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

REPLY TO
ATTENTION OF:

CEMVD-PD-N

12 DEC 2012

MEMORANDUM FOR Commander, New Orleans District
(ATTN: CEMVN-PM-B)

SUBJECT: Comite River Diversion Project - Peer Review Plan

1. References:

a. Memorandum, CEMVN-PM-B, 10 December 2012, SAB (encl 1).

b. Memorandum, CEMVD-RB-T, 4 December 2012, subject: Review Management Organization (RMO) Endorsement - Comite River Diversion Project Review Plan (encl 2).

c. Engineering Circular (EC) 1165-2-209, Change 1, Civil Works Review Policy, dated 31 January 2012.

2. The subject review plan (RP) was reviewed by the RMO (CEMVD-RB-T) and recommends approval. The RP includes agency technical review and since the the project does not contain influential scientific information or scientific assessment, nor does the project design require redundancy, resiliency or robustness an independent external peer review is not deemed necessary. The RP is consistent with the purpose and policy of EC 1165-2-209.

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.

4. The RP is to be posted to the District website.

5. The POC for this action is Mr. Stephen Stuart, CEMVD-PD-N, at(601) 634-5829.

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

2 Encl

CF:
CECW-MVD (J. Redican)

AMITE RIVER BASIN AND TRIBUTARIES, LOUISIANA

COMITE RIVER DIVERSION PROJECT

REVIEW PLAN

Mississippi Valley Division

New Orleans District

MSC Approval Date: 12 December 2012
Last Revision: 12 December 2012

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AMITE RIVER BASIN AND TRIBUTARIES, LOUISIANA
COMITE RIVER DIVERSION PROJECT
FEATURE REVIEW PLAN
Reviews of documents and process

1. General

This Review Plan will be performed in accordance with the EC 1165-2-209 dated 31 January 2010. Documents and processes related to the feature are discussed below. This Review Plan will be used to outline the review process and is part of the Project Management plan for project 108873

2. Program Description

The Amite River Basin encompasses about 2,200 square miles in southeastern Louisiana and southwestern Mississippi that is drained by the Amite River and tributaries. It includes portions of East Baton Rouge, Ascension, Livingston, East Feliciana, St. Helena, Iberville, St. James, and St. John the Baptist parishes in Louisiana and Wilkinson, Lincoln, Franklin and Amite counties in Mississippi. The l7 mile long Amite River and its right bank tributary, the Comite River, rise in southwestern Mississippi and flow generally southward to their confluence east of Baton Rouge in the v

icinity of Denham Springs. From that point, the Amite River continues in a southerly direction to a juncture with Bayou Manchac at about mile 36 and then southeasterly and easterly to Lake Maurepas. Bayou Manchac, a right bank tributary of the Amite River and a former distributary of the Mississippi River at Mile 215 above the Head of Passes, extends about 17 miles eastward between the Mississippi River and Amite River at Mile 36. Major urban centers in the basin include Baton Rouge, Baker, Zachary, Gonzales, Sorrento, and Denham Springs, Louisiana.

The Comite subbasin comprises about 334 square miles. The Comite River originates in Wilkinson and Amite counties, Mississippi and is a primary tributary of the Amite River. The Comite River enters the Amite River at Denham Springs, Louisiana, about 54 miles above Lake Maurepas. Major urban centers in the subbasin include Baker, Zachary, and portions of the City of Baton Rouge.

The low-lying aress along the Amite and Comite River Systems have commonly experienced flooding during periods of heavy rainfall. Flood problems within the basin are caused by the excessive rainfall that results in headwater and backwater overflow in the lower reaches of the Amite River and the tributary streams in the vicinity of their confluence with the Amite River. Historically, most of the flooding was confined to swampland and to rural, sparsely populated, largely wooded areas with only scattered agricultural usage. The Baton Rouge metropolitan area has expanded further into the floodplain to accommodate population growth. The consequence of flooding in the floodplain is extremely large economic losses due to property damage. Significant floods have occurred in the basin in 1921, 1928, 1942,1947, 1953, 1957, 1962, 1964, 1973, 1977, 1979, 1983 and 1985.

Flood damages from the 1973 flood are estimated at $2.1 million. About 105,000 acres were flooded. During the 1977 flood, approximately 164,000 acres were flooded and over 4,000 structures were flooded and the associated damages totaled nearly $78.0 million. The 1979 flood was not as widespread as the 1977 flood. Flood damages associated with the flood were estimated at over $9.0 million. The 1983 flood was the flood of record in most of the basin. Flood stages reached the highest level at 8 recorded locations along the Amite River and its tributaries. Over 357,000 acres were inundated in East Baton Rouge, Livingston, Iberville, Ascension, St. James, and St. John the Baptist Parishes. About 5,300 homes and 200 businesses were

flooded. Flood damages were estimated to be about $172 million, of the $172 million, $113 million or 66 percent were attributable to flood damages in urban areas. Flood damages in the Comite River subbasin were estimated at $48,000,000.

Due to the substantial damages and flooding along the Amite River, The Amite River and Tributaries Study was conducted in response to a resolution of the committee on Public Works of the United States Senate. The resolution sponsored by the late Senator Allen J. Ellender and Senator Russell B. Long of Louisiana. was adopted on April 14. 1967 and reads as follows:

> "RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE. That the Board of Engineers for Rivers and Harbors. created under Section 3 of the River and Harbor Act approved June 13. 1902. be. and is hereby requested to review the report of the chief of Engineers on Amite River and Tributaries. Louisiana. published as House Document Numbered 419. Eighty-fourth Congress. And other pertinent reports. wi th a view to determining whether the existing project should be modified in any way at this time with particular reference to additional improvements for flood control and related purposes on Amite River. Bayou Manchac. and Comite River and their tributaries."

The purpose of the study was to investigate the feasibility of providing flood risk reduction for the residents in the Amite River Basin. The study was conducted in two phases: a reconnaissance phase and a feasibility study. The reconnaissance phase was initiated in September 1983 and completed in February 1985 with the Signing of a feasibility cost-sharing agreement (FCSA). The cost-sharing partner was the Louisiana Department of Transportation and Development. The feasibility phase was initiated in April 1985 and completed in April 1991.

The plan provides for construction of a 12 mile long diversion channel from Comite River to the Mississippi River, a diversion structure at the Comite River, a control structure at Lilly Bayou, three control drop structures at the intersections of the diversion channel with White, Cypress and Baton Rouge Bayous, a drop control structure in the vicinity of McHugh Road, two railroad bridges and five highway or parish road bridges.

The project was authorized for construction by the Water Resources Development Act (WRDA) of 1992 (PL 102-580, Section 101-11), dated October 31, 1992. The Project was modified and re-authorized by WRDA 1996 (PL104-303, Section 301(b)(5)), dated October 12, 1996. Reauthorization and modified the Secretary to construct the project at a cost of $121,600,000. The Project was also modified and re-authorized by WRDA 1999 (PL106-53, Section 371), dated August 17, 1999. Modification made highway and railroad bridges, normally a relocation, a cost-shared feature.

According to the feasibility report, the mitigation feature of the plan consists of reforestation of 532 acres of cleared project lands and management including maintenance of these lands plus the adjacent wooded project lands. Approximately 213 acres of existing woodlands would be managed to increase habitat value. Approximately 422 acres of the project lands would be planted in lowland hardwood species and 110 acres of the dredged material disposal area would be planted in upland hardwood species. Also included is the purchase of about 300 acres of land in an oxbow area of the Amite River between Denham Springs and Port Vincent.

The Lilly Bayou control structure was the first and the largest construction feature of the project and was completed in January of 2011 at a cost of $27.9 million. This cost along with all of the other costs represents approximately 20% of the total construction costs associated with the project. Construction on the remainder of the Comite project has become stagnant due to funding issues and more importantly the lack of mitigation lands acquired to support the project. Of the needed acreage, approximately 72 acres have been acquired to date.

To compound the acquisition of mitigation lands, Representative Bodi White (LA District 64) proposed legislation to prohibit the state from cost sharing in the Comite River Diversion Project where expropriation will be used in mitigation acquisitions, on October 2010, this legislation was passed into law as LA Act 734. This act only allowed mitigation lands to be acquired from “willing sellers”.

After a year of discussion with Rep. White, LA DOTD and ARBC, LA DOTD requested termination of the March 2002 Memorandum of Agreement on December 10, 2010, and resumed direct handling of LERRD acquisition and the performance of utility and facility relocations for the entire project (not just mitigation). Due to LA Act 734 that restricts the ability of the non Federal

Sponsor to acquire and expropriate land for mitigation purposes, the State of Louisiana can acquire land for mitigation only from "willing sellers" with clear titles. Given the lack of "willing sellers" the non Federal Sponsors cannot acquire sufficient mitigation property within the original Comite River Diversion mitigation area. In a letter from Ms. Lebas, Secretary of LADOTD dated January 30, 2012, the non Federal Sponsors concluded that the only remaining course of action is to request that the mitigation area be expanded or moved.

In response to the request from LADOTD, USACE initiated and commented to complete a supplemental Environmental Assessment (EA) within a 120 day time period. EA #426 was completed on schedule on July 27, 2012 with a Finding of No Significant Impact (FONSI) for a supplemental mitigation plan for impacts associated with the construction of the Comite River Diversion project. The EA's FONSI enables the non-Federal sponsor to move forward with acquisition of needed mitigation lands in accordance with LA Act 734. The EA and the non-Federal sponsor have indentified Profit Island as a potential mitigation site that would provide over 60% of the total mitigation requirement for the entire project and allow for construction to continue. The non-Federal sponsor is moving ahead with acquisition of the property.

3. References

- EC 1165-2-209, Water Resources Policies and Authorities. Civil Works Review Policy (1/31/2010)
- ER 5-1-1, Project Management Business Process (11/1/2006) http://140.194.76.129/publications/eng-regs/er5-1-11/entire.pdf
- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 August 1999
- ER-1110-1-12 Quality Management (6/21/2006) http://140.194.76.129/publications/eng-regs/er1110-1-12/entire.pdf
- ES-08011 QA-QC Process for Study-Design, https://kme.usace.army.mil/CE/QMS/QMS%20Documents/2007-10/08011%20QC-QA%20Processes%20for%20Study-Design%20Phase.DOC
- PMBP Manual, Proc 2000 PMP/PgMP Development http://bp.usace.army.mil/robo/projects/pmbp_manual/PMBP_Manual/proc2000.htm
- PMBP Manual, REF8008G Quality Management Plan http://bp.usace.army.mil/robo/projects/pmbp_manual/PMBP_Manual/REF8008G.htm

- Amite River and Tributaries Study, Feasibility Report on Comite River Basin, April 1991.

4. 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. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

A. District Quality Control/Quality Assurance (DQC). 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 Major Subordinate Command (MSC).

B. Agency Technical Review (ATR). ATR is mandatory for all implementation documents (including supporting data, analyses, environmental compliance documents, etc.). 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 and comply with published US Army Corps of Engineers (USACE) guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by a designated Review Management Organization (RMO) and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate with a leader from outside the MSC.

C. Independent External Peer Review (IEPR). IEPR may be required for implementation documents under certain circumstances. 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 is generally for decision documents and Type II is generally for implementation products.

(1) 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.

(2) Type II IEPR. Type II IEPR reviews, or Safety Assurance Reviews (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. Typically, 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.

5. Plan for Review – The New Orleans District will coordinate directly with the Review Management Organization (RMO). For the Comite River Diversion, the RMO is the Mississippi Valley Division (MVD) RB-T.

A. Work Products Requiring Review include, but are not limited to the following:
   1) Highway 67 P&S
   2) McHugh Road P&S
   3) Highway 19 P&S
   4) Highway 19 Design Documentation Report (DDR)
   5) Highway 964 P&S
   6) Highway 61 P&S
   7) Highway 61 DDR
   8) White Oak Bayou Drop Structure P&S
   9) White Oak Bayou Drop Structure DDR
   10) Cypress Bayou Drop Structure P&S
   11) Cypress Bayou Drop Structure DDR
   12) Bayou Baton Rouge Drop Structure P&S
   13) Bayou Baton Rouge Drop Structure DDR
   14) Center Channel for Phases 1, 2, 3, 4 and 5 P&S
   15) Center Channel for Phases 1, 2, 3, 4 and 5 DDR
   16) Brooks Lake Closure P&S
   17) Brooks Lake Closure DDR

B. Levels of Review -
   1) District Quality Control (DQC) – DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and MVN district Quality Management Plans. Each District's Comite River Diversion Project Senior Project Manager (CRDP PM) in conjunction with the Chief of E&C will submit its work products, i.e., bridge/drop structure/channel and the Brooks Lake Closure P&S's and DDR's to personnel in the District office not involved in their development for review and comment. This review team will be composed of senior members of the H&H, Structural, Civil, Cost, Specifications and Geotechnical disciplines. The initial DQC will take place following the completion of work products under development as of the date of this review plan.
      a. Documentation: Each DQC member will enter comments into DrChecks for review and resolution. A Certification of Quality Control Review will be signed by the N.O. District ED Chief.
      b. Submittal: This certificate will be kept on file as part of the product's Quality Control Documentation.

c. **Required DQC Team Expertise.** DQC team and required expertise;

DQC Team Members/Disciplines	Expertise Required
DQC Lead	The DQC lead should be a senior professional with experience in Diversion/Control Structures and conducting DQC. The lead should also have the necessary skills and experience to lead a virtual team through the DQC process.
Hydraulic Engineering	The hydraulic reviewer should be a senior hydraulic engineer with experience in Diversion/Control Structures.
Geotechnical Engineering	The geotech reviewer should be a senior geotechnical engineer with experience in Diversion/Control Structures.
Civil Engineering	The Civil reviewer should be a senior Civil Engineer with experience in Diversion/Control Structures.
Cost Engineering	The Cost reviewer should be a senior Cost Engineer with experience in Diversion/Control Structures.
Structural Engineering	The Civil reviewer should be a senior Civil Engineer with experience in structural design.
Construction/Operations	The Construction/Operations reviewer should be a senior Construction/Operations Manager with experience in Diversion/Control Structures.

d. **REVIEW SCHEDULES AND COSTS**

DQC Schedule. Instruction:

Review Milestone	Review Products	Date Planned
Highway 67		
DQC review	Highway 67 P&S	2nd Quarter 2014
Backcheck	Highway 67 P&S	2nd Quarter 2014
DQC Certification	Highway 67 P&S	2nd Quarter 2014
Brooks Lake Closure		
DQC review	Brooks Lake Closure P&S	2nd Quarter 2014
Backcheck	Brooks Lake Closure P&S	2nd Quarter 2014
DQC Certification	Brooks Lake Closure P&S	2nd Quarter 2014
DQC review	Brooks Lake Closure DDR	2nd Quarter 2014
Backcheck	Brooks Lake Closure DDR	2nd Quarter 2014
DQC Certification	Brooks Lake Closure DDR	2nd Quarter 2014
Center Channel Phase 1		
DQC review	Center Channel Phase 1 P&S	2nd Quarter 2014
Backcheck	Center Channel Phase 1 P&S	2nd Quarter 2014
DQC Certification	Center Channel Phase 1 P&S	2nd Quarter 2014
DQC review	Center Channel Phase 1 DDR	2nd Quarter 2014

Backcheck	Center Channel Phase 1 DDR	2nd Quarter 2014
DQC Certification	Center Channel Phase 1 DDR	2nd Quarter 2014
Highway 61		
DQC review	Highway 61 P&S	In Progress
Backcheck	Highway 61 P&S	In Progress
DQC Certification	Highway 61 P&S	In Progress
DQC review	Highway 61 DDR	3rd Quarter 2014
Backcheck	Highway 61 DDR	3rd Quarter 2014
DQC Certification	Highway 61 DDR	3rd Quarter 2014
White Oak Bayou		
DQC review	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
DQC Certification	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Cypress Bayou		
DQC review	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
DQC Certification	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Bayou Baton Rouge		
DQC review	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Backcheck	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
DQC Certification	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Highway 19		
DQC review	Highway 19 P&S	3rd Quarter 2015
Backcheck	Highway 19 P&S	3rd Quarter 2015
DQC Certification	Highway 19 P&S	3rd Quarter 2015
DQC review	Highway 19 DDR	3rd Quarter 2015
Backcheck	Highway 19 DDR	3rd Quarter 2015
DQC Certification	Highway 19 DDR	3rd Quarter 2015
Highway 964		
DQC review	Highway 964 P&S	2nd Quarter 2016
Backcheck	Highway 964 P&S	2nd Quarter 2016
DQC Certification	Highway 964 P&S	2nd Quarter 2016
Center Channel Phase 2		
DQC review	Center Channel Phase 2 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 2 P&S	4th Quarter 2017
DQC Certification	Center Channel Phase 2 P&S	4th Quarter 2017
DQC review	Center Channel Phase 2 DDR	4th Quarter 2017
Backcheck	Center Channel Phase 2 DDR	4th Quarter 2017
DQC Certification	Center Channel Phase 2 DDR	4th Quarter 2017

Center Channel Phase 3		
DQC review	Center Channel Phase 3 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 3 P&S	4th Quarter 2017
DQC Certification	Center Channel Phase 3 P&S	4th Quarter 2017
DQC review	Center Channel Phase 3 DDR	4th Quarter 2017
Backcheck	Center Channel Phase 3 DDR	4th Quarter 2017
DQC Certification	Center Channel Phase 3 DDR	4th Quarter 2017
Center Channel Phase 4		
DQC review	Center Channel Phase 4 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 4 P&S	4th Quarter 2018
DQC Certification	Center Channel Phase 4 P&S	4th Quarter 2018
DQC review	Center Channel Phase 4 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 4 DDR	4th Quarter 2018
DQC Certification	Center Channel Phase 4 DDR	4th Quarter 2018
Center Channel Phase 5		
DQC review	Center Channel Phase 5 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 5 P&S	4th Quarter 2018
DQC Certification	Center Channel Phase 5 P&S	4th Quarter 2018
DQC review	Center Channel Phase 5 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 5 DDR	4th Quarter 2018
DQC Certification	Center Channel Phase 5 DDR	4th Quarter 2018
McHugh Road		
DQC review	McHugh Road P&S	3rd Quarter 2019
Backcheck	McHugh Road P&S	3rd Quarter 2019
DQC Certification	McHugh Road P&S	3rd Quarter 2019

Review Milestone	Review Products	Date Planned
Highway 67		
BCOE review	Highway 67 P&S	2nd Quarter 2014
Backcheck	Highway 67 P&S	2nd Quarter 2014
BCOE Certification	Highway 67 P&S	2nd Quarter 2014
Brooks Lake Closure		
BCOE review	Brooks Lake Closure P&S	2nd Quarter 2014
Backcheck	Brooks Lake Closure P&S	2nd Quarter 2014
BCOE Certification	Brooks Lake Closure P&S	2nd Quarter 2014
BCOE review	Brooks Lake Closure DDR	2nd Quarter 2014
Backcheck	Brooks Lake Closure DDR	2nd Quarter 2014
BCOE Certification	Brooks Lake Closure DDR	2nd Quarter 2014

Center Channel Phase 1		
BCOE review	Center Channel Phase 1 P&S	2nd Quarter 2014
Backcheck	Center Channel Phase 1 P&S	2nd Quarter 2014
BCOE Certification	Center Channel Phase 1 P&S	2nd Quarter 2014
BCOE review	Center Channel Phase 1 DDR	2nd Quarter 2014
Backcheck	Center Channel Phase 1 DDR	2nd Quarter 2014
BCOE Certification	Center Channel Phase 1 DDR	2nd Quarter 2014
Highway 61		
BCOE review	Highway 61 P&S	In Progress
Backcheck	Highway 61 P&S	In Progress
BCOE Certification	Highway 61 P&S	In Progress
BCOE review	Highway 61 DDR	3rd Quarter 2014
Backcheck	Highway 61 DDR	3rd Quarter 2014
BCOE Certification	Highway 61 DDR	3rd Quarter 2014
White Oak Bayou		
BCOE review	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
BCOE Certification	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Cypress Bayou		
BCOE review	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
BCOE Certification	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Bayou Baton Rouge		
BCOE review	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Backcheck	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
BCOE Certification	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Highway 19		
BCOE review	Highway 19 P&S	3rd Quarter 2015
Backcheck	Highway 19 P&S	3rd Quarter 2015
BCOE Certification	Highway 19 P&S	3rd Quarter 2015
BCOE review	Highway 19 DDR	3rd Quarter 2015
Backcheck	Highway 19 DDR	3rd Quarter 2015
BCOE Certification	Highway 19 DDR	3rd Quarter 2015
Highway 964		
BCOE review	Highway 964 P&S	2nd Quarter 2016
Backcheck	Highway 964 P&S	2nd Quarter 2016
BCOE Certification	Highway 964 P&S	2nd Quarter 2016
Center Channel Phase 2		

BCOE review	Center Channel Phase 2 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 2 P&S	4th Quarter 2017
BCOE Certification	Center Channel Phase 2 P&S	4th Quarter 2017
BCOE review	Center Channel Phase 2 DDR	4th Quarter 2017
Backcheck	Center Channel Phase 2 DDR	4th Quarter 2017
BCOE Certification	Center Channel Phase 2 DDR	4th Quarter 2017
Center Channel Phase 3		
BCOE review	Center Channel Phase 3 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 3 P&S	4th Quarter 2017
BCOE Certification	Center Channel Phase 3 P&S	4th Quarter 2017
BCOE review	Center Channel Phase 3 DDR	4th Quarter 2017
Backcheck	Center Channel Phase 3 DDR	4th Quarter 2017
BCOE Certification	Center Channel Phase 3 DDR	4th Quarter 2017
Center Channel Phase 4		
BCOE review	Center Channel Phase 4 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 4 P&S	4th Quarter 2018
BCOE Certification	Center Channel Phase 4 P&S	4th Quarter 2018
BCOE review	Center Channel Phase 4 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 4 DDR	4th Quarter 2018
BCOE Certification	Center Channel Phase 4 DDR	4th Quarter 2018
Center Channel Phase 5		
BCOE review	Center Channel Phase 5 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 5 P&S	4th Quarter 2018
BCOE Certification	Center Channel Phase 5 P&S	4th Quarter 2018
BCOE review	Center Channel Phase 5 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 5 DDR	4th Quarter 2018
BCOE Certification	Center Channel Phase 5 DDR	4th Quarter 2018
McHugh Road		
BCOE review	McHugh Road P&S	3rd Quarter 2019
Backcheck	McHugh Road P&S	3rd Quarter 2019
BCOE Certification	McHugh Road P&S	3rd Quarter 2019

DQC COSTS - Labor/Expenses. Instruction:

Review Milestone	#reviewers/total hours	Approximate cost/hr	Totals
DQC review	5/40	$120	$24000
Backcheck	5/40	$120	$24000
DQC Certification	1/1	$120	$120
DQC Expenses (travel etc)	0	0	$ 0
Total DQC costs	11/81	$120	$48120
BCOE review	5/40	$120	$24000
Backcheck	5/40	$120	$24000
BCOE Certification	1/1	$120	$120
BCOE Expenses (travel etc)	0	0	$ 0
Total BCOE costs	11/81	$120	$48120

2) Agency Technical Review (ATR) – The Mississippi Valley Division will serve as the Review Management Organization (RMO). The RMO will assemble an ATR team composed of members from outside the New Orleans District and include an ATR team leader from outside the MSC. The ATR will take place after completion of the District's DQC. The District CRDP PM in conjunction with the Chief of E&C will submit the work products to the ATR team leader. The leader of the ATR team will complete the statement shown as Appendix A indicating completion of the review and resolution of comments.
   a. Documentation: Each ATR member will enter comments into DrChecks for review and resolution. Comments and discussion will be included in a report developed by the ATR team leader.
   b. Submittal: The report will be submitted to the MVD CRDP Coordinator and MVD CRDP Program Manager within 60 days after receipt of the work products.
   c. **Required ATR Team Expertise.** ATR team and required expertise;

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with experience in Diversion/Control structuresand conducting ATR. The lead should also have the necessary skills and experience to lead a

	virtual team through the ATR process.
Hydraulic Engineering	The hydraulic reviewer should be a senior hydraulic engineer with experience in Diversion/Control Structures.
Geotechnical Engineering	The geotech reviewer should be a senior geotechnical engineer with experience in Diversion/Control Structures.
Civil Engineering	The Civil reviewer should be a senior Civil Engineer with experience in Diversion/Control Structures.
Cost Engineering	The cost reviewer should be a Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for Diversion/Control structures.
Structural Engineering	The Structural reviewer should be a senior Structural Engineer with experience in structural design.
Construction/Operations	The Construction/Operations reviewer should be a senior Construction/Operations Manager with experience in Diversion/Control Structures.

d. **REVIEW SCHEDULES AND COSTS**

ATR Schedule. Instruction:

Review Milestone	Review Products	Date Planned
Highway 67		
ATR review	Highway 67 P&S	2nd Quarter 2014
Backcheck	Highway 67 P&S	2nd Quarter 2014
ATR Certification	Highway 67 P&S	2nd Quarter 2014
Brooks Lake Closure		
ATR review	Brooks Lake Closure P&S	2nd Quarter 2014
Backcheck	Brooks Lake Closure P&S	2nd Quarter 2014
ATR Certification	Brooks Lake Closure P&S	2nd Quarter 2014
ATR review	Brooks Lake Closure DDR	2nd Quarter 2014
Backcheck	Brooks Lake Closure DDR	2nd Quarter 2014
ATR Certification	Brooks Lake Closure DDR	2nd Quarter 2014
Center Channel Phase 1		
ATR review	Center Channel Phase 1 P&S	2nd Quarter 2014
Backcheck	Center Channel Phase 1 P&S	2nd Quarter 2014
ATR Certification	Center Channel Phase 1 P&S	2nd Quarter 2014
ATR review	Center Channel Phase 1 DDR	2nd Quarter 2014
Backcheck	Center Channel Phase 1 DDR	2nd Quarter 2014
ATR Certification	Center Channel Phase 1 DDR	2nd Quarter 2014
Highway 61		
ATR review	Highway 61 P&S	In Progress
Backcheck	Highway 61 P&S	In Progress

ATR Certification	Highway 61 P&S	In Progress
ATR review	Highway 61 DDR	3rd Quarter 2014
Backcheck	Highway 61 DDR	3rd Quarter 2014
ATR Certification	Highway 61 DDR	3rd Quarter 2014
White Oak Bayou		
ATR review	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
ATR Certification	White Oak Bayou Drop Structure P&S	3rd Quarter 2014
Cypress Bayou		
ATR review	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Backcheck	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
ATR Certification	Cypress Bayou Drop Structure P&S	3rd Quarter 2014
Bayou Baton Rouge		
ATR review	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Backcheck	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
ATR Certification	Bayou Baton Rouge Drop Structure P&S	3rd Quarter 2014
Highway 19		
ATR review	Highway 19 P&S	3rd Quarter 2015
Backcheck	Highway 19 P&S	3rd Quarter 2015
ATR Certification	Highway 19 P&S	3rd Quarter 2015
ATR review	Highway 19 DDR	3rd Quarter 2015
Backcheck	Highway 19 DDR	3rd Quarter 2015
ATR Certification	Highway 19 DDR	3rd Quarter 2015
Highway 964		
ATR review	Highway 964 P&S	2nd Quarter 2016
Backcheck	Highway 964 P&S	2nd Quarter 2016
ATR Certification	Highway 964 P&S	2nd Quarter 2016
Center Channel Phase 2		
ATR review	Center Channel Phase 2 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 2 P&S	4th Quarter 2017
ATR Certification	Center Channel Phase 2 P&S	4th Quarter 2017
ATR review	Center Channel Phase 2 DDR	4th Quarter 2017
Backcheck	Center Channel Phase 2 DDR	4th Quarter 2017
ATR Certification	Center Channel Phase 2 DDR	4th Quarter 2017
Center Channel Phase 3		
ATR review	Center Channel Phase 3 P&S	4th Quarter 2017
Backcheck	Center Channel Phase 3 P&S	4th Quarter 2017
ATR Certification	Center Channel Phase 3 P&S	4th Quarter 2017
ATR review	Center Channel Phase 3 DDR	4th Quarter 2017

Backcheck	Center Channel Phase 3 DDR	4th Quarter 2017
ATR Certification	Center Channel Phase 3 DDR	4th Quarter 2017
Center Channel Phase 4		
ATR review	Center Channel Phase 4 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 4 P&S	4th Quarter 2018
ATR Certification	Center Channel Phase 4 P&S	4th Quarter 2018
ATR review	Center Channel Phase 4 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 4 DDR	4th Quarter 2018
ATR Certification	Center Channel Phase 4 DDR	4th Quarter 2018
Center Channel Phase 5		
ATR review	Center Channel Phase 5 P&S	4th Quarter 2018
Backcheck	Center Channel Phase 5 P&S	4th Quarter 2018
ATR Certification	Center Channel Phase 5 P&S	4th Quarter 2018
ATR review	Center Channel Phase 5 DDR	4th Quarter 2018
Backcheck	Center Channel Phase 5 DDR	4th Quarter 2018
ATR Certification	Center Channel Phase 5 DDR	4th Quarter 2018
McHugh Road		
ATR review	McHugh Road P&S	3rd Quarter 2019
Backcheck	McHugh Road P&S	3rd Quarter 2019
ATR Certification	McHugh Road P&S	3rd Quarter 2019

ATR COSTS - Labor/Expenses. Instruction:

Review Milestone	#reviewers/total hours	Approximate cost/hr	Totals
ATR review	7/40	$120	$33600
Backcheck	7/40	$120	$33600
ATR Certification	1/1	$120	$120
ATR Expenses (travel etc)	0	$0	$ 0
Total ATR costs	15/81	$120	$67320

e.

3)Independent External Peer Review (IEPR) – We do not anticipate the need for a type II IEPR at this time. The vast majority of the items associated with this project make use of typical designs that have been in use successfully for an extended period of time. The project is not likely to contain influential scientific information or be a highly influential scientific assessment, nor does the project design require redundancy, resiliency, or

robustness. No project features will be accomplished using the Design-Build or Early Contractor Involvment delivery systems. In addition, all single construction features have an estimated cost below $45,000,000. If there are major changes to the project or processes the need for Type II IEPR will be reevaluated by the PDT.

4) **Engineering Models.** The following engineering models are anticipated to be used in the development of the implementation documents or other work products:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS	Hydraulic Flow Model	Certified

C. Objectives of Review

1) The project meets the Government's scope, intent and quality objectives.
2) Design concepts are valid, feasible, safe, functional and constructible.
3) Appropriate methods of analysis were used and basic assumptions are valid and used for the intended purpose.
4) The source, amount and level of detail of the data used in the analyses are appropriate for the complexity of the project.
5) The project complies with accepted practice and design criteria within the industry.
6) All relevant engineering and scientific disciplines have been effectively integrated.
7) Content is sufficiently complete for the current phase of the project and provides an adequate basis for future development effort.
8) Project documentation is appropriate and adequate for the project phase.

D. Additional Review – If, in the opinion of the senior leaders of the RMO, ATR comments are significant, an IEPR can be conducted for the specific CRDP item.

6. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The Mississippi Valley Division will be the RMO for this review effort. The Mississippi Valley Division will coordinate and approve the review plan. MVN will post the approved review plan on its public website (http://www.mvn.usace.army.mil/pd/pd_peerreview.asp) and allow for public comment. Any comments will be gathered upon

posting and provided to each reviewer before they begin their review. At this time it is not anticipated the public, including scientific or professional societies will be asked to nominate professional reviewers.

7. Point of Contact

The technical point of contact for this review plan is Bobby Duplantier (504) 862-1037. The leaders of the ATR team will serve as the point of contact and liaison between the reviewers and the PDT's and MVD.

Appendix A
COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the [product type & short description of item] for the Comite River Diversion Project near Zachary, LA. 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, 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 DrChecks[sm].

SIGNATURE _____ Date _____
[Name]
ATR Team Leader
[Office Symbol or Name of AE Firm]

SIGNATURE _____ Date _____
[Name]
Project Manager (home district)
[Office Symbol]

SIGNATURE _____ Date _____
[Name]
Architect Engineer Project Manager [1]
[Company, location]

SIGNATURE _____ Date _____
[Name]
Review Management Office Representative
[Office Symbol]

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 _____ Date _____
[Name]
Chief, Engineering Division (home district)
[Office Symbol]

SIGNATURE _____ Date _____
[Name]
Chief, Planning Division[2] (home district)
[Office Symbol]

Add appropriate additional signatures (Operations, Construction, AE principal for ATR solely conducted by AE, etc).

[1] Only needed if some portion of the ATR was contracted

[2]Decision Documents Only.