



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

20 OCT 2014

CESAD-RBT

MEMORANDUM FOR COMMANDER MOBILE DISTRICT

SUBJECT: Approval of the Review Plan for the Plans and Specifications, Design Documentation Report and Construction of the Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, AL

1. References:

- a. Memorandum, CEIWR-RMC, 8 October 2014, subject: Risk Management Center Endorsement – Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, Alabama Review Plan (Encl 1).
- b. Memorandum, CESAM-PM-CM, 27 August 2014, subject: Approval of the Review Plan for the Design and Implementation of the Northport Levee Repair Project along the Black Warrior River, Northport, Alabama (Encl 2).
- c. EC 1165-2-214, Civil Works Review, 15 December 2012.

2. The Review Plan (RP) for the Plans and Specifications, Design Documentation Report and Construction of the Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, AL submitted by the Mobile District via reference 1.b has been reviewed by this office and the Risk Management Center (RMC). Prior to the RMC endorsement (reference 1.a), some minor RMC edits to the RP were coordinated with Mr. David Newell of your organization. The enclosed RP, with the coordinated edits incorporated, is approved in accordance with reference 1.c above.

3. South Atlantic Division (SAD) concurs with the conclusion of the District Chief of Engineering that a Type II Independent External Peer Review (IEPR) is required on this design and construction effort. The primary basis for the concurrence that a Type II IEPR is required is the determination that failure or loss of this levee repair could pose a threat to human life. Therefore, a Type II IEPR will be undertaken for the implementation documents as well as prior to the final inspection during construction.

4. The District should take steps to post the approved RP to its web site and provide a copy and a link to CEIWR-RMC and CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed. Subsequent significant changes, such as scope changes or level of review, to this RP, should they become necessary, will require new written approval from this office.

CESAD-RBT

SUBJECT: Approval of the Review Plan for the Plans and Specifications, Design Documentation Report and Construction of the Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, AL

5. The SAD point of contact is Mr. James Truelove, CESAD-RBT, 404-562-5121.

A handwritten signature in black ink, appearing to be 'C. David Turner', with a stylized 'R' at the end.

C. DAVID TURNER
Brigadier General, USA
Commanding

2 Encls

CF:
CESAM-EN /Mr. Douglas C. Otto
CESAM-PM-CM /Mr. David P. Newell



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
RISK MANAGEMENT CENTER
12596 WEST BAYAUD AVE., SUITE 400
LAKEWOOD, CO 80228

REPLY TO
ATTENTION OF

CEIWR-RMC

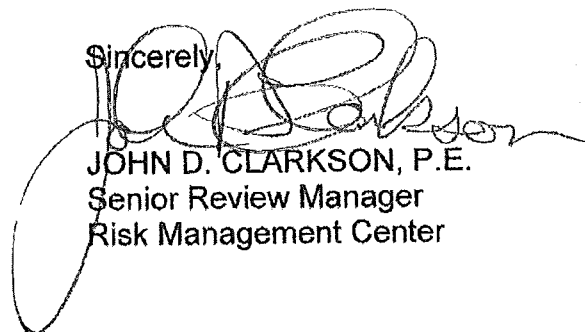
8 October 2014

MEMORANDUM FOR: Commander, Mobil District, ATTN: CESAM-PM

SUBJECT: Risk Management Center Endorsement – Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, Alabama Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project, Black Warrior River, Northport, Alabama, dated 29 September 2014, and concurs that this RP complies with the current peer review policy requirements outlined in EC 1165-2-214 "Civil Works Review Policy", dated 15 December, 2012.
2. This review plan was prepared by CESAM-PM Mobil District, reviewed by SAD, and the RMC, coordinated with the Flood Risk Management Planning Center of Expertise, and all review comments have been satisfactorily resolved.
3. The RMC endorses this document to be approved by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander's approval memorandum, and a link to where the RP is posted on the District website to the RMC Senior Review Manager (rmc.review@usace.army.mil).
4. Thank you for the opportunity to assist in the preparation of this RP. Please coordinate all aspects of the Agency Technical Review and the Independent External Peer Review Type II (as appropriate) efforts defined in the RP. For further information, please contact me at 304-399-5217.

Sincerely,



JOHN D. CLARKSON, P.E.
Senior Review Manager
Risk Management Center

CF:
CEIWR-RMC (Mr. Snorteland)
CESAD-RBT (Division Quality Manager)

Encl 1



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

REPLY TO
ATTENTION OF

CESAM-PM-CM


27 Aug 2014

MEMORANDUM FOR CDR, SOUTH ATLANTIC DIVISION, CESAD-PDS,
MR. WILBERT PAYNES

SUBJECT: Approval of Review Plan for Design and Implementation of the Northport Levee Repair Project along the Black Warrior River, Northport, Alabama.

1. A copy of the subject Review Plan is enclosed for review and approval.
2. The Review Plan describes the technical review process to address the Design and Implementation of the Northport Levee Repair Project in Northport, Alabama. This Review Plan is a living document and may change as the project progresses.
3. If you should have any questions regarding this request please contact the Project Manager David Newell, at 251-690-2328.

Encls


JON J. CHYTKA
COL, EN
Commanding

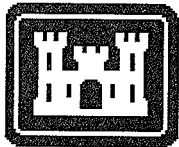
REVIEW PLAN

Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project Black Warrior River, Northport, Alabama

Mobile District

SEPTEMBER 29, 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.



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

REVIEW PLAN

Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project Black Warrior River, Northport, Alabama

TABLE OF CONTENTS

<u>ITEM</u>	<u>PAGE NUMBER</u>
1. PURPOSE.....	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 REVIEW	3
8. AGENCY TECHNICAL REVIEW.....	3
9. INDEPENDENT EXTERNAL PEER REVIEW	5
10. REVIEW MANAGEMENT ORGANIZATION.....	6
11. POLICY AND LEGAL COMPLIANCE	6
12. REVIEW SCHEDULE AND COSTS	7
13. PUBLIC PARTICIPATION	7
14. MAJOR SUBORDINATE COMMAND (MSC) APPROVAL	7

REVIEW PLAN

Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project Black Warrior River, Northport, Alabama

TABLE OF CONTENTS (CONTINUED)

LIST OF FIGURES

<u>FIGURE NO.</u>	<u>DESCRIPTION</u>	<u>PAGE NUMBER</u>
1	Vicinity Map	2

LIST OF ATTACHMENTS

ATTACHMENT 1	Team Roster
ATTACHMENT 2	Acronyms and Abbreviations

REVIEW PLAN

Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project Black Warrior River, Northport, Alabama

1. PURPOSE

The purpose of this Review Plan (RP) is to describe the technical review process for the Repair, Replacement, and Rehabilitation of the Section 205 Flood Control (Levee) Project at the Black Warrior River in Northport, Alabama. As for the Project Management Plan (PMP), the RP is a living document and may change as the project progresses. The P2# is 353461.

2. DESCRIPTION OF PROJECT

The Northport Levee Repair Project is located in Northport, Alabama, Tuscaloosa County along Two-mile creek which is a tributary to the Black Warrior River, (Figure 1). Northport is located on the Black Warrior River in west-central Alabama. The Black Warrior River is formed by the confluence of the Locust and Mulberry Forks approximately 20 miles west of Birmingham. This river is a major tributary of the Tombigbee River. Most of the basin lies upstream of Northport.

The proposed action is to relocate a damaged levee section westward approximately 35 feet from the centerline of the existing levee and further from Two-Mile Creek. This plan would require acquisition of private property. The parent tract to be impacted by the proposed easement acquisition is approximately 20 acres of industrial site that had been used as a wood treatment facility and lay down yard. Approximately 0.59 acres of land adjoining the levee's western boundary would be required for the proposed levee repair work. A standard temporary work area easement for a period not to exceed 1 year is expected for project construction and is not expected to exceed 0.45 acres. The staging area would be located on the parent tract in an open area adjoining the levee and access easement. If any additional material is required for construction of the levee it will come from the City-owned borrow site.



Figure 1 – Vicinity Map

3. DESCRIPTION OF WORK FOR REVIEW

This project is in the Preconstruction Engineering and Design Phase (PED). Products to be reviewed will include Plans and Specifications (P&S) and a Design Documentation Report (DDR). Required reviews will include District Quality Control (DQC), Agency Technical Review (ATR) and a Type II Independent External Peer Review (IEPR).

4. BACKGROUND

A reconnaissance phase study was undertaken in response to a letter dated 1 August 1991, from Mayor Wayne Rose requesting a study to address a flooding problem in the City of Northport, Alabama. The Detailed Project Report along the Black Warrior River at Northport, Alabama was conducted under Section 205 of the Flood Control Act of 1948, as amended. The study was completed in September 1995. A feasible flood control levee project was identified with a 1.6

benefit-to-cost ratio, which warranted Federal participation leading to project construction. The project was completed in August 1999.

During a periodic inspection under the National Levee Safety Program conducted on 13 July 2010, the team noticed cracking along the northern end of the levee in vicinity of the Warrior River Lumber Company. This led to an Engineering investigation and the development of a Design Deficiency Report which established the cause of the cracking and the proposed plan of action. The objective of this Project is to repair the levee failure as outlined in the August 2014 Design Deficiency Report. The District has completed an EA and FONSI for this effort.

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 Mobile District PDT are included in Attachment 1 of this document.

6. LEVELS OF REVIEW

This RP describes the levels of review and the anticipated review process for the various documents to be produced. This RP is a component of the PMP. The levels of review included in this RP are DQC, ATR and Type II IEPR. DrChecks review software will be used to document DQC and ATR comments, responses, and associated resolutions accomplished throughout the review process.

7. DISTRICT QUALITY CONTROL REVIEW

All documents to be produced will undergo DQC review. This 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 in accordance with ER 1110-1-12, Engineering & Design Quality Management, EC-1165-2-214 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 implementation documents to be reviewed are P&S and the DDR. The PDT is responsible to assure the overall integrity of the documents produced. The DQC review will be completed prior to submitting documents for ATR. The individual contact information and disciplines of the DQC review team are included in Attachment 1 of this document.

8. AGENCY TECHNICAL REVIEW

The P&S and DDR produced as part of this effort will undergo 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, that design plans and specifications and supporting analysis are clear, constructible, environmentally sustainable, operable and maintainable.

The ATR team will consist of the individuals that represent the significant disciplines involved in the accomplishment of the work. ATR Team members will be required to be certified in the Corps of Engineers Reviewer Certification and Access Program (CERCAP). ATR will be managed within the Corps and conducted by senior Corps personnel outside of the Mobile District that are not involved in the day-to-day production of the products. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. 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. A site visit will not be scheduled for the ATR Team. The disciplines of the ATR team are included in Attachment 1 of this document.

Disciplines Required for Review. At a minimum, the following disciplines should be represented on the ATR team:

Discipline	Required Expertise
ATR Lead	The ATR lead will be a senior professional with extensive experience in preparing Civil Works documents and conducting ATR. The lead will also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR Lead will be from outside the MSC.
Environmental Resources	Minimum of 5 years expertise, and this person must have recent experience in compliance with environmental laws (NEPA, Clean Water Act, Endangered Species Act, National Historic Preservation Act, etc), the related ER 200-2-2, and be able to review the cultural resources portion of the report.
Geotechnical Engineering	Professional Engineer (P.E.) with a minimum of 7 years expertise in geotechnical soils and construction to review levee embankment design and materials assessment.

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 Corps is warranted. There are variations in the scope and procedures for IEPR, depending on the phase and purposes of the project under review. For clarity, IEPR is divided into two types. A Type I IEPR is generally

for decision documents developed during the feasibility phase, and a Type II IEPR is generally conducted when needed during the design and implementation phase. Per the Design Deficiency Report Review Plan, A Type I IEPR was not conducted during the Design Deficiency Report phase of this project.

Due to the life safety concerns the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does recommend a Type II IEPR Safety Assurance Review for the implementation phase and construction phase of this project. This recommendation is consistent with that contained in the review plan for the Design Deficiency Report as approved by South Atlantic Division (SAD). Therefore, a Type II IEPR will be undertaken for implementation documents as well as prior to the final inspection during construction.

Required Type II IEPR Panel Expertise. The following provides a description of the proposed panel members and expertise. The proposed one member panel includes the necessary expertise to assess the engineering adequacy of the P&S and DDR.

Discipline	Required Expertise
Geotechnical Engineering	Minimum of 15 years expertise in geotechnical soils (including experience in the type of levee failures from Probable Failure Mode Analysis (PFMA) and be a licensed Professional Engineer (P.E.). Member shall have experience in the field of geotechnical engineering, analysis, design, and construction of earthen levees. Member engineer shall have experience in subsurface investigations, rock and soil mechanics, internal erosion (seepage and piping), slope stability evaluations, erosion protection design, and earthwork construction. The member shall have knowledge and experience in the forensic investigation of seepage, settlement, stability, and deformation problems associated with earthen levees constructed on rock and soil foundations.

Documentation of Type II IEPR. The Risk Management Center (RMC) will provide a vetted Architect-Engineer firm to manage and execute the Type II IEPR outside USACE in accordance with National Academy of Sciences independence procedures. Panel comments should address the adequacy and acceptability of the design and construction. The review team will prepare two reports, one for design and a final review report after construction is complete. The review team shall also:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

All comments in each report will be finalized by the panel prior to their release to USACE for each review plan milestone. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

10. REVIEW MANAGEMENT ORGANIZATION

The responsibilities of the Review Management Organization (RMO) are to, in cooperation of the vertical team and the division, determine the ATR team, to ensure that the ATR lead is outside the home Major Subordinate Command (MSC), to provide a vetted Architect-Engineer firm to manage and execute the Type II IEPR, to develop the charge to the reviewers, and to ensure that cohesive and comprehensive reviews are accomplished. The RMO for this project is the Risk Management Center (RMC). Mobile District will assist the RMC with management of the ATR and IEPR reviews and development of the ATR and IEPR "charges".

11. POLICY AND LEGAL COMPLIANCE

The Finding of No Significant Impact (FONSI) has been signed. USFWS Section 7 Concurrence has been obtained.

All contract documents and supporting environmental documents will be reviewed by the Mobile District Office of Counsel prior to final contract award.

12. REVIEW SCHEDULE AND COSTS

The costs for DQC review and ATR are estimated to be approximately \$10,000 and \$20,000 respectively. The estimated IEPR costs are \$50,000. The documents to be reviewed and scheduled dates for reviews are as follows:

Milestone	Review	Schedule Dates
100% Unreviewed P&S and DDR	DQC	Jan 2015
100% Unreviewed P&S and DDR	IEPR	February 2015
Final P&S and DDR	ATR	May 2015
Construction	IEPR	95% Construction Complete

13. PUBLIC PARTICIPATION

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

14. MAJOR SUBORDINATE COMMAND (MSC) APPROVAL

The MSC is responsible for approving the RP 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 documents. Like the PMP, the RP is a living document and may change as the project progresses. Changes in the RP should be approved by following the process used for initially approving the RP. In all cases the MSC will review decisions on the level of review and any changes made in updates to the project.

REFERENCES

EC 1165-2-214, Civil Works Review, 15 Dec 2012

ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006

ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999

ATTACHMENT 1 – TEAM ROSTER

PROJECT DELIVERY TEAM (PDT)

Discipline	Agency	Team Member Name
Cost Estimating	USACE-SAM	Rita Perkins
Geotechnical	USACE-SAM	Valerie Morrow
Environmental (NEPA)	USACE-SAM	Heather Bulger
Real Estate	USACE-SAM	Russell Blount
Levee Safety Program Mgr.	USACE-SAM	Valerie Morrow
Office of Counsel	USACE-SAM	Joe Givhan
Project Manager	USACE-SAM	David Newell

DQC INDEPENDENT REVIEWERS

Title	Agency	Name
Cost Estimating	USACE-SAM	Joe Ellsworth
Environmental (NEPA)	USACE-SAM	Brian Zettle
Geotechnical	USACE-SAM	Josh Blevins

ATR TEAM (Preconstruction Engineering and Design)

Discipline/Expertise	Name	District/Division
District POC for the RP	David Newell	USACE-SAM-PM
RMC IEPR Manager	Chris Hogan	CEIWR-RMC-ED
RMC ATR Coordinator	John Clarkson	CEIWR-RMC-WD
Agency Technical Review Team		
ATR Team Leader	Ben Caldwell	CEMVK-EC-DL
Environmental	TBD	
Geotechnical Engineering	TBD	

ATTACHMENT 2 - ACRONYMS AND ABBREVIATIONS

Term	Definition
ATR	Agency Technical Review
BCOE	Biddability, Constructability, Operability and Environmental Review
CORPS	U.S. Army Corps of Engineers
DQC	District Quality Control
DQC/QA	District Quality Control/Quality Assurance
EA	Environmental Assessment
EC	Engineer Circular
EIS	Environmental Impact Statement
ER	Engineer Regulation
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
ITR	Independent Technical Review
MSC	Major Subordinate Command
NEPA	National Environmental Policy Act
OMB	Office and Management and Budget
PDT	Project Delivery Team
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
RMO	Review Management Organization
RMC	Risk Management Center
RP	Review Plan
SAR	Safety Assurance Review
TR	Technical Review
WRDA	Water Resources Development Act