER

**Product Delivery Team Members** 

Discipline (POC)	Office/Agency
Program Manager	CESAM-PD-EC
Project Manager	CESAM-PM-C
Project Architect/Engineer (PAE)	CESAM-EN-H
Hydraulic/Coastal Engineer	CESAM-EN-HH
Geologist/Geotechnical Engineer	CESAM-EN-GG
Cost Estimators	CESAM-EN-E
Environmental Specialists	CESAM-PD-EC
Specifications Engineer	CESAM-EN-DW
Civil Engineer (Operations/Construction)	CESAM-OP
Sponsor	State of Mississippi

### **ATTACHMENT 2 - ACRONYMS AND ABBREVIATIONS**

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
BCOES	Biddability, Constructability, Operability Environmental, and Sustainability	O&M	Operation and maintenance
CAP	Continuing Authorities Program	OMB	Office and Management and Budget
CSDR	Coastal Storm Damage Reduction	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DPR	Detailed Project Report	OEO	Outside Eligible Organization
DQC	District Quality Control/Quality Assurance	OSE	Other Social Effects
DX	Directory of Expertise	PCX	Planning Center of Expertise
EA	Environmental Assessment	PDT	Project Delivery Team
EC	Engineer Circular	PAC	Post Authorization Change
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
ER	Ecosystem Restoration	QMP	Quality Management Plan
FDR	Flood Damage Reduction	QA	Quality Assurance
FEMA	Federal Emergency Management Agency	QC	Quality Control
FRM	Flood Risk Management	RED	Regional Economic Development
FSM	Feasibility Scoping Meeting	RMC	Risk Management Center
GRR	General Reevaluation Report	RMO	Review Management Organization
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RTS	Regional Technical Specialist
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
ITR	Independent Technical Review	SEIS	Supplemental Environmental Impact Statement
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act