



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

REPLY TO
ATTENTION OF:

23 MAY 2018

CEMVD-DE

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Resubmittal of Implementation Review Plan for Orleans East Bank (OEB) 19:
Demolition of Interim Closure Structures (ICS), P2 #117515

1. References:

- a. Memorandum, CEMVN-ED-T, 24 April 2018, subject as above (encl 1).
- b. Memorandum, CEMVD-RB-T, 7 May 2018, subject Resubmittal of Implementation Review Plan for Orleans East Bank (OEB) 19: Demolition of Interim Closure Structures (ICS), (encl 2).
- c. EC 1165-2-217, Review Policy for Civil Works, 20 February 2018.

2. The enclosed RP is an implementation document review plan for the demolition and removal of three ICS. The RP has been prepared in accordance with reference 1.c., and has been coordinated between the MVD Program Support Division and the Business Technical Division, as detailed in reference 1.b.

3. I hereby approve 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 further approval. The district should post the approved RP to its web site.

4. The MVD point of contact for this action is Mr. Corey Lawton, CEMVD-PDM, (601) 634-5931.

2 Encls


RICHARD G. KAISER
Major General, USA
Commanding



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

07 May 2018

MEMORANDUM FOR CEMVD-PDM (Crorey Lawton)

SUBJECT: Updated Implementation Review Plan (RP) for Orleans
East Bank (OEB) 19: Demolition of Interim Closure Structures
(ICS)

1. Reference memorandum subject as above.
2. RB-T has reviewed the subject RP 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.

A handwritten signature in black ink, appearing to read "Michael A. Turner", is positioned above the printed name.

MICHAEL A. TURNER
Chief, Business Technical
Division



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

CEMVN-ED-T


24 Aug 18

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-RB-T/
Mike Turner)

SUBJECT: Resubmittal of Implementation Review Plan for Orleans East Bank (OEB)
19: Demolition of Interim Closure Structures (ICS), P2 #117515

1. Reference: Memorandum, CEMVN-ED, 24 October 2017, subject: Implementation Review Plan for Orleans East Bank (OEB) 19: Demolition of Interim Closure Structures (ICS), P2 #117515 (Encl 1).
2. Enclosed is the revised Implementation Review Plan (RP) for the OEB 19 project based on MVD comments (Encl 2). Comments submitted by MVN Office of Counsel have been incorporated. All updates are noted in Attachment 3 of the RP.
3. As required by EC 1165-2-217, the New Orleans District's Implementation RP for the OEB 19 Demolition of ICS project requires your review and approval.
4. New Orleans District's Chief, Engineering Division, recommends approval of the subject Implementation RP.
5. POCs for this action are Mr. Denis J. Hoerner Jr., P.E., Civil Engineer, Engineering Division, Structures Branch, at 504-862-2659, and Mr. Bradley Drouant, P.E., Senior Project Manager, Protection Restoration Office, at 504-862-1516.

2 Encls


MICHAEL N. CLANCY
Colonel, EN
Commanding



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

CEMVN-ED


24 Oct 17

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-RB-T/
Mike Turner)

SUBJECT: Implementation Review Plan for Orleans East Bank (OEB) 19: Demolition of
Interim Closure Structures (ICS), P2 #117515

1. As required by EC 1165-2-214, the New Orleans District's Implementation Review Plan (RP) for the OEB 19 Demolition of ICS project requires your review and approval.
2. Enclosed is the Implementation RP for the OEB 19 project.
3. New Orleans District's Chief, Engineering Division, recommends approval of the subject Implementation RP.
4. POCs for this action are Mr. Denis J. Hoerner Jr., P.E., Civil Engineer, Engineering Division, Structures Branch, at 504-862-2659, and Mr. Bradley Drouant, P.E., Senior Project Manager, Protection Restoration Office, at 504-862-1516.

Encl


MICHAEL N. CLANCY
Colonel, EN
Commanding

Encl 1



REPLY TO
ATTENTION OF

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

CEIWR-RMC

17 October 2017

MEMORANDUM FOR: Commander, New Orleans District, ATTN: CEMVN-PM-OS

SUBJECT: Risk Management Center Endorsement – Orleans East Bank (OEB) 19:
Demolition of Interim Closure Structures (ICS), Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for – Orleans East Bank (OEB) 19: Demolition of Interim Closure Structures (ICS), dated 6 October 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 New Orleans District, reviewed by the RMC, and all 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 and 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

Digitally signed by
HERR.DUSTIN.CHARLES.1384614082
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USA,
cn=HERR.DUSTIN.CHARLES.1384614082
Date: 2017.10.17 11:23:57 -0500

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

CF:
CEIWR-RMC (Mr. Snorteland)

REVIEW PLAN FOR OEB-19

**U.S. Army Corps of Engineers
Mississippi Valley Division
New Orleans District**

**Orleans East Bank (OEB) 19: Demolition of Interim Closure
Structures (ICS)**

Plans and Specifications (P&S)

October 2017

(REVISED January 2018)

(REVISED February 2018)

(REVISED April 2018)

MSC Approval Date:

Review Plan

OEB-19: Demolition of Interim Closure Structures (ICS)

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1. Purpose and Requirements

a. Purpose

This Review Plan (RP) for OEB 19: Demolition of Interim Closure Structures (ICS) will ensure a quality-engineering project is developed by the Corps of Engineers in accordance with EC 1165-2-217, "Civil Works Review Policy." The Review Plan shall layout a value added process that assures the correctness of the information shown. This Review Plan describes the scope of review for the decommissioning and demolition of the interim closure structures and temporary pumps on 17th Street, Orleans Avenue, and London Avenue outfall canals, P2 # 117515. The District Chief of Engineering has assessed that risk of the project is significant; therefore, a Safety Assurance Review (SAR) will be required.

a. Guidance and Policy References

- EC 1165-2-217, Water Resources Policies and Authorities Review Policy for Civil Works, 20 February 2018
- ER 1110-1-12, Quality Management, 31 March 2011
- Project Information Report, Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection Project, Orleans East Bank
- Project Information Report, Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection Project, Orleans East Bank, Revision # 01
- Project Information Report, Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection Project, Orleans East Bank, Revision # 02
- Project Information Report, Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection Project, Orleans East Bank, Revision # 03
- Project Information Report, Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection Project, Orleans East Bank, Revision # 04
- Project Description Document #5, Hurricane and Storm Damage Risk Reduction System, Lake Pontchartrain and Vicinity, New Orleans, Louisiana
- Project Description Document #5, Amendment #1, Hurricane and Storm Damage Risk Reduction System, Lake Pontchartrain and Vicinity, New Orleans, Louisiana
- Project Description Document #5, Amendment #2, Hurricane and Storm Damage Risk Reduction System, Lake Pontchartrain and Vicinity, New Orleans, Louisiana
- QMS Process 22800- MVN Quality Control (QC) for USACE Prepared E&D Products and Technical Engineering Work Items

b. Requirements

This Review Plan was developed in accordance with EC 1165-2-217, 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 Review Plan should be provided to PDT, DQC, ATR and IEPR Teams.

c. Review Management Organization

The USACE Risk Management Center (RMC) is the Review Management Organization (RMO) for this project. Contents of this review plan 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, MVD, and HQ will be scheduled on an “as needed” basis to discuss programmatic, policy, and technical matters. The MVD District Support Team (DST) will be the POC for vertical team coordination. This Review Plan will be updated for each new project phase. New Orleans District will assist the RMC with management of the ATR review and development of the draft ATR “charge.”

2. Project Description and Information

a. Project Description

The OEB 19: Demolition of ICS project is located on the 17th Street, Orleans Avenue, and London Avenue Outfall Canals near Lake Pontchartrain, Orleans and Jefferson Parishes, Louisiana, (see ICS and PCCP locations in Figure 1). The ICSs were constructed on a temporary basis to ensure the integrity and adequate functioning of the LPV floodwalls along the outfall canals and for maintaining access for safety and inspection reasons. The ICSs include gates that when open allow water to flow freely from and into Lake Pontchartrain. The ICSs also include pumps that, when the gates are closed, allow rain water and water pumped into the protected side of the canals by the Sewerage and Water Board of New Orleans (SWBNO) at the southern ends to be evacuated at the north end through the ICS structures into Lake Pontchartrain. The ICSs were constructed with P.L. 109-148 (3rd Supplemental) FCCE repair funds and have continued to perform their function during the design and construction of the new Permanent Canal Closure and Pumps (PCCP). The new PCCP stations, when completed, make the removal of the ICSs possible and their removal will also be funded by the 3rd Supplemental. Additionally, work required as part of PCCP that was not included in the Design-Build contract will be executed in the “ICS Removal Contract” under the authorization and appropriations of P.L. 109-243 (4th Supplemental) FCCE.



Figure 1

This project, as a single construction contract, includes the decommissioning and demolition of the interim gated closure structures and temporary pumps that were installed, post Hurricane Katrina and the required additional PCCP work. This includes demolishing and removing the above ground pumps, gates, generators, fuel tanks, discharges, mechanical/electrical features, buildings, platforms and the closed cell sheet pile walls (see Figure 2), removing temporary ICS I-Walls, capping perimeter I-Walls, replacing scour protection on perimeter I-Walls, and shaping a land mass at the 17th Street Canal to improve canal hydraulic efficiency. The site will be graded as required to maintain flow and stability along the outfall canals. As part of returning the project sites to their original condition, miscellaneous aesthetic improvements will be provided.



Figure 2 ICS at 17th Street, Orleans Avenue and London Avenue

b. Project Sponsor

Plans and specifications will be provided to the non-Federal sponsors who will be free to review and provide comments within the established review period. The non-Federal sponsors include Coastal Protection and Restoration Authority Board of Louisiana (CPRAB), South Louisiana Flood Protection Authority - East (SLFPA-E), Sewerage and Water Board of New Orleans (SWBNO), Board of Commissioners of the Orleans Levee District (OLD), and Board of Commissioners of the East Jefferson Levee District (EJLD), Fourth Jefferson Drainage District, Sub-District A of the Fourth Jefferson Drainage

District, Parish of Jefferson, and City of New Orleans. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. Sponsor Peer Review of In-Kind Contributions - There will not be in-kind contributions for this effort.

3. District Quality Control

a. Requirements

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo a DQC. A detailed review of the plans, specs and calculations started 10 Jan 2018 and is currently underway. Review and comment closeout is scheduled to be complete 20 Apr 2018. All computations, drawings or sketches were subject to 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 confirmation lessons learned have 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 dot, check mark, or similar annotation next to the item that has been checked. For drawings the checker shall place a red dot, 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

Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC. The plans and specifications will be submitted, to personnel not involved in the development, for review and comments. Each DQC member will enter comments into DrCheckssm for review and resolution. A Certification of Quality Control Review will be signed by the N.O. District ED Chief. This certificate will be kept on file as part of the product's Quality Control Documentation.

4. Agency Technical Review

a. Requirements

ATR is mandatory for all implementation documents (including supporting data, analyses, environmental compliance documents, etc.). The 95% Plans and



Specifications along with the Design Documentation Report will be submitted, by the Project Manager in conjunction with the Chief of ED, to the ATR Team Leader concurrently with the District's DQC and BCOES. 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, and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. The PDT will obtain ATR agreement on key data such as hydraulic and geotechnical parameters at the 95% design stage. The goal is to have involvement of ATR team, especially when key decisions are made. The ATR Lead will be invited virtually 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 will be shared early on to have the best chance of being adopted by the PDT. The ATR effort will be accomplished at the 95% design effort. 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

DrCheckssm 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 DrCheckssm 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 DrCheckssm with a notation that the concern has been elevated to the vertical team for resolution.

d. Products to Undergo ATR

The 95% Plans and Specifications and Design Documentation Report will undergo ATR.

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 lead will be from outside the home MSC. See Attachment 2 for ATR members. The ATR team will be chosen based on each individual's qualifications and experience with similar projects. All EC reviewers will be certified in CERCAP: https://team.usace.army.mil/sites/ERDC-CRREL/PDT/atr_certification/default.aspx. See Attachment 2 for ATR members.

ATR Lead – The ATR team 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, Structural Engineering or Geotechnical Engineering.

Geotechnical Engineer – shall have experience in the field of geotechnical engineering, analysis, design, and construction of large flood control civil works projects. The geotechnical 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.

Hydraulic Engineer – shall have experience in the analysis and design of hydraulic structures related to large flood control civil works projects. The hydraulic engineer shall be knowledgeable and experienced with the routing of inflow hydrographs through multipurpose flood control structures, Corps application of risk and uncertainty analyses in flood damage reduction studies, and standard Corps hydrologic and hydraulic computer models.

Structural Engineer – shall have experience and be proficient in performing stability analysis. The structural engineer shall have specialized experience in the design, construction and analysis of large flood control civil works projects with particular emphasis on foundations, levees and floodwalls.

Civil Engineer – Reviewer shall be senior level with extensive experience in large flood control civil works projects with particular emphasis on levee and floodwall construction.

Tentative ATR Schedule.

Review Milestone- OEB 19 – ICS Demolition	Date Planned
Submit to ATR Lead	10 Jan 2018 (A)
ATR review	10 Jan – 7 Feb 2018 (A)
Evaluate ATR comments	7 Feb (A) – 14 Mar 2018 (A)
Resolve and Back check ATR comments	14 Mar (A) - 20 Apr 2018
ATR Report and Certification	20 Apr – 7 May 2018

Estimated ATR Costs.

ATR Discipline	Estimated Cost*
ATR Lead	\$9,500
Geotechnical Engineer	\$10,800
Structural Engineer	\$6,200
Hydraulic Engineer	\$6,400
Civil Engineer	\$10,800
TOTAL	\$43,700

*Estimated costs based on ATR performed in 2017 with same disciplines and review period.

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 are included in Attachment 1.

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

a. Decision on Type II IEPR

A Type II IEPR Safety Assurance Review (SAR) will be performed during the Implementation Phase on the design and construction activities associated with the following features: plans and specifications. 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 1165-2-217.

A risk informed decision was made that this project does pose a significant threat to human life (public safety) since it involves decommissioning and removing existing above ground structures and equipment, such as demolishing pump stations, decreasing the height of existing I-Walls and levees, capping existing I-Walls and reshaping levee sections. For a Type II IEPR 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. 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 not be scheduled for the IEPR Team.

The interim pump stations being removed are former main line HSDRRS projects which are now behind the newly constructed permanent pump stations and are no longer required. Due to description of the action in the Environmental Assessment, the area must be return to its original, pre-Katrina condition. This requires the removal of the pump stations and associated I-Walls. However, the original levees and walls will remain in place as they are required to maintain protection to El. 8.0 for drainage purposes. The two I-Wall segments north of the new permanent pump station at London Avenue will remain, but will be capped and have scour protection added if environmentally cleared.

b. Scope of Safety Assurance Reviews

SAR will be performed on the 95% Plans and specifications. The 100% Design Documentation Report will accompany the P&S to provide the necessary background and assumptions to assist with the review. The review will serve as assurance that demolition and removal of the interim structures and equipment, within and on the banks of the outfall canals, will not pose any stability issues to the levees and floodwalls

running parallel along the outfall canals. Although the levees and floodwalls will no longer be part of the perimeter risk reduction system since the permanent canal closures and pumps are installed, they are still required to complete the line of interior outfall canal risk reduction.

c. Products to Undergo Type II IEPR

The 95% Plans and Specifications and Design Documentation Report will undergo Type II IEPR.

d. Required Type II IEPR Panel Expertise

Geotechnical Engineer – shall have experience in the field of geotechnical engineering, analysis, design, and construction of large flood control civil works projects. The geotechnical 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.

e. Documentation of Type II IEPR

The Type II IEPR will be managed by an A/E firm or Government entity which meets the criteria set forth in EC 1165-2-217. DrCheckssm 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 economic, engineering and environmental 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 A/E contractor or Government entity will be responsible for compiling and entering comments into DrCheckssm.

No later than 21 days following a Comment Review Conference Call, the Type II IEPR panel will prepare and submit a Design Review Report that will accompany the publication of the final report documentation for the project and shall:

- 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.

This Review Report, 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 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. The revised submittal will be provided to the RMO with the USACE response and all other materials related to the review.

The New Orleans District's responses shall be submitted to the MVD MSC for final MSC Commander Approval. After the MSC Commander's approval, the District will make the report and responses available to the public.

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 practical, 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. Provide an overall review schedule that shows timing and sequence of all reviews.

PROJECT PHASE/SUBMITTAL	REVIEW START DATE	REVIEW END DATE
DQC Review	10 Jan 2018 (A)	20 Apr 2018
ATR Review	10 Jan 2018 (A)	7 May 2018
IEPR for Design	6 Jun 2018	27 Aug 2018

b. DQC Schedule and Cost

The preliminary review schedule is listed in the table in paragraph a of this section. The cost for the DQC review is approximately \$13,000.

c. ATR Schedule and Cost

The preliminary review schedule is listed in the table in paragraph a of this section. The cost for the ATR is approximately \$43,700.

d. IEPR Schedule and Costs

A Type II IEPR will be required for this project. The preliminary review schedule is listed in the table in paragraph a of this section. Initial indications are that the estimated cost for the Type II IEPR is in the range of \$25,000 to \$35,000. The review schedule and estimate will be refined when the Scope of Work for the IEPR Type II contract is completed. The IEPR Type II contractor will not be involved with the project through the construction phase.

8. Public Participation of Review Plan

As required by EC 1165-2-217, the approved Review Plan will be made available to the public. Because this is not a formal comment period, there is no set timeframe for the opportunity for public comment. Therefore, if at any time public comments are received (before, during, or after the technical reviews), the PDT and technical reviewers will consider them and then decide if any actions are required and revise the Review Plan as 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 RP is the Mississippi Valley Division. The MSC Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving the New Orleans District, MSC, and RMC) as to the appropriate scope and level of review for the study and endorsement by the RMC. Like the PMP, the Review Plan is a living document and may change as the study progresses; the District is responsible for keeping the Review Plan up to date. Minor changes to the Review Plan, since the last MSC Commander approval, will be documented in an Attachment to this plan. Significant changes to the Review Plan (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 Review Plan, along with the Commanders' approval memorandum, will be posted on the District's webpage and linked to the HQUSACE webpage. The latest Review Plan 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
No engineering models are anticipated	N/A

11. Review Plan Points of Contact

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Bradley Drouant/Senior Project Manager	CEMVN-PM-OLP	<u>Bradley.W.Drouant@usace.army.mil</u> 504-862-1516
Avis Gaines-CTR/Project Manager	CEMVN-PM-OS	<u>Avis.H.Gaines@usace.army.mil</u> 504-862-1519
Senior Reviewer	CEIWR-RMC	304-399-5217

ATTACHMENT 1: 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 1165-2-217. 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 Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager (home district)

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.

SIGNATURE

Name

Chief, Engineering Division (home district)

Office Symbol

Date

SIGNATURE

Name

Dam or Levee Safety Officer² (home district)

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

² Only needed if different from the Chief, Engineering Division.

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ATTACHMENT 2: TEAM ROSTERS

PDT Members

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Bradley Drouant	CEMVN-PM-OLP	Bradley.W.Drouant@USACE.ARMY.MIL/504-862-1516
Avis Gaines- CTR	CEMVN-PM-OS	Avis.H.Gaines@USACE.ARMY.MIL/504-862-1519
David Lovett	CEMVN-ED-T	DAVID.P.LOVETT@USACE.ARMY.MIL/504-862-2680
Denis Hoerner	CEMVN-ED-T	DENIS.J.HOERNER@USACE.ARMY.MIL/504-862-2659
Carl Balint	CEMVN-ED-T	CARL.O.BALINT@USACE.ARMY.MIL/504-862-2706
Mark Middleton	CEMVN-ED-F	MARK.C.MIDDLETON@USACE.ARMY.MIL/504-862-1771
Gina Foley	CEMVN-ED-SC	GINA.C.FOLEY@USACE.ARMY.MIL/504-862-2770
Connie Rodgers	CEMVK-RE-A	CONNIE.B.RODGERS@USACE.ARMY.MIL/504-862-1582

DQC Reviewers

NAME/TITLE	ORGANIZATION	EMAIL/PHONE
Charles Laborde	CEMVN-ED-T	Charles.A.Laborde@ USACE.ARMY.MIL/504-862-2647
Kathryn Chaisson	CEMVN-ED-F	Kathryn.A.Chaisson@ USACE.ARMY.MIL/504-862-2985
Rachael Maltzahn	CEMVN-ED-T	Rachael.A.Maltzahn@ USACE.ARMY.MIL/504-862-1895
John Vititoe	CEMVN-ED-T	John.P.Vititoe@ USACE.ARMY.MIL/504-862-2138

Agency Technical Review (ATR) Team

Michael D. Robinette, P.E., ATR Lead – Geotechnical (CELRH-DSPC-GS) – Mike is a Registered Professional Civil Engineer currently working in the Huntington District. He has over 27 years of geotechnical engineering experience with the US Army Corps of Engineers. Mike has a Bachelor's degree in Civil Engineering from the West Virginia Institute of Technology and a Master of Science degree in Civil Engineering with geotechnical emphasis from the Virginia Polytechnic Institute and State University. He was the Chief of the Soils Engineering Section for nine years from 2003-2012 before the district reorganized and now serves as a Senior Geotechnical Engineer in the regional Dam Safety Production Center and national Dam Safety Mandatory Center of Expertise (MCX). He has been involved in a multitude of LRD navigation, dam and levee safety, and various other flood damage reduction projects.

Mike is currently providing technical Oversight and Support for the MCX on various Dam Safety Modification Studies (DSMS) including Herbert Hoover Dike (HHD), Cherry Creek Dam, Rough River Dam, Isabella Dam, and has participated in many Agency Technical Reviews for various navigation and flood damage reduction projects including the Lake Pontchartrain and Vicinity levee systems, the Bayou Sorrel lock extension, the Herbert Hoover Dike remediation project including all of the future and ongoing culvert replacements, and various Kissimmee River ecosystem restoration projects. He is currently the ATR lead and geotechnical reviewer on Cherry Creek Dam Safety Modification Study (DSMS) for NWO, the Comprehensive Everglades Restoration Plan including the Biscayne Bay Coastal Wetlands L-31E Flow-way and Culverts S-712A and S-712B, and the Caloosahatchee River Reservoir (C-43) Storm Treatment Area for SAJ, Iao Streambank Restoration and Moose Creek Dam for POH, the Bois Brule Levee and Pump Station Upgrade for MVS, and the Marysville Ring Levee and Hamilton City Flood Damage Reduction and Ecosystem Restoration Project for SPK. Mike also serves as the geotechnical ATR reviewer for Folsom Dam for SPK and Rough River Dam for LRL.

He has been participating in risk assessments since 2002 when he championed the Huntington District's Demonstration for Portfolio Risk Analysis and was a geotechnical risk assessor and cadre lead for the follow-on Screening for Portfolio Risk Analysis national work efforts. In addition, he has assisted the Risk Management Center since 2007 on many risk assessment teams acting as a cadre facilitator for several Potential Failure Modes Analyses and Issue Evaluation Studies.

William Halczak, P.E., Construction/Civil (CESPK-ED-GS-B) – Bill is a Registered Professional Civil Engineer currently working in the Sacramento District. He has over 38 years of engineering experience with the US Army Corps of Engineers. Bill has a Bachelor's degree in Civil Engineering from California State

University at Long Beach. He started out as a civil engineer in the Los Angeles District working mainly on dam-related construction projects prior to relocating to the Sacramento District in 2005 where he works preparing plans and specifications for civil work construction, including specifications for concrete structural elements. He also has prepared plans and specifications for military pavement construction, both PCC and bituminous pavements, and participated in periodic inspections of existing civil works structures (primarily dams). Bill scheduled and coordinated concrete materials studies for large civil works projects (project costs >\$1 billion, lab programs of \$2.5 to \$3 million dollars). These were multi-stage studies lasting two or more years. He also prepared materials engineering studies for large civil works projects and performed Finite Element Analysis (FEA) for Massive Concrete Structures.

Some of the projects that Bill worked on were Seven Oaks Dam, Prado Dam, and Folsom Dam. He has also participated in several ATRs including the Tres Rios Flood Control Structure, Matilija Dam removal project, Gatun Lock design on the Panama Canal, Santa Maria levees, and the Charleroi Lock and Dam rehabilitation project.

Kent D. Hokens, P.E., Structural (CEMVP-ED-D) – Kent has a Bachelor's of Science degree in Civil Engineering, 1985, and a Master's Degree in Civil Engineering, 1989, from the University of Nebraska. Mr. Hokens is a registered engineer with over 31 years of structural engineering experience in USACE with flood risk reduction projects, dams, and navigation projects. For the last 11 years has served as a structural Regional Technical Specialist for MVD. Experience in the analysis and design of many civil works structural types including: locks and dams, concrete dam spillways, flood walls of all types, retaining walls, sheet pile walls, anchored walls, pile foundations, road and railroad closures, tainter gates, miter gates, bulkheads, pipes and culverts, and service bridges. Significant experience with structural and geotechnical risk and reliability analysis and with risk assessments of levee and dam projects. Lead or participant in revision of numerous USACE engineer manuals including: ETL 1110-2-575, EM 1110-2-2104, EM 1110-2-2105, EM 1110-2-2906, EM 1110-2-2502, EM 1110-2-2504 and EC 1110-2-6066.

Nicholas A. Koutsunis, P.E., Hydraulics (CELRH-DSPC-TS) – Nick is a Registered Professional Civil Engineer currently working in the Huntington District. He has over six years of hydraulic engineering experience with the US Army Corps of Engineers. Nick has a Bachelor's degree in Civil Engineering from Marshall University and a Master of Science degree in Hydraulic Engineering from Colorado State University. He was a hydraulic engineer in the Huntington District's Geotechnical and Water Resources Engineering Branch prior to the district reorganization and now serves as a hydraulic engineer in the regional Dam Safety Production Center and national Dam Safety Mandatory Center of Expertise (MCX).



Nick has worked on a variety of hydrologic and hydraulic related projects including Dam Failure Inundation Analysis through the Modeling, Mapping, and Consequence Centers, Potential Failure Mode Analysis, Issue Evaluation Studies, Dam Safety Modification Studies, Local Protection Projects, and Streambank Erosion Mitigation Projects. He has completed work on projects including Bluestone Dam, Delaware Dam, Dover Dam, Zoar Levee Major Rehabilitation Projects, Island Creek LPP, and various smaller projects. Nationally, he has completed and reviewed work ranging from dam failure analyses to paleoflood analyses.

James A. Schneider, P.E., Geotechnical (CEMVP-EC-G) – James is a Registered Professional Civil Engineer currently working in the St. Paul District. James has recently joined the USACE after five years as a civilian with the US Navy. He has an additional 12 years of geotechnical experience in full and part time engineering consulting for private firms, as well as in academia. James has a Bachelor's degree in Civil Engineering from the Georgia Institute of Technology, a Master's degree in Civil Engineering with geotechnical emphasis from the Georgia Institute of Technology, and a PhD in Civil Engineering with geotechnical emphasis from The University of Western Australia. His project work and research have focused on in situ testing, site investigation and interpretation, offshore and coastal geomechanics, piling and drivability, and foundation design.

James is currently a Geotechnical Engineer, Regional Technical Specialist for the Mississippi Valley Division. He performs planning, design, and review for a range of civil works projects. Tasks include site investigation planning, laboratory soil test assignment and interpretation, design soil property assessment, slope stability analysis, embankment settlement, seepage analysis, assessment of I-Wall performance, T-wall settlement and stability, shallow foundation settlement and bearing capacity under vertical/horizontal/ moment (VHM) loading, pile capacity, pile installation hammer selection, and pile load test design. James has participated in the update of USACE engineer manual EM 1110-2-1913, Evaluation, Design, and Construction of Levees. He has performed reviews (DQC and ATR) on the advanced geotechnical (FLAC) modeling components for the Orleans Avenue Canal I-Wall assessment, and Fargo-Moorhead Wild Rice control structure.



Type II Independent External Peer Review (IEPR) Panel

DISCIPLINE	NAME	DESCRIPTION OF CREDENTIALS
Geotechnical Engineering	TBD	Shall have experience in the field of geotechnical engineering, analysis, design, and construction of large flood control civil works projects. The geotechnical 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.



ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
Jan 2018	DST added as POC	Page 2/1.c.
Jan 2018	Updated ATR effort and when review will be accomplished	Page 4/4.a.
Jan 2018	Review schedules updated	Page 6/4.e Page 10/7.a
Jan 2018	Clarified submission of Interim Design Review Report	Page 9/5.e.
Jan 2018	Public comments will be provided to PDT and technical reviewers for consideration and action if necessary	Page 10/8
Jan 2018	DQC and ATR Reviewers added and ATR relative experience added	Attachment 2
Feb 2018	Project Description revised	Page 2/2.a.
Feb 2018	Project Sponsors revised	Page 3/2.b.
Feb 2018	Paragraph updated to reflect review currently underway	Page 3/3.a.
Feb 2018	Review schedules updated	Page 6/4.e. Page 10/7.a
Apr 2018	Guidance and Policy References Updated	Page 1/1.a &1.b
Apr 2018	Project Description paragraphs 1 & 2 revised	Page 3/2.a
Apr 2018	Date for DQC completion updated	Page 4/3.a
Apr 2018	Tentative ATR dates updated	Page 7/4.e
Apr 2018	Last sentence of paragraph 3 revised	Page 8/5.a
Apr 2018	Review Schedules Updated	Page 10/7.a