



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

REPLY TO
ATTENTION OF:

CEMVD-PD-KM

30 NOV 12

MEMORANDUM FOR Commander, Memphis District

SUBJECT: Review Plan (RP) for Ensley Levee Berm, TN, PL-84-99
Project (P2# 393608)

1. Reference:

a. EC 1165-2-209, Civil Works Review Policy, 31 January 2012.

b. Memorandum, CEMVM, 3 October 2012, subject as above (encl 1).

c. Memorandum, CEMVD-RB-T, 5 November 2012, subject as above (encl 2).

2. The subject review plan is approved. The review plan has been coordinated with the Review Management Organization, which concurs (encl 2). The review plan is in accordance with EC 1165-2-209 and complies with all requirements for the implementation phase of the project. Non-substantive changes to the review plan will require no further review and/or approval. Post the approved review plan to your web page.

3. The MVD points of contact are Mr. Robert Fitzgerald, (601) 634-5922, for technical matters, and Mr. Mike Warren, (601) 634-5070, for non-technical matters.

2 Encls

EDWARD E. BELK, JR., SES
Director of Programs

CEMVM

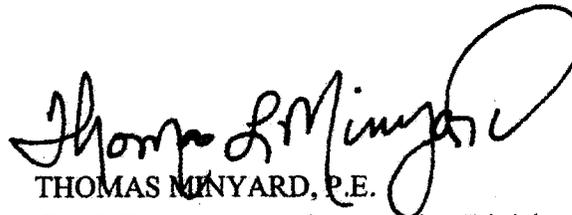
3 October 2012

MEMORANDUM FOR: Commander, Mississippi Valley Division (ATTN: CEMVD-RB-T,
Mr. Robert Fitzgerald)

SUBJECT: Review Plan for Ensley Levee Berm, TN PL-84-99 Project (P2# 393608)

1. The review plan for the Ensley Levee Berm, PL-84-99, located in Memphis, TN is attached for Mississippi Valley Division's review and approval. The Review Plan was prepared in accordance with EC 1165-2- 209.
2. The Ensley Levee Berm, TN PL-84-99 Project is currently in the implementation phase. As required by EC 11 65-2-209, request review and approval of the Review Plan.
3. The point of contact for this memorandum is the project manager, Mr. Jason Allmon, at (901) 544-0766.

Encl


THOMAS MINYARD, P.E.
Chief, Engineering & Construction Division



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

Review Plan

Ensley Levee Berm, TN
PL-84-99 Project

26 September 2012

P2# 393608

REVIEW PLAN

Ensley Levee Berm, TN

PL-84-99 Project

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REVIEW PLAN FOR THE ENSLEY LEVEE BERM PLANS AND SPECIFICATIONS

1. Purpose and Requirements. This review plan defines the scope and level of peer review for the Ensley Levee Berm, TN, Plans and Specifications. This project is being carried out under the PL 84-99 program, in response to damages incurred by the Ensley Levee as a result of a flood event.

a. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (3) Project Information Report, PL 84-99 Rehabilitation of Damaged Flood Control Works, Memphis and Shelby County Port Commission, Ensley Levee Berm, Memphis, Tennessee, 14 December 2011.
- (4) Memphis District Quality Management Plan, 19 Jun 2012
- (5) Ensley Levee Berm Project Management Plan, PL84-99, Rehabilitation of Damaged Flood Control Works, Project No.: 393608, Approved 3 May 2012
- (6) Ensley Levee and Berm Seepage Analysis, 2012.

b. Requirements. This review plan was developed in accordance with EC 1165-2-209, 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.

2. Review Management Organization (RMO) and Coordination

The Mississippi Valley Division has proposed that the level of ATR review and the determination of the appropriate RMO for PL 84-99 projects be based on the classification of the project based on the complexity and life safety and/or economic consequences. Preliminary discussions with the RMC indicate that all PL 84.99 projects must undergo DQC and ATR and that the leveled approach discussed below is considered to meet the intent of EC 209. However, based on the method of project delivery, MVM has determined that no ATR is necessary, since this project will be build by our own hired labor forces, and there being a registered engineer on site to direct the construction of the berm fix.

3. Project Description. Ensley Levee and berm are part of the Mississippi River Mainline Levee located in southwest Memphis in Shelby County, Tennessee, at River Mile 722 left descending bank of the Mississippi River. The Ensley levee protects approximately 5,000 acres, 4000 of which are industrial development lands. The levee extends from high ground to high ground and is a complete integrated system.

The berm sustained significant damages due to the seepage during the period of 28 April to 24 May 2011. Head differential caused by river flood elevations forced seepage to travel through

levee and berm foundation sands and carried foundation sands and silts through a ruptured or thin clay and/or silt blanket landside of the berm. The seepage created sand boils in multiple locations along the berm. Without repair, the levee/berm is in danger of failing.

The maximum repair consist of excavating the berm toe for a width of 50-ft and a depth of 3-ft over the 3.5-mile area that experienced significant seepage and material loss. The intent of the initial exploration is to expose these voids. Once a void has been located, it will be excavated and repaired to its full extent. The berm will then be reconstructed using the excavated berm material plus any additional material required to replace material lost during the 2011 event.

In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. No in-kind products are anticipated.

4. Execution of District Quality Assurance.

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

Documents Requiring DQC: The documents to be reviewed are the preliminary drawings indicating the project location and proposed work to be performed. The relevant USGS 1:24,000 quadrangle map with the work area highlighted was provided.

DQC Schedule: DQC was performed prior to the initiation of ATR – The review began 17 August 2012.

Required DQC Expertise. The quality assurance / technical reviewers were chosen from a pool of reviewers submitted by appropriate technical elements. DQC team members were not directly involved in the production of the plans and specifications. The team was comprised of the selected disciplines that have experience in the type of analysis in which they are responsible for reviewing. The DQC team is identified in Attachment 1.

5. Agency Technical Review (ATR)

ATR is typically mandatory for all technical products; however, the Ensley Levee Berm project is considered an “other” work product and has been evaluated according to Attachment 5. The Ensley Levee Berm project has been exempted because work will be constructed by the Memphis District in-house Hired Labor crew, and a professional engineer will be onsite to direct repair activities. There is not a life safety issue, as this project is to repair the berm, not the actual levee.

Table 1. Project Schedule

Milestone Code	Milestone	Date
CW330	P&S Approval	14 DEC 2012
CW400	RTA (Ready to Advertise)	31 DEC 2012
CC800	Contract Award	30 APR 2013
CC820	Construction Completion	14 DEC 2013

6. Independent External Peer Review (IEPR)

IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the 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. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

Decision on IEPR. MVM has determined that the Ensley Levee Berm project does not require a Type II IEPR for the following reasons:

- It is not justified by life safety nor would failure of the project would pose a significant threat to human life;
- It does not involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for

- interpretations; does not contain precedent-setting methods or models; and does not present conclusions that are likely to change prevailing practices;
- It does not require redundancy, resiliency, and/or robustness; and
 - It does not involve unique construction sequencing or a reduced or overlapping design construction schedule.

7. Policy and Legal Compliance Review

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods.

8. Review Plan Approval and Changes.

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input to the appropriate scope and level of review for the P&S documents. Like the PMP, the Review Plan is a living document and may change as the work progresses. MVM will keep the Review Plan up to date. Significant changes to this Review Plan (such as changes to the scope and/or level of review) will be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the MVM public webpage. Changes to this plan will be annotated Attachment 3.

9. Review Plan Points of Contact.

The MVM technical point of contact for this plan is the Project Manager, Mr. Jason Allmon, phone 901-544-0766.

The Review Management Organization (RMO) point of contact is the District Support Team, Ms. Yolanda Arthur, phone 601-634-5798.

The agency or USACE organization performing the review shall appoint one individual as team lead for the ATR to serve as a single point of contact and liaison between their organization, MVD and MVM.

ATTACHMENT 1: TEAM ROSTERS

Product Delivery Team

Name	Role	Phone Number	E-mail
Jason Allmon, P.E.	Project Manager	901-544-0766	Jason.E.Allmon@us.army.mil
William Grantham	Civil Designer	901-544-0210	William.B.Grantham@us.army.mil
Shane Callahan, P.E.	Civil Engineer	901-544-3665	Donald.S.Callahan@mvm02.usace.army.mil
Melissa Mullen, P.E.	Geotechnical Engineer	901-544-0716	Melissa.Mullen@us.army.mil
Richard.Hurst	Cost Engineering	901-544-0886	Richard.Hurst@us.army.mil
Elizabeth Burks	Hydrology	901-544-0761	Elizabeth.M.Burks@usace.army.mil
Dr. Robert Dunn	Cultural Resources	901-544-0706	Robert.A.Dunn@us.army.mil
Douglas Young	Real Estate	901-544-3154	Douglas.B.Young@mvm02.usace.army.mil
Allen Scott Black	Office of Counsel	901-544-3662	Allen.S.Black1@us.army.mil

DQC Team

Name	Role	Phone Number	E-mail
Jason Allmon, P.E.	Project Manager	901-544-0766	Jason.E.Allmon@us.army.mil
Carter Bagley	Civil Designer	901-544-0661	Carter.Bagley@us.army.mil
Conrad Stacks	Relocations	901-544-0657	Conrad.R.Stacks@us.army.mil
April Branch	Construction Branch	901-544-3967	April.J.Branch@us.army.mil
Kevin Keller	Cost Engineering	901-544-0678	Kevin.L.Keller@us.army.mil
Carl Seckt	Hydrology	901-544-0675	Carl.E.Seckt@us.army.mil
Alan Bennett	Environmental Branch	901-544-4313	Alan.W.Bennett@usace.army.mil
Lee Fletcher	Area Office	901-544-3851	Robert.L.Fletcher2@us.army.mil
Gene McAvoy	Area Office	901-544-3856	Richard.E.McAvoy@us.army.mil

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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, 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 Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

Date

SIGNATURE

Name

Architect Engineer Project Manager¹

Company, location

Date

SIGNATURE

Name

Review Management Office Representative

Office Symbol

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.

SIGNATURE

Name

Chief, Engineering Division

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: STATEMENT OF RATIONALE FOR DECISION TO NOT HAVE IEPR

STATEMENT OF RATIONALE FOR DECISION TO NOT HAVE A TYPE II IEPR (SAR)

The project is in the implementation phase and therefore does not require a Type I IEPR. This attachment documents the vertical team’s risk informed recommendation to not conduct Type II IEPR. According to EC 1165-2-209, the vertical team must make a risk-informed decision whether or not to conduct Type II IEPR, make a risk-informed decision to conduct Type II IEPR or make a risk informed recommendation to the Chief of Engineers or Director of Civil Works to not conduct Type II IEPR.

The following table, based on the US Army Field Manual 5-19, Composite Risk Management, was used to assess each risk in the IEPR tables.

TABLE 1: RISK ASSESSMENT MATRIX

		Risk Probability				
		Frequent	Likely	Seldom	Unlikely	
Severity	Catastrophic	E	E	H	M	
	Critical	E	H	M	L	
	Marginal	H	M	M	L	
	Negligible	M	L	L	L	
E (Extremely High)		Loss of ability to accomplish project				Red
H (High)		Significantly degrades capabilities to accomplish project				Blue
M (Moderate)		Degrades project accomplishment capabilities				Yellow
L (Low)		Little or no impact on project accomplishment				Green

The following table details the risks, frequency, severity, risk assessment, and how the risk contributes to the IEPR decision

TABLE 2: TYPE II IEPR RISK ASSESSMENT (FOR IMPLEMENTATION DOCUMENTS)

Risk	Probability	Severity	Assessment	Contributes to IEPR Decision?	Notes
Project poses a significant threat to human life	Unlikely	Critical	Low	No	The completed project will have a negligible effect on the threat to human life.
Project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent setting methods or models, or presents conclusions that are likely to change prevailing practices	Unlikely	Critical	Low	No	
The project design requires redundancy, resiliency, and robustness	Unlikely	Marginal	Low	No	Flood fight operations during an emergency event will mitigate risk due to redundancy, resiliency, and robustness.
The project has unique construction sequencing or a reduced or overlapping design construction schedule	Unlikely	Critical	Low	No	

Risk of a faulty or incomplete design making it to construction	Seldom	Critical	Moderate	No	DQC and ATR by personnel with experience on similar projects will mitigate the risk of a faulty or incomplete design
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Background Information about Project: Ensley Levee and berm are part of the Mississippi River Mainline Levee located in southwest Memphis in Shelby County, Tennessee, at River Mile 722 left descending bank of the Mississippi River. The Ensley levee protects approximately 5,000 acres, 4000 of which are industrial development lands. The levee extends from high ground to high ground and is a complete integrated system. The berm sustained significant damages due to the seepage during the period of 28 April to 24 May 2011. Head differential caused by river flood elevations forced seepage to travel through levee and berm foundation sands and carried foundation sands and silts through a ruptured or thin clay and/or silt blanket landside of the berm. The seepage created sand boils in multiple locations along the berm. Without repair, the levee/berm are in danger of failing. The work involves reconstruction of the damaged berm to pre-2011 high water event. The levee system is a Non-Federally owned, operated and maintained system with repairs eligible under Public Law 84-99. The Sponsor's letter of request for Rehabilitation Assistance is located in the Project Information Report in Appendix 13. The repairs consist of excavating the berm toe for a width of 50-ft and a depth of 3-ft over the 3.5-mile area that experienced significant seepage and material loss. The intent of the initial exploration is to expose these voids. Once a void has been located, it will be excavated and repaired to its full extent. The berm will then be reconstructed using the excavated berm material plus any additional material required to replace material lost during the 2011 event. Construction of the levee was completed around 1960. The berm was constructed around 1990. Since the berm has been constructed the Ensley Levee has not been impacted due to high water events.

Project Requirements Statement: Runoff from snowmelt combined with rainfall ten times greater than average spread out over a 200,000 square-mile area within the Mississippi River's watershed producing the Epic Flood of 2011. Ensley levee berm sustained significant damage from seepage under the levee/berm during the period from 28 April to 24 May 2011. Emergency flood fight techniques were required to decrease sediment flows and ensure the levee/berm stability. Based on discharge, preliminary data states that the flood of 2011 at the Memphis Gage exceeded the 1% annual chance exceedance flood. Due to the flood event the clay and/or silt blankets immediately located landside of the levee seepage berm exhibited uncontrolled seepage at a number of locations, some as close as the existing seepage berm toe. Sand boils ranging from 1 foot to over 10 feet in diameter developed and moved large quantities of foundation sand. Loss of foundation materials has further compromised the integrity of the levee foundation by developing seepage conduits beneath the levee/berm. Future high water events could potentially

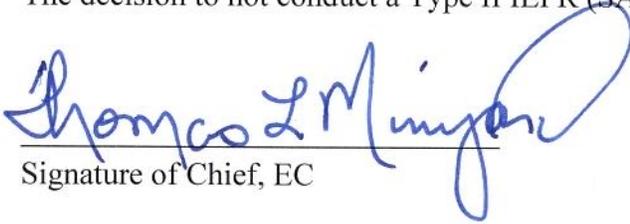
start transporting foundation sands from beneath the levee/berm at lower river flood elevations. The purpose of the project is to restore Ensley Levee Berm to its pre-flood condition. Based on the approved schedule, the project design is to be complete with plans and specifications by 14 December 2012, ready to advertise by 31 December 2012. This will enable contract award by 30 April 2013 and construction completion by 28 February 2014.

Discussion on analyses and failure modes considered: Refer to the Ensley Levee and Berm Seepage Analysis, 2012. Sand boil activity is possible at the berm toe with an estimated factor of safety of 1, but it is expected that the size and energy of the sand boils would be such that failure of the berm and levee would not be likely. The factor of safety is the ratio of forces tending to resist failure versus forces tending to cause failure. A factor of safety of less than 1 for seepage indicates that sand boils are likely to form and degradation of the levee or berm foundation could begin. As the factor of safety at the berm toe decreases below 1, the size, number, and energy of the sand boils will increase, speeding the deterioration of the seepage berm and increasing the level of risk to the levee itself. A factor of safety of less than 1 at the berm toe does not necessarily mean that levee failure is imminent; rather, it indicates a condition that could lead to levee failure if the levee is loaded for an extended period. Should this condition occur the Memphis District will use the authority provided by Public Law 84.99 to perform emergency repairs to the extent possible in an effort to offset damage to the seepage berm and prevent an immediate threat to levee integrity.

RECOMMENDATION REGARDING TYPE II IEPR (SAR)

Based on the above assessment, it is the risk-informed recommendation of the Project Delivery Team and the Chief of E&C or Engineering that Type II IEPR (SAR) is NOT required for this project.

The decision to not conduct a Type II IEPR (SAR) is recommended by:


Signature of Chief, EC

3 October 2012
Date

The above recommendation is Approved Disapproved by

Signature of RMO

Date

ATTACHMENT 5: "OTHER WORK PRODUCTS CHECKLIST (ref. EC 209 Para 15b)

NOTE: ALL decision and implementation documents are required to undergo ATR regardless of the organization. The checklist below will aid the PDT in identifying if ATR is needed for "other" documents.

Questions	Yes/No
(1) Does product include any design (structural, mechanical, hydraulic, etc)?	Yes
(2) Does product evaluate alternatives?	Yes
(3) Does product include a recommendation?	Yes
(4) Does product have a formal cost estimate?	Yes
(5) Does product have or will it require a NEPA document?	Yes
(6) Does product impact a structure or feature of a structure whose performance involves potential life safety risks?	Minimally
(7) What are the consequences of non-performance?	Yes
(8) Does product support a significant investment of public monies?	Minimally
(9) Does product support a budget request?	Yes
(10) Does product change the operation of the project?	No
(11) Does product involve ground disturbances?	Yes
(12) Does product affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?	No
(13) Does product involve activities that trigger regulatory permitting such as Section 40 or stormwater/NPDES related actions?	Yes
(14) Does product involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?	No
(15) Does product reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?	No
(16) Does product reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?	No
(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?	No

Review Plan Checklist for Implementation Documents

Date: 26 September 2012
Originating District: MVM
Project/Study Title: Ensley Levee Berm, TN
Project #: 393608
District POC: Jason Allmon, CEMVM-PM-P

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate RMO. For DQC, the District is the RMO; for ATR of Dam and Levee Safety Studies, the Risk Management Center is the RMO; and for non-Dam and Levee Safety projects and other work products, MVD is the RMO; for Type II IEPR, the Risk Management Center is the RMO. Any evaluation boxes checked 'No' indicate the RP possibly may not comply with EC 1165-2-209 and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a standalone document?	EC 1165-2-209, Appendix B, Para 4a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Does it include a table of contents?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
c. Is the purpose of the RP clearly stated and EC 1165-2-209 referenced?	EC 1165-2-209 Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

REQUIREMENT	REFERENCE	EVALUATION
<p>d. Does it reference the Project Management Plan (PMP) of which the RP is a component including P2 Project #?</p> <p>e. Does it include a paragraph stating the title, subject, and purpose of the work product to be reviewed?</p> <p>f. Does it list the names and disciplines in the home district, MSC and RMO to whom inquiries about the plan may be directed?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1165-2-209 Para 7a (2)</p> <p>EC 1165-2-209 Appendix B, Para 4a</p> <p>EC 1165-2-209, Appendix B, Para 4a</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>2. Documentation of risk-informed decisions on which levels of review are appropriate.</p> <p>a. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)?</p> <p>b. Does it contain a summary of the CW implementation products required?</p> <p>c. DQC is always required. The RP will need to address the following questions:</p> <p>i. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?</p>	<p>EC 1165-2-209, Appendix B, Para 4b</p> <p>EC 1165-2-209 Para 7a</p> <p>EC1165-2-209 Para 15</p> <p>EC1165-2-209 Para 15a</p> <p>EC1165-2-209 Para 8a</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

REQUIREMENT	REFERENCE	EVALUATION
ii. Does it list the DQC activities (for example, 30, 60, 90, BCOE reviews, etc)	EC 1165-2-209 Appendix B (1)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iii. Does it list the review teams who will perform the DQC activities?	EC 1165-2-209 Appendix B, Para 4g	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iv. Does it provide tasks and related resource funding and schedule showing when the DQC activities will be performed?	EC 1165-2-209 Appendix B, Para 4c	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
d. Does it assume an ATR is required and if an ATR is not required does it provide a risk based decision of why it is not required? If an ATR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
i. Does it identify the ATR District, MSC, and RMO points of contact?	EC 1165-2-209 Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
ii. Does it identify the ATR lead from outside the home MSC?	EC 1165-2-209 Para 9c	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iii. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*	EC 1165-2-209 Appendix B, Para 4g	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>		

REQUIREMENT	REFERENCE	EVALUATION
iv. Does it provide tasks and related resource, funding and schedule showing when the ATR activities will be performed?	EC 1165-2-209 Appendix C, Para 3e	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
v. Does the RP address the requirement to document ATR comments using Dr Checks?	EC 1165-2-209 Para 7d (1)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
e. Does it assume a Type II IEPR is required and if a Type II IEPR is not required does it provide a risk based decision of why it is not required including RMC/ MSC concurrence? If a Type II IEPR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
i. Does it provide a defensible rationale for the decision on Type II IEPR?	EC 1165-2-209 Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
ii. Does it identify the Type II IEPR District, MSC, and RMO points of contact?	EC 1165-2-209 Appendix B, Para 4a	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
iii. Does it state that for a Type II IEPR, it will be contracted with an A/E contractor or arranged with another government agency to manage external to the Corps of Engineers?	EC 1165-2-209 Appendix B, Para 4k (4)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
iv. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be made up of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of expertise suitable for the review being conducted?	EC 1165-2-209 Appendix B, Para 4k(1) and Appendix E, Para's 1a & 7	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

REQUIREMENT	REFERENCE	EVALUATION
v. Does it state for a Type II IEPR, that 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?	EC 1165-2-209 Para 6b (4) and Para 10b	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
vi. If the Type II IEPR panel is established by USACE, has local (i.e. District) counsel reviewed the Type II IEPR execution for FACA requirements?	EC1165-2-209 Appendix E, Para 7c(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
vii. Does it provide tasks and related resource, funding and schedule showing when the Type II IEPR activities will be performed?	EC1165-2-209 Appendix E, Para 5a	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
viii. Does the project address hurricane and storm risk management or flood risk management or any other aspects where Federal action is justified by life safety or significant threat to human life? Is it likely? If yes, Type II IEPR must be addressed.	EC1165-2-209 Appendix E, Para 2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

REQUIREMENT	REFERENCE	EVALUATION
<p>ix. Does the RP address Type II IEPR factors? Factors to be considered include:</p> <ul style="list-style-type: none"> • Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent setting methods or models, or presents conclusions that are likely to change prevailing practices? • Does the project design require redundancy, resiliency and robustness • Does the project have unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems. <p>f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required?</p>	<p>EC 1165-2-209 Para 14</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p>
<p>3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)?</p> <p>a. Does it provide an overall review schedule that shows timing and sequence of all reviews?</p> <p>b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction?</p>	<p>EC 1165-2-209, Appendix B, Para 4c</p> <p>EC 1165-2-209, Appendix C, Para 3g</p> <p>EC 1165-2-209, Appendix E, Para 6c</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

REQUIREMENT	REFERENCE	EVALUATION
<p>4. Does the RP address engineering model certification requirements?</p> <p>a. Does it list the models and data anticipated to be used in developing recommendations?</p> <p>b. Does it indicate the certification /approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	<p>EC 1165-2-209, Appendix B, Para 4i</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>5. Does the RP explain how and when there will be opportunities for the public to comment on the study or project to be reviewed?</p> <p>a. Does it discuss posting the RP on the District website?</p> <p>b. Does it indicate the web address, and schedule and duration of the posting?</p>	<p>EC 1165-2-209, Appendix B, Para 4d</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A</p> <p>This information was not found on any other approved review plans nor was it indicated as needed by the decision document review plan template.</p>

REQUIREMENT	REFERENCE	EVALUATION
<p>6. Does the RP explain when significant and relevant public comments will be provided to the reviewers before they conduct their review?</p> <p>a. Does it discuss the schedule of receiving public comments?</p> <p>b. Does it discuss the schedule of when significant comments will be provided to the reviewers?</p>	<p>EC 1165-2-209, Appendix B, Para 4e</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?*</p> <p>a. If the public is asked to nominate professional reviewers then does the RP provide a description of the requirements and answer who, what, when, where, and how questions?</p> <p><i>* Typically the public will not be asked to nominate potential reviewer</i></p>	<p>EC 1165-2-209, Appendix B, Para 4h</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>8. Does the RP address expected in-kind contributions to be provided by the sponsor?</p> <p>a. If expected in-kind contributions are to be provided by the sponsor, does the RP list the expected in-kind contributions to be provided by the sponsor?</p>	<p>EC 1165-2-209, Appendix B, Para 4j</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>

REQUIREMENT	REFERENCE	EVALUATION
<p>9. Does the RP explain how the reviews will be documented?</p> <p>a. Does the RP address the requirement to document ATR comments using Dr Checks and Type II IEPR published comments and responses pertaining to the design and construction activities summarized in a report reviewed and approved by the MSC and posted on the home district website?</p> <p>b. Does the RP explain how the Type II IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the Type II IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district/PCX/MS and CECW-CP will disseminate the final Type II IEPR Review Report, USACE response, and all other materials related to the Type II IEPR on the internet?</p>	<p>EC 1165-2-209, Para 7d</p> <p>EC 1165-2-209 Appendix B , Para 4k (14)</p> <p>EC 1165-2-209 Appendix B, Para 4k (14)</p> <p>EC 1165-2-209 Appendix B, Para 5</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>10. Has the approval memorandum been prepared and does it accompany the RP?</p>	<p>EC 1165-2-209, Appendix B, Para 7</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

ATTACHMENT7: CERTIFICATE OF LEGAL REVIEW

CERTIFICATE OF LEGAL REVIEW

All implementation documents have been reviewed for their compliance with law and policy. This Review Plan and all associated documents have been fully reviewed by the Office of Counsel, Memphis District and is approved as legally sufficient.



A handwritten signature in black ink, appearing to read 'David Sirmans', written over a horizontal line.

David Sirmans, District Counsel



A handwritten date '10 Oct 12' written in black ink over a horizontal line.

Date