



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-DE

15 AUG 17

MEMORANDUM FOR Commander, Vicksburg District

SUBJECT: Approval of Implementation Review Plan for Yazoo City
(Sta. 1089+00) and Belzoni (Sta. 1039+50) Yazoo River Levee Setbacks,
Yazoo Basin Main Stem Project

1. References:

- a) Memorandum, CEMVK-DE, 14 July 2017, subject as above (encl 1).
- b) Memorandum, CEMVD-RB-T, 21 July 2017, subject as above (encl 2).
- c) Memorandum, CEIWR-RMC, 17 March 2017, subject as above (encl 3).
- d) EC 1165-2-214, 15 December 2012, subject: Civil Works Review Policy

2. The enclosed Vicksburg District Implementation Review Plan (RP) for Yazoo City and Belzoni levee setbacks in the Yazoo Basin Main stem has been prepared in accordance with EC 1165-2-214. The RP has been endorsed by the USACE Risk Management Center (encl 3) and coordinated with the Lower District Support Team and the Business Technical Division who concurred with the plan in reference 1.b.

3. MVD hereby approves this RP, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office. Non-substantive changes to this RP do not require additional approval from this office. The district should post the approved RP to its web site.

4. The MVD point of contact for this action is Mr. Jamie Triplett, CEMVD-PD-L, (601) 634-5075.

3 Encls


MICHAEL C. WEHR
Major General, USA
Commanding



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

CEMVK-DE

JUL 14 2017

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-PD-L/Triplett)

SUBJECT: Implementation Review Plan for Yazoo City (Sta. 1089+00) and Belzoni (Sta. 1039+50) Yazoo River Levee Setbacks, Yazoo Basin Main Stem Project.

1. Subject Implementation Review Plan is enclosed for your review and approval. The Risk Management Center has endorsed and provided an endorsement letter (encl) for this Review Plan.
2. An Independent External Peer Review will be required for this project and will be conducted by a qualified expert selected and approved by USACE.
3. Questions should be directed to Mr. Jonathan Pennington, Project Coordinator, (601) 631-5015.

2 Encl

A handwritten signature in black ink, appearing to read "Michael C. Derosier".

MICHAEL C. DEROSIER
COL, EN
Commanding

ENCL 1



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-RB-T

21 July 2017

MEMORANDUM FOR CEMVD-PD-L (Jamie Triplett)

SUBJECT: Implementation Review Plan for Yazoo City (Sta. 1089+00) and Belzoni (Sta. 1039+50) Yazoo River Levee Setbacks, Yazoo Basin Main Stem Project

1. Reference memorandum, CEMVK-DE, subject as above.
2. RB-T has reviewed the subject review plan and all of our comments have been satisfactorily addressed. This office concurs with the recommendation for approval.
3. RB-T POC is Scott Stewart, 601-634-5883.

for *MUSHA, P.E.*
MICHAEL A. TURNER
Chief, Business Technical
Division

ENC2 2



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

17 March 2017

MEMORANDUM FOR: Commander, Vicksburg District, ATTN: CEMVK-OD-MP

SUBJECT: Risk Management Center Endorsement – Yazoo City (Sta. 1089+00) and Belzoni (Sta. 1039+50) Yazoo River Levee Setbacks, Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for – Yazoo City (Sta. 1089+00) and Belzoni (Sta. 1039+50) Yazoo River Levee Setbacks, dated 9 March 2017, 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 Vicksburg District, and reviewed by the RMC, and all RMC review comments have been satisfactorily resolved. For this project a Type II IEPR will be performed.
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 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 (as appropriate) efforts defined in the RP. For further information, please contact me at 601-631-5896

Sincerely,

HERR.DUSTIN.CHA
RLES.1384614082

Dustin C. Herr, P.E.
Review Manager
Risk Management Center

CF:
CEIWR-RMC (Mr. Shorteland)
CEMVD-DQM (Division Quality Manager)

ENCL 3

**Review Plan
U.S. Army Corps of Engineers
Mississippi Valley Division
Vicksburg District**

**Belzoni (Sta. 1035+00) Yazoo River
Levee Setback**

MSC Approval Date: [August 15, 2017](#)

Last Revision Date: [March 14, 2018](#)



**US Army Corps
of Engineers®**

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1. Purpose and Requirements

a. Purpose

This Review Plan (RP) for the Belzoni Levee Setback will ensure a quality-engineering project is developed by the Corps of Engineers in accordance with EC 1165-2-214, "Civil Works Review Policy". The RP shall lay out a value added process that assures the correctness of the information shown. This RP describes the scope of review for addressing bank stabilization issues on completed projects. The District Chief of Engineering has assessed that the risk of the project is significant; therefore a Safety Assurance Review (SAR) will be required.

b. Guidance and Policy References

- EC 1165-2-214, Civil Works Review Policy, 15 December 2012
- ER 1110-1-12, Quality Management, 31 March 2011
- EM 1110-1-1905, Bearing Capacity of Soils, 30 October 1992
- EM 1110-2-1913, Design and Construction of Levees, 30 April 2000
- ER 1105-2-101, Risk Analysis for Flood Damage Reduction Studies, 3 January 2006
- ER 1110-1-12, Change 2, Quality Management, 31 March 2011
- ER 1110-2-1806, Earthquake Design and Evaluation for Civil Works Projects, 31 July 1995

c. Requirements

This RP was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC 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. The RP identifies the most important skill sets needed in the reviews and the objective of the review and the specific advice sought, thus setting the appropriate scale and scope of review for the individual project. This RP should be provided to Project Delivery Team (PDT), DQC, ATR and IEPR Teams.

d. Review Management Organization

The USACE Risk Management Center (RMC) is the Review Management Organization (RMO) for this project. Contents of this RP have been coordinated with the RMC and

the Mississippi Valley Division, the Major Subordinate Command (MSC). In-Progress Review (IPR) team meetings with the RMC and MVD will be scheduled on an “as-needed” basis to discuss programmatic, policy, and technical matters. The MVD Levee Safety Program Manager and MVD District Support Team member will be the points of contact for vertical technical and policy coordination. Vicksburg District (MVK) will assist the RMC with management of the ATR and IEPR reviews and development of the draft ATR and IEPR “charges”.

2. Project Description and Information

a. Project Description

The levee that will be set back is part of the Upper Yazoo Projects on the Yazoo River. It was constructed to reduce flood stages in the upper Yazoo Basin near Belzoni and Yazoo City, Mississippi. The work to be reviewed under this RP will consist of one site: The Belzoni Levee Setback (Levee Station Number 1035+00). The site has extensive and active bank caving that is endangering the existing levee. The Belzoni site work will set back the existing Yazoo River left descending bank levee approximately 200’ and will be approximately 1600’ long (see Figure 1).

To ensure that USACE can operate and maintain the Yazoo River Levee in perpetuity, the MVK Real Estate Office will acquire the necessary permanent easement for the levee setback.

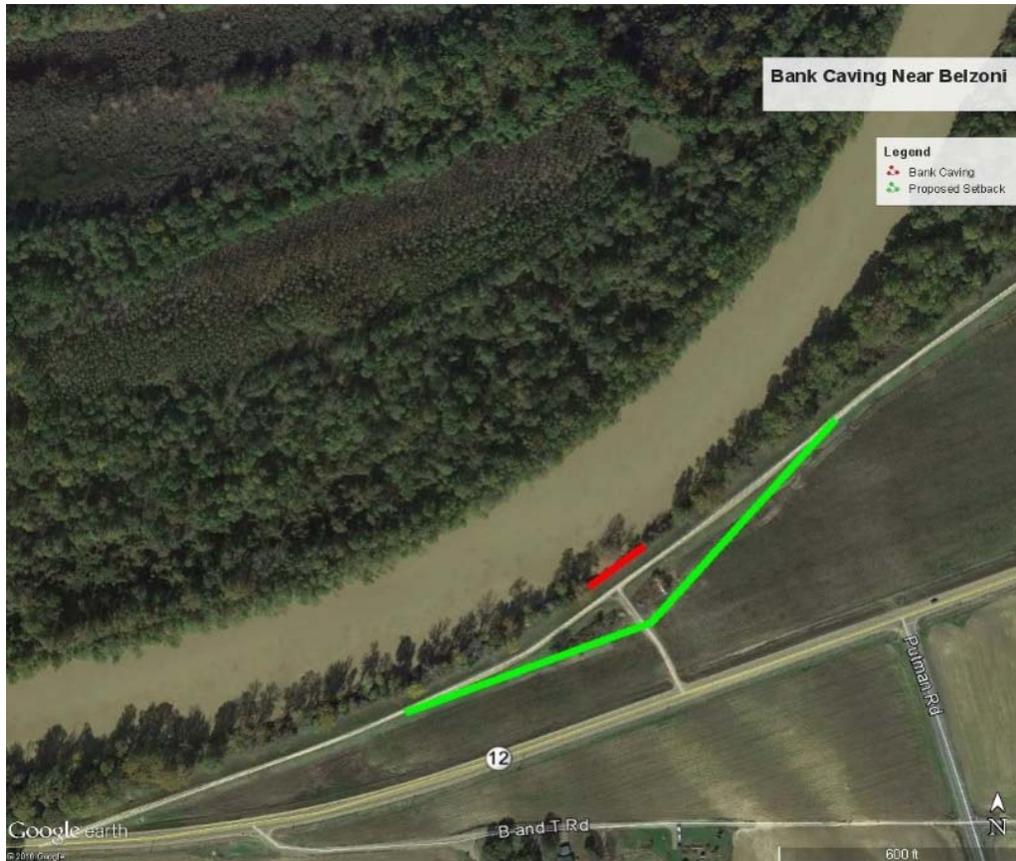


Figure 1: Belzoni Levee Setback

b. System Information and Risks

Yazoo River - Belzoni Bank Caving

The Tchula Lake Levee System protects approximately 186 square miles of land lying between the East Bank of the Yazoo River and high ground. This levee system starts at high ground just west of Cruger, Mississippi and runs along the east bank of the Yazoo River and ties into low ground at Tchula Lake at approximate Station 1611+10, then picks up on the other side of Tchula Lake at approximate Station 1627+05 and runs to high ground approximately 3.5 miles west of Bee Lake near the town of Thornton, Mississippi.

The population density within the leveed area is low, except east of Belzoni where there is a small population cluster living behind the levee. Accordingly, flooding from a breach prior to overtopping of this portion of the levee could begin inundating populated areas within hours. Structures located near the breach or overtopping location could be washed off their foundations due to high velocities,

but the velocities would decrease as the water begins to spread across the basin. There is no bathtub effect for this levee system, meaning floodwater is able to drain. The depths of flooding in the basin where the majority of the population is located would be about 7 feet, which is about the same height as a typical single-story residence in the area. Therefore, absent evacuation, there is a high potential for loss of life.

For an unexpected breach prior to overtopping, the warning time for evacuation would be shorter. There are evacuation plans in place, but they do not establish formal evacuation routes; therefore, the time for evacuation would be longer because residents may not be knowledgeable about routes that would lead to high ground. Approximately 27% of the population at risk would not be able to evacuate if a breach occurred prior to overtopping at night.

The population at risk for the Tchula Lake Levee protected area is 1,430 (day) and 1,870 (night). For a scenario of a breach prior to overtopping on the levee segment, the threatened populations are 443 (day) and 579 (night) and the loss of life estimates are 1.65 (day) and 2.25 (night). Data and analysis provided are from the Levee Senior Oversight Group approved levee Screening Level Risk Assessment.

c. Project Sponsor

There is no project sponsor for the MR&T, Yazoo River Levee. The levee is owned and operated by USACE at 100% federal cost. Operations and Maintenance work is performed through a contract administered by the Greenwood Area Office of the Vicksburg District.

3. District Quality Control

a. Requirements

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. The project plans, specifications, and design documentation will go through milestone reviews at the 65%, 90%, and 95% levels of completion. Between milestone reviews, the District will perform “over-the-shoulder” reviews and “red-dot” calculation checks in addition to the milestone reviews. ATR will be held concurrently with the 90% milestone review, and the Independent External Peer Review (IEPR) and the Biddability, Constructability, Operability, Environmental, and Sustainability Review (BCOES, a/k/a District Office Review (DOR)) will be held concurrently with the 95% review. All computations, drawings or sketches shall undergo a rigorous independent check as part of the standard Quality Control (QC) process. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same

people who performed the original work, including managing/reviewing the work in the case of contracted efforts. Quality checks include a review of the alternatives considered, schedules, budgets, means and methods of construction, and have lessons learned been considered. DQC is assuring the math and assumptions are correct by having a checker initial each sheet of the computations. Checking is accompanied by a red check mark or similar annotation next to the item that has been checked. For drawings the checker shall place a red check mark or similar annotation on each dimension/elevation, note or reference showing concurrence with the correctness of the information shown. Additionally, the PDT is responsible to ensure consistency and effective coordination across all project disciplines during project design and construction management. See Attachment 2 for PDT and DQC members and disciplines.

b. Documentation

All DQC reviews are managed by the District DQC Coordinator. All comments, responses, and back checks will be conducted in DrChecks and included with final design documentation.

4. Agency Technical Review

a. Requirements

ATR is mandatory for all implementation documents (including supporting data, analyses, environmental compliance documents, etc.). The ATR will be held concurrently with the 90% milestone review. It will consist of reviewing the plans, specifications, and design documentation report (DDR). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct, went through robust DQC, comply with published USACE guidance, and whether the document explains the analyses and results in a reasonably clear manner for the public and decision makers. The PDT should obtain ATR agreement on key data such as hydraulic and geotechnical parameters early in design process. The goal is to have early involvement of the ATR team, especially when key decisions are made. The ATR Lead should be invited to all PDT meetings, in order to understand the design efforts and to know when to engage other ATR members for concurrence on key decisions. Value-added lessons learned from the ATR team should be shared early on to have the best chance of being adopted by the PDT. This is consistent with the requirement that the ATR members shall not be involved in the day-to-day production of the project/product. A site visit will not be scheduled for the ATR Team.

b. Documentation of ATR

DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments will be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

c. Comment Resolution

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist. The ATR documentation in DrChecks includes the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the District, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

d. Products to Undergo ATR

Documents to undergo the ATR include the project plans, specifications, and DDR. In addition to the standard product information and design decision documentation, the DDR will include appendices for all calculations, the soils report, and documentation of completed DQC.

e. Required ATR Team Expertise and Requirements

ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team will be from outside the home MSC. The ATR team will be chosen based on each individual’s qualifications and experience

with similar projects. All ATR reviewers will be certified in CERCAP:
<https://maps.crrel.usace.army.mil/apex/f?p=105:53:14975649327116::NO>. See Attachment 2 for ATR members.

ATR Lead: The ATR Lead is a senior professional outside the home MSC with extensive experience in preparing Civil Works documents and conducting ATRs. The Lead has the necessary skills and experience to lead a virtual team through the ATR process. The ATR Lead may also serve as a reviewer for a specific discipline, in this case, Geotechnical Engineering, Construction Engineering, or Civil Engineering.

Geotechnical Engineer - Geotechnical Engineer reviewer shall be a registered professional geotechnical engineer with 10 years of demonstrated experience in the specific field of levee engineering in evaluating, designing, and constructing large levees embankments; and with a minimum MS degree or higher in engineering is preferred. Geotechnical reviewer experience shall be in soil compaction and earthwork construction; soil mechanics; seepage and piping; landslide and slope stability evaluations; bearing capacity and settlement; and foundation inspection and assessment. The Geotechnical reviewer shall also have knowledge of best practices regarding levee design and construction procedures and policies.

Civil Engineering - The team member should be a registered professional engineer and have 5 or more years of experience in civil engineering. Experience needs to include the engineering and design of flood risk management project features.

Construction Engineer – Reviewer should be a senior level, professionally registered engineer with extensive experience in the engineering construction field with particular emphasis on levee safety projects. The Construction reviewer should have a minimum of 10 years of experience.

f. Completion and Certification of the ATR

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- (1) Identify the document(s) reviewed and the purpose of the review;
- (2) Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- (3) Include the charge to the reviewers;
- (4) Describe the nature of their review and their findings and conclusions;
- (5) Identify and summarize each unresolved issue (if any); and

(6) 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.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a completion of ATR and Certification of ATR. It will certify that the issues raised by the ATR team have been resolved (or elevated to the vertical team). The completion and certification should be completed based on the work reviewed to date for the project. A Sample Completion of ATR and Certification of ATR is included as Attachment 1.

5. Independent External Peer Review (IEPR)/Safety Assurance Review (SAR)

a. Decision on Type II IEPR

A Type II IEPR, also referred to as a Safety Assurance Review (SAR), will be performed during the Implementation Phase on the design and construction activities associated with the plans, specifications, and DDR. A risk-informed decision was made as to whether IEPR is appropriate based on the factors to consider for conducting a Type II IEPR review that are outlined in EC 1165-2-214, Appendix E, Section 2 (a) thru (c).

A risk-informed decision was made that this project poses a significant threat to human life (public safety) since it involves levees that serve the purpose of reducing the risk to life and property. For a Type II IEPR the selection of the Type II IEPR review panel members will be made up of independent recognized experts from outside of USACE in the appropriate disciplines, representing a balance of expertise suitable for the review being conducted. The selection of IEPR review panel members will be selected using the National Academy of Science (NAS) Policy which sets the standard for "independence" in the review process. A site visit will be scheduled for the IEPR Team Member.

b. Scope of Safety Assurance Reviews

Type II IEPRs are managed outside USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. The Type II IEPR panel will conduct review of the design and construction activities prior to initiation of physical construction and once construction activities are completed. The review shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

c. Products to Undergo Type II IEPR

Documents to undergo the Type II IEPR include the project plans, specifications, and DDR. In addition to the standard product information and design decision documentation, the DDR will include appendices for all calculations, the soils report, and documentation of completed DQC and ATR.

d. Required Type II IEPR Panel Expertise

The following provides an estimate of the Type II IEPR panel member and the type of expertise that should be represented. The member shall be a recognized expert in his/her field and have specialized experience pertaining to the work being performed in this project. In addition the member should have an advanced degree and be professionally registered.

Geotechnical Engineer - Geotechnical Engineer reviewer shall be a registered professional geotechnical engineer from an Architect-Engineer or consulting firm, a public agency, or academia with 10 years of demonstrated experience in the specific field of levee engineering in evaluating, designing, and constructing large levees embankments; and with a minimum MS degree or higher in engineering is preferred. Geotechnical reviewer experience shall be in soil compaction and earthwork construction; soil mechanics; seepage and piping; landslide and slope stability evaluations; bearing capacity and settlement; and foundation inspection and assessment. The Geotechnical reviewer shall also have knowledge of best practices regarding levee design and construction procedures and policies.

e. Documentation of Type II IEPR

The Type II IEPR will be managed by an AE firm or government entity which meets the criteria set forth in EC 1165-2-214. DrChecks review software may be used to document the Type II IEPR comments and aid in the preparation of the Review Report but is not required.

Comments should address the adequacy and acceptability of the engineering methods, models, and analyses used. Type II IEPR comments should generally include the same four key parts as described for ATR comments in Section 4. An AE contractor or Government Entity will be responsible for compiling and entering comments into DrChecks.

No later than 60 days following the Design phase and Construction phase milestones, the Type II IEPR team member will prepare a Review Report that will accompany the publication of the final report for the project and shall:

- Disclose the names of the reviewer, organizational affiliation, and include a short paragraph on both the credentials and relevant experiences of the reviewer;
- Include the charge to the reviewer;
- Describe the nature of the review and their findings and conclusions; and
- Include a verbatim copy of the reviewer's comments (either with or without specific attributions).

These Review Reports, including reviewer comments and a recommendation letter will be provided to the RMC as soon as they become available. Written responses to the IEPR Review Report will be prepared by the Vicksburg District to explain the agreement or disagreement with the views expressed in the report, the actions undertaken or to be undertaken in response to the report, and the reasons those actions are believed to satisfy the key concerns stated in the report (if applicable). These comment responses will be provided to the RMC for concurrence and incorporated into the report. The revised report will be provided to the RMC with the USACE response and all other materials related to the review.

The Vicksburg District's responses shall be submitted to the MVD MSC for final Division Commander Approval. After the Division Commander's approval, the District will make the report and responses available to the public on the District's website located at the following: <http://www.mvk.usace.army.mil/Missions/Civil-Works/Peer-Review-Plans/>

6. Policy and Legal Compliance Review

All implementation documents will be reviewed throughout the project for their compliance with law and policy. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies.

7. Review Schedule and Costs

a. Schedule of Reviews

To the extent practicable, reviews should not extend the design schedule but should be embedded in the design process. Reviewers should be involved at key decision points and are encouraged to provide timely, over-the-shoulder comments. The review schedule is provided in the following table.

DQCR, PQCR, ATR, & BCOES REVIEW SCHEDULE		
ACTIVITY	ACTIVITY START DATE	ACTIVITY END DATE
65% Milestone Review	7/6/17	7/21/17
ATR Coordination Meeting	10/1/17	10/1/17
90% Milestone Review	10/16/17	10/30/17
Agency Technical Review	11/20/17	12/8/17
IEPR Coordination Meeting	1/2/18	1/5/17
95% Milestone Review	11/20/17	11/30/17
BCOES Review	1/22/18	2/9/18
Type II IEPR – Design Phase	3/1/18	3/30/18
Type II IEPR – 50% Construction Phase	3 rd Quarter FY 2018	
Type II IEPR – Final Construction Phase	4 th Quarter FY 2018	

b. ATR Schedule and Cost

The preliminary review schedule is listed in the provided in the table in Paragraph 7.a. The estimated cost for the ATR is approximately \$15,000.

c. IEPR Schedule and Costs

A Type II IEPR will be required for this project. Initial indications are that the estimated cost for the Type II IEPR will be approximately \$40,000-\$60,000. This estimate will be refined when the Scope of Work for the Type II IEPR contract is completed. The Type II IEPR contractor will be involved with the project through the construction phase and into the operations and maintenance phase. More specific milestone dates will be added in the future during the construction phase, but it can be assumed to occur near the mid-point of construction and near the end of construction.

8. Public Participation of Review Plan

As required by EC 1165-2-214, the approved RP will be posted on the District public website (<http://www.mvk.usace.army.mil/Missions/Civil-Works/Peer-Review-Plans>). The public will have 30 days to provide comments on the documents; after all comments have been submitted, the comments will be provided to the technical reviewers. This is not a formal comment period. If and when comments are received, the PDT will consider them and decide if revisions to the RP are necessary. This engagement will ensure that the peer review approach is responsive to the wide array of stakeholders and customers, both within and outside the federal government.

9. Review Plan Approval and Updates

The MSC for this is the Mississippi Valley Division. The MSC Commander is responsible for approving this RP. The Commander's approval reflects vertical team input (involving the Vicksburg District, MSC, and RMC) as to the appropriate scope and level of review for the study and endorsement by the RMC. The RP is a living document and may change as the study progresses; the District is responsible for keeping the RP up to date. Commander approval will be documented as a memorandum. Significant changes to the RP (such as changes to the scope and/or level of review) should be re-endorsed by the RMC and re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the RP, along with the Commanders' approval memorandum, will be posted on the District's webpage <http://www.mvk.usace.army.mil/Missions/Civil-Works/Peer-Review-Plans>. The latest RP should also be provided to the RMO and home MSC.

10. Engineering Model Certification and Approval

The use of certified or approved engineering models is required for all activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. The responsible use of well-known and proven USACE-developed and commercial engineering software will continue, and the professional practice of documenting the application of the software and modeling results will be followed. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required). The following engineering models are anticipated to be used:

MODEL	STATUS
Geo-Slope Geostudio 2012	Approved
Bentley MicroStation and Inroads Civil Design Software	Approved

11. Review Plan Points of Contact

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Jonathan Pennington/ Project Coordinator	CEMVK-OD- MP	Jonathan.D.Pennington@usace.army.mil 601-631-5015
Colby Bankston / Engineering Technical Lead	CEMVK-EC- GA	Colby.L.Bankston@usace.army.mil 601-631-5327



Jamie Triplett/ MVD DST	CEMVD-PD-L	Jamie.K.Triplett@usace.army.mil 601-634-5075
Melissa Mullen / MVD Levee Safety Program Manager	CEMVD-RB-T	Melissa.K.Mullen@usace.army.mil 901-544-0716
John Clarkson/ Senior Reviewer	CEIWR-RMC	john.d.clarkson@usace.army.mil 304-399-5217

ATTACHMENT 1: COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Belzoni Levee Setback. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name

ATR Lead

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

Date

SIGNATURE

Name

Architect Engineer Project Manager¹

Company, location

Date

SIGNATURE

Nathan Snorteland

Director

CEIWR-RMC

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution. As noted above, all concerns resulting from the ATR of the project have been fully resolved.

Henry Dulaney, P.E.

Chief, Engineering Division (Vicksburg District)

Office Symbol

Date

Lanny Barfield

Levee Safety Officer (Vicksburg District)

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

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ATTACHMENT 2: TEAM ROSTERS

PDT Members

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Jonathan Pennington / Project Coordinator	CEMVK-OD-MP	Jonathan.D.Pennington@usace.army.mil 601-631-5015
Jasmine Butler / Levee and Drainage	CEMVK-EC-DL	Jasmine.N.Butler@usace.army.mil 601-631-5424
Dan Moore / Environmental	CEMVN-PDN-UDP	Daniel.R.Moore@usace.army.mil 601-631-5008
Kimberly Cruz-Fernandez / Geotechnical	CEMVK-EC-GA	Kimberly.I.Cruz-Fernandez@usace.army.mil 601-631-5971
Steve Harmon / Survey	CEMVK-EC-TD-S	Steven.K.Harmon@usace.army.mil 601-631-7539
Chris Lee / Cost Engineering	CEMVK-EC-TC	Christopher.R.Lee@usace.army.mil 601-631-5968
Shannon Bussey / Real Estate	CEMVK-RE-M	Shannon.Bussey@usace.army.mil 601-631-5257
Ellis Screws / Contracting	CEMVK-CT-S	Ellis.Screws@usace.army.mil 601-631-7527

DQC Reviewers

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Abe Kidder, Civil Engineer	CEMVK-EC-CQ	Abe.Kidder@usace.army.mil 601-631-5096
Heather Clark, Civil Engineer	CEMVK-EC-GI	Heather.Clark@usace.army.mil 601-631-5626



Tim Savidge, Counsel	CEMVK-OC	Timothy.D.Savidge@usace.army.mil 601-631-5075
Ray Wilson, Chief, Hydraulics and Hydrology Section	CEMVK-EC- HH	Ray.O.Wilson@usace.army.mil 601-631-5738
Ricky Pearce, Chief, Cost and Estimating Section	CEMVK-EC-T	Richard.A.Pearce@usace.army.mil 601-631-7139
Colby Bankston / Engineering Technical Lead	CEMVK-EC- GA	Colby.L.Bankston@usace.army.mil 601-631-5327
Paula McNemar, QC Manager	CEMVK-EC-D	Paula.K.McNemar@usace.army.mil 601-631-5330

Agency Technical Review (ATR) Team

DISCIPLINE	NAME	DESCRIPTION OF CREDENTIALS
ATR Lead		The ATR Lead is a senior professional outside the home MSC with extensive experience in preparing Civil Works documents and conducting ATRs. The Lead has the necessary skills and experience to lead a virtual team through the ATR process.
Geotechnical Engineering		Geotechnical Engineer reviewer shall be a registered professional geotechnical engineer with 10 years of demonstrated experience in the specific field of levee engineering in evaluating, designing, and constructing large levees embankments; and with a minimum MS degree or higher in engineering is preferred. Geotechnical reviewer experience shall be in soil compaction and earthwork construction; soil mechanics; seepage and piping; landslide and slope stability evaluations; bearing capacity and settlement; and foundation inspection and assessment. The Geotechnical reviewer shall also have knowledge of best practices regarding



		levee design and construction procedures and policies.
Civil Engineering		The team member should be a registered professional engineer and have 5 or more years of experience in civil engineering. Experience needs to include the engineering and design of flood risk management project features.
Construction Engineering		Reviewer should be a senior level, professionally registered engineer with extensive experience in the engineering construction field with particular emphasis on levee safety projects. The Construction reviewer should have a minimum of 10 years of experience.



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Type II Independent External Peer Review (IEPR) Panel

DISCIPLINE	NAME	DESCRIPTION OF CREDENTIALS
IEPR Lead/Geotechnical Engineering	TBD	TBD

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
3/14/2018	Removed references to the Yazoo Levee Setback	p.3 para 2B

The review plan initially covered two levee setbacks on the Yazoo Levee system; these were the Belzoni levee setback and Yazoo levee setback. The review plan was revised to only include the Belzoni levee setback; all references and project description information relating to the Yazoo levee setback was removed. Belzoni levee setback will be awarded as a stand-alone contract.