



**DEPARTMENT OF THE ARMY**  
U.S. ARMY CORPS OF ENGINEERS, SOUTH ATLANTIC DIVISION  
60 FORSYTH STREET SW, ROOM 10M15  
ATLANTA, GA 30303-8801

CESAD-RBT (1165)

18 September 2023

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers,  
Mobile District, P.O. Box 2288, Mobile, Alabama 36628-0001

SUBJECT: Approval of the Updated Review Plan for Mobile Harbor, Mobile, AL

1. References:

a. Memorandum, CESAM-EN-QC, 29 August 2023, subject as above.

b. Engineering Regulation (ER) 1165-2-217, Civil Works Review Policy,  
1 May 2021.

2. The updated Review Plan (RP) for the Mobile Harbor Navigation Improvements project, submitted via reference 1.a, has been reviewed by the South Atlantic Division (SAD). The RP is hereby approved in accordance with reference 1.b.

3. SAD shall be the Review Management Organization (RMO) for this project.

4. Significant changes to this RP will require new written approval from this office.

5. The SAD point of contact is Michael Wolz, CESAD-RBT, [REDACTED]

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LARRY D. MCCALLISTER, PhD, PE, SES  
Director of Programs



**DEPARTMENT OF THE ARMY**  
U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT  
P.O. BOX 2288  
MOBILE, AL 36628-0001

CESAM-EN-QC

MEMORANDUM FOR Commander, U.S. Army Engineer Division, South Atlantic  
(CESAD-DE), 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303

SUBJECT: Approval of the Updated Review Plan for Mobile Harbor, Mobile, AL

1. References:

- a. ER 1110-2-1150, "Engineering and Design for Civil Works Projects," dated 31 August 1999.
- b. ER 1110-1-12, "Engineering and Design Quality Management," dated 31 March 2011.
- c. ER 1165-2-217, "Civil Works Review Policy," dated 1 May 2021.
- d. ER 415-1-11, "Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review," dated 1 January 201 sustainability (BCOES) Review," dated 1 January 2013.

2. South Atlantic Division approved the Mobile Harbor Review Plan on 13 May 2019. Re-approval of the Review Plan is required as it has been more than three years since initial approval. Revisions to the Review Plan are reflected in red.

3. Request approval of the enclosed Review Plan for the Mobile Harbor project and concurrence with the conclusion that a Safety Assurance Review (SAR) of the subject project is not required. The recommendation not to perform a SAR is based on the ER 1165-2-217 Risk Informed Decision Process as discussed in the Review Plan. The Review Plan complies with applicable policy, provides for Agency Technical Review, and has been coordinated with the SAD. Significant changes to this Review Plan, such as scope or level of review changes, should they become necessary, will require written approval from SAD.

4. POC for this action is John E. Bass, Jr., Project Technical Lead, [REDACTED].

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Encls

JEREMY J. CHAPMAN, P.E.  
COL, EN  
Commanding

# REVIEW PLAN

## MOBILE HARBOR MOBILE, AL

Mobile District

**August 2023**

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.



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

# REVIEW PLAN

## MOBILE HARBOR MOBILE, AL

### TABLE OF CONTENTS

1. PURPOSE AND NEED .....	1
2. DESCRIPTION OF PROJECT.....	1
3. DESCRIPTION OF WORK FOR REVIEW .....	2
4. BACKGROUND.....	2
5. PROJECT DELIVERY TEAM.....	3
6. LEVELS OF REVIEW.....	3
7. DISTRICT QUALITY CONTROL .....	3
8. AGENCY TECHNICAL REVIEW .....	3
9. SAFETY ASSURANCE REVIEW.....	5
10. REVIEW MANAGEMENT ORGANIZATION.....	5
11. POLICY AND LEGAL COMPLIANCE.....	5
12. MODEL CERTIFICATION AND APPROVAL .....	5
13. REVIEW SCHEDULE AND COSTS .....	5
14. PUBLIC PARTICIPATION .....	6
15. MAJOR SUBORDINATE COMMAND (MSC) APPROVAL.....	6

### LIST OF ATTACHMENTS

ATTACHMENT 1 – TEAM ROSTER

ATTACHMENT 2 – ACRONYMS AND ABBREVIATIONS

# MOBILE HARBOR MOBILE, AL

## 1. PURPOSE AND NEED

This Review Plan defines the scope and level of review activities for the Mobile Harbor Channel Modifications, Mobile, Alabama. 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 Plans and Specifications (P&S) and the Design Documentation Report (DDR). The Review Management Organization (RMO) is the South Atlantic Division.

Re-approval of the Review Plan is required, as it has been more than 3 years since initial approval. The following sections have been subsequently updated as follows:

- Sections 6 and 9: References to the Independent External Peer Review (IEPR) have been changed to Safety Assurance Review (SAR)
- Sections 7 and 9: References to EC 1165-2-217 have been changed to ER 1165-2-217, Civil Works Review Policy.
- Section 13: The schedule of reviews (future and actual) and costs per review have been updated.
- Attachment 1: The Team Roster was updated.

Changes to the Review Plan are reflected in red.

## 2. DESCRIPTION OF PROJECT

The Mobile Harbor Federal navigation project is located in southwest Alabama. The port of Mobile is the 10th largest port in terms of tonnage in the United States. Its primary commodities have been coal, crude oil, and petroleum products; however, the port has seen a large increase in steel commodities due to the completion of a \$4.6 billion steel facility that was constructed just north of Mobile. In addition, the port continues to see record growth in container ship traffic due, in part, to the airbus assembly plant and the Wal-Mart distribution Center.

The Chief's Report on Mobile Harbor, Alabama, was approved on 18 November 1981. The Report included deepening and widening of the channel, an anchorage and turning basin, and a dredged material placement site.

Based on the sponsor's request to pursue channel widening and deepening in Mobile Harbor within the limits of the original authorization and because of the changed conditions since the 1980 Survey Report, Mobile District determined an update was needed to the Report and an agreement for the General Reevaluation Report (GRR) was executed in November 2015. The Mobile Harbor GRR provided a reevaluation of the economics and environmental effects against current policies, criteria, and guidelines. The GRR also ensured that the design accommodated

current ship sizes and adequate capacity for dredged material placement. This project was authorized by Section 201 of the 1986 Water Resources Development Act (WRDA).

### **3. DESCRIPTION OF WORK FOR REVIEW**

PED Phase shall consist of developing plans and specifications for the following modifications to the Mobile Harbor Federal Navigation Channel:

- Deepen the existing Bar, Bay (including the Choctaw Pass Turning Basin), and River Channels (south of station 226+16) by 5 ft to project depths of 52, 50, and 50 ft, respectively, with an additional 2 ft for advanced maintenance plus 2 ft of allowable overdepth for dredging (total depths of 56, 54, and 54 ft, respectively).
- Incorporate minor bend easings at the double bends (at stations 1857+00 and 1775+26) in the Bar Channel approach to the Bay Channel.
- Widen the Bay Channel from 400 ft to 500 ft from the mouth of Mobile Bay northward for 3 nautical miles to provide a two-way traffic area for passing.
- Expand the Choctaw Pass Turning Basin 250 ft to the south (at a depth of 50 ft) to better accommodate safe turning of the design vessel and other large vessels.

Additional ship simulation and geotechnical investigations shall be conducted along with associated contracting efforts to ensure a successful design. The PED phase shall also include sediment testing as well as obtaining water quality, coastal zone management, ODMDS designation, and section 103 evaluation permits. Ship simulation will be performed by ERDC with the simulation report completed as an appendix to the design document report. This document will undergo review as described herein.

The number of design and specification contract packages will be based on funding appropriations. Each contract package will undergo the review process described herein.

### **4. BACKGROUND**

The cargo transportation industry continues its shift to increased use of standardized containers used for multimodal (marine, rail, and truck) freight transportation systems. Additionally, the marine vessel fleet is trending to larger, deeper-draft vessels, particularly for containerships and dry bulk carriers. The Federal navigation channel serving Mobile Harbor's major terminals is currently constructed to a depth of 45 feet (ft) mean lower low water (MLLW). The existing dimensions of this channel place constraints on deeper-drafting containerships and coal carriers, which result in reduced efficiency and increased costs.

The principal navigation problem is larger vessels are experiencing transportation delays and inefficiencies due to limited channel depth and width. This problem is a result of increasing number and size of vessels entering and departing Mobile Harbor. The existing channel depths and widths limit vessel cargo capability, restrict many vessels to one-way traffic and in some areas limit transit operations to daylight hours only. Channel improvements allow for increased loads and delay reductions for vessels resulting in a cost per ton savings for the waterborne movement of goods.

## **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 **Safety Assurance Review (SAR)**.

## **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 Mobile District (SAM) in accordance with ER 1110-1-12, Engineering & Design Quality Management; ECB 2016-9, Civil Works Review; ER 1165-2-217, 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, environmentally sustainable, operable, and maintainable. The ATR will also ensure that the P&S, DDR, and supporting Supplemental Environmental Impact Statement 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 SAM 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 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, with the exception being the reviews for the turbidity barrier contracts for Ship and Cat Islands (no geotechnical engineer/geologist reviewer will be required). All technical engineering ATR members shall be certified in the Corps of Engineers Reviewer Certification and Access Program (CERCAP) system.

<b>Discipline</b>	<b>Required Expertise</b>
ATR Lead	The team member should have minimum 3 to 5 years experience 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 3 to 5 years experience in navigation design. The team member should also be knowledgeable in the use of applicable modeling tools (e.g. STWAVE, ADCIRC, CH3D, CEQUAL-ICM, and Delft-3D) to inform channel design decisions. This includes familiarity with model applicability, capabilities, inputs, forcing factors, and outputs.
Civil Engineer (Operations/Construction)	The team member should have 3 to 5 years experience with administration of contracts for dredging
Geotechnical Engineer/Geologist	The team member should have 3 to 5 years experience in the geotechnical evaluation of boring logs and test data.
Environmental Specialist	The team member should have 3 to 5 years 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 navigation projects is also beneficial.



## **9. SAFETY ASSURANCE REVIEW**

**Safety Assurance Review (SAR)** 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 ER 1165-2-217, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a **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, CEQUAL-ICM, and Delft-3D.

## **13. REVIEW SCHEDULE AND COSTS**

The total cost per DQC review is estimated to be **\$25,000**. The total cost per the ATR is estimated to be approximately **\$30,000**. The documents to be reviewed and scheduled dates for reviews are as follows:

<b>Phase</b>	<b>Milestone</b>	<b>Review</b>	<b>Schedule Dates</b>
Phase 1	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	April, 2020 (Actual)
	Final P&S and DDR for Mobile Harbor, AL	ATR	May, 2020 (Actual)
Phase 2	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	August, 2023
	Final P&S and DDR for Mobile Harbor, AL	ATR	October, 2023
Phase 3	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	October, 2020 (Actual)
	Final P&S and DDR for Mobile Harbor, AL	ATR	November, 2020 (Actual)
Phase 4	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	November, 2021 (Actual)
	Final P&S and DDR for Mobile Harbor, AL	ATR	January, 2022 (Actual)
Phase 5	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	May, 2023 (Actual)
	Final P&S and DDR for Mobile Harbor, AL	ATR	July, 2023
Phase 6	95% Unreviewed P&S and DDR for Mobile Harbor, AL	DQC	August, 2023
	Final P&S and DDR for Mobile Harbor, AL	ATR	October, 2023

## **14. PUBLIC PARTICIPATION**

The review plan will be made accessible to the public through the Mobile District website link <http://www.sam.usace.army.mil/>.

## **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 reflects 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

<b>Discipline (POC)</b>	<b>Name</b>	<b>Office/Agency</b>
Project Manager	Mary Elizabeth Sullivan	CESAM-PM-CM
Engineering Technical Lead (ETL)	John Bass	CESAM-EN-QC
Hydraulic/Coastal Engineer	Elizabeth Godsey	CESAM-EN-HH
Geologist/Geotechnical Engineer	James McConnell	CESAM-EN-GG
Cost Estimators	Lauren Walker	CESAM-EN-E
Environmental Specialists	Don Mroczko	CESAM-PD-EC
Specifications Engineer	Karen Williams	CESAM-EN-DW
Civil Engineer (Operations/Construction)	Herb Bullock/Barry Dailey	CESAM-OP
Sponsor	John Driscoll	Alabama State Port Authority

## 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