DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, SOUTH ATLANTIC DIVISION
60 FORSYTH STREET SW, ROOM 10M15
ATLANTA, GA 30303-8801

REPLY TO
ATTENTION OF

CESAD-RBT

19 JAN 2017

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT

SUBJECT: Approval of the Review Plan for the Preconstruction, Engineering, and Design Phase Implementation Documents for the Northern Mitigation Area A Berm, Broward County Water Preserve Area Project, Broward County, Florida

1. References:

a. Memorandum, CESAJ-EN-Q, 5 December 2016, subject: Approval of Review Plan for Preconstruction, Engineering and Design Phase Implementation Documents for the Northern Mitigation Area A Berm, Broward County Water Preserve Area Project, Broward County, Florida (Encl).

b. EC 1165-2-214, Civil Works Review, 15 December 2012.

2. The enclosed subject Review Plan (RP) submitted by the Jacksonville District via reference 1.a has been reviewed by this office and is hereby approved in accordance with reference 1.b above.

3. We concur with the determination of the District Chief of Engineering and conclusion in the RP that a Type II Independent External Peer Review (IEPR) is not required on the Design Documentation Report and Plans and Specification for the Northern Mitigation Area A Berm. The primary basis for our concurrence is that the failure or loss of this less than 3 feet in height Northern Mitigation Area A Berm will not pose a significant threat to human life.

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

5. The SAD point of contact is [redacted]

Encl

[redacted]
Brigadier General, USA
Commanding

CF:
[redacted]

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207

REPLY TO ATTENTION OF

CESAJ-EN-Q

05 DEC 2016

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-RBT), 60 Forsyth Street SW 10M15, Atlanta, GA 30303

SUBJECT: Approval of Review Plan for Preconstruction, Engineering, and Design Phase Implementation Documents for Northern Mitigation Area A Berm, Broward County Water Preserve Area Project, Broward County, Florida

1. References:

   a. EC 1165-2-214, Civil Works Review, 15 Dec 12.

   b. WRRDA 2014, PL 113-121, 10 Jun 14 (Project Authorization).

2. I hereby request approval of the enclosed Review Plan and concurrence with the conclusion that a Type II Independent External Peer Review (IEPR) of the subject project is not required. The recommendation to exclude Type II IEPR is based on the EC 1165-2-214 Risk Informed Decision Process as presented in the Review Plan. Documents to be reviewed include the plans, specifications, and design documentation report. The Review Plan complies with applicable policy, provides for Agency Technical Review, and has been coordinated with the CESAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by CESAD.

3. The district will post the CESAD approved Review Plan to its website and provide a link to the CESAD for its use. Names of Corps/Army employees will be withheld from the posted version, in accordance with guidance.

4. If you have any questions regarding the information in this letter, please feel free to contact me or you may contact [redacted]

Encl

[redacted]
Colonel, EN
Commanding

PROJECT REVIEW PLAN

For

Preconstruction, Engineering and Design Phase Implementation Documents

For

Northern Mitigation Area A Berm (NMA-A) Broward County Water Preserve Area Project

Broward County, Florida

Project P2 Number: 114627

Jacksonville District

November 2016

US Army Corps of Engineers ®

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.

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1. PURPOSE AND REQUIREMENTS

a. Purpose

This Review Plan defines the scope and level of review activities for the Northern Mitigation Area A (NMA-A) Berm, Broward County Water Preserve Area A (BCWPA) Project, Broward County, Florida. As discussed below, the review activities consist of a District Quality Control (DQC) effort, an Agency Technical Review (ATR), and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. Also as discussed below, an Independent External Peer Review (IEPR) is not recommended. The project is in the Pre-Construction, Engineering and Design (PED) phase. The implementation documents to be reviewed are Final Plans and Specifications (P&S) and a Design Documentation Report (DDR). Upon approval, this review plan will be included into the Project Management Plan for this project as an appendix to the Quality Management Plan.

b. References

(1). ER 1110-2-1150, "Engineering and Design for Civil Works Projects", 31 August 1999

(2). ER 1110-1-12, "Engineering and Design Quality Management", 31 March 2011

(3). EC 1165-2-214, "Civil Works Review", 15 December 2012

(4). ER 415-1-11, "Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review", 1 January 2013

(5). SAJ EN QMS 02611, "SAJ Quality Control of In-House Products: Civil Works PED", 21 November 2011

(6). SAJ EN QMS 08550, "BCOES Reviews", 21 September 2011

(7). Enterprise Standard (ES) 08025, "Government Construction Quality Assurance Plan and Project/Contract Supplements"

(8). Enterprise Standard (ES) 08026, "Three Phase Quality Control System"

(9). Project Management Plan, Broward County WPA, P2 Number 114627

c. Requirements

This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and other work products. The EC outlines five levels of review: District Quality Control (DQC), Agency Technical Review (ATR), and an Independent External Peer Review (IEPR), Policy and Legal Review and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review.

d. Review Plan Approval and Updates

The South Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review. Like the PMP, the Review Plan is a living document and may change as the project progresses. The Jacksonville

District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment A. Significant changes to the 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 Jacksonville District's webpage. The latest Review Plan will be provided to the RMO and home MSC.

e. Review Management Organization

The South Atlantic Division (SAD) is designated as the Review Management Organization (RMO). The RMO, with appropriate coordination with the vertical team, will approve the ATR team members. CESAJ will assist SAD with management of the ATR and development of the charge to reviewers.

2. PROJECT INFORMATION

a. Project Background

The Comprehensive Everglades Restoration Plan (CERP) is a vast ecosystem restoration comprised of many sub-projects that was authorized by Congress with approval of CERP Feasibility Report in the 2000 Water Resource Development Act (WRDA 2000). CERP is part of the Central and Southern Florida Project (C&SF). This project was jointly developed by the Federal government with the State of Florida as the non-federal sponsor via the South Florida Water Management and St. Johns Water Management Districts. For the BCWPA project, the non-Federal sponsor is the South Florida Water Management District (SFWMD).

The BCWPA originated as part of a larger CERP component, the Water Preserve Area (WPA) projects. The WPAs serve multi-purpose functions including the following: (1) as an ecosystem buffer area from the urban development to the east, (2) routing natural system water from wetland areas that often contain excess water to areas having water demands, (3) providing storage of water during wet times versus losing to tide, for later release during dry times, and (4) providing alternative storage of nutrient-laden urban runoff instead of pumping to the Everglades for flood damage reduction. The BCWPA project components will serve mostly the latter purpose, reduction of the urban runoff from the Western C-11 Canal Basin from being pumped into Water Conservation Area 3A (WCA 3A) by the S-9 pumping station.

b. Project Authorization

The Northern Mitigation Area (NMA) A Berm is currently a stand-alone project that was previously adjoined with the North Mitigation Area A and C-11 Impoundment Project as a component of the larger Broward County Water Preserve Area Project. The BCWPA is part of the cost-shared Federal and State of Florida Everglades restoration program known as the Central and Southern Florida Comprehensive Everglades Restoration Project (C&SF CERP). The BCWPA has been authorized by Congress with the approval of the Project Implementation Report (BCWPA PIR, 2013).

c. Current Project Description

The NMA-A berm will be constructed from scrapped material within the NMA-A footprint and between a pair of finger lakes. The NMA-A berm is less than 3 feet in height and 4950 feet in length with a 12-foot crest width and 1:4 side slopes. The contract also includes constructing a

boat channel within the lake and incidental filling of a spoil area. Surplus material is expected from the excavation. Material can be disposed of in designated project spoil areas.

d. Project Location

Mitigation Area A of the BCWPA project northern boundary is approximately 3.5 miles south of I-75/US-27 Interchange while the southern boundary is 2.3 miles further south at the C-11 Canal. US-27 borders Mitigation Area A to the west, and City of Weston urban development is on the eastern border. NMA-A Berm is bounded by SW 26th Street on the south side.

e. Public Participation

The Jacksonville District Corporate Communications Office continually keeps the affected public informed on Jacksonville District projects and activities. There are no planned activities, public participation meetings or workshops that could generate issues needing provision to review teams. The approved review plan will be posted on the Jacksonville District Internet. Any comments or questions regarding the review plan will be addressed by the Jacksonville District.

f. Civil Works Cost Engineering Mandatory Center of Expertise Certification

The cost related documents associated with the P&S and DDR and the associated contract do not require external peer review or certification by the Cost Engineering Mandatory Center of Expertise (MCX).

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for DDRs and P&S are stipulated in ER 1110-1-12, Engineering & Design Quality Management and SAJ EN QMS 02611. The subject project DDR and P&S will be prepared by the Jacksonville District using ER 1110-1-12 procedures and will undergo District Quality Control. SAJ EN QMS 02611 defines DQC as the sum of two reviews, Discipline Quality Control Review (DQCR) and Product Quality Control Review (PQCR). Product Quality Control Review Certification is the DQC Certification and will precede ATR.

4. AGENCY TECHNICAL REVIEW

a. Risk Informed Decision on Appropriate Level of Review

PED phase implementation documents are being prepared and an ATR of the P&S and DDR documents is required.

b. Agency Technical Review Scope.

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and ER 1110-1-12. An ATR was completed on the North Mitigation Area A full project, which the NMA-A Berm known as L-515 was included. An ATR will be performed on the P&S and DDR final submittals of just the NMA-A Berm.

ATR will be conducted by individuals and organizations that are external to the Jacksonville District. The ATR Team Leader will be a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments will be documented in the DrChecks^{sm} model review documentation database. DrChecks^{sm} is a module in the ProjNet^{sm} suite of tools developed and operated at ERDC-CERL (www.projnet.org). At the conclusion of ATR, the ATR Team Leader will prepare an ATR Review Report that summarizes the review. An outline for an ATR Review Report is in Attachment C. The report will include at a minimum the Charge to Reviewers, ATR Certification Form from EC 1165-2-214, and the DrChecks^{sm} printout of the comments.

c. ATR Disciplines.

As stipulated ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); subject matter experts (SME) certified in CERCAP; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels.

ATR Team Leader. The ATR Team Leader should have 7 or more years of experience with Civil Works Projects. The ATR Team Leader can also serve as one of the review disciplines.

Civil Engineering. The team member shall be a registered professional engineer and have 7 or more years of experience with civil/site work projects that included backfilling channels and ecosystem restoration features. Related project construction experience is desired.

Geotechnical Engineering. The team member shall be a registered professional engineer and have 7 or more years of experience in geotechnical engineering. Experience shall include geotechnical evaluation of flood risk management structures. Experience shall encompass static slope stability evaluation; evaluation of the seepage through earthen embankments and under seepage through the foundation of the flood risk management structures, levee embankments, floodwalls, closure structures and other pertinent features; and settlement evaluations.

5. BIDDABILITY, CONSTRUCTABILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY REVIEW

The value of a BCOES review is based on minimizing problems during the construction phase through effective checks performed by knowledgeable, experienced personnel prior to advertising for a contract. Biddability, constructability, operability, environmental, and sustainability requirements must be emphasized throughout the planning and design processes for all programs and projects, including during planning and design. This will help to ensure that the government's contract requirements are clear, executable, and readily understandable by private sector bidders or proposers. It will also help ensure that the construction may be done efficiently and in an environmentally sound manner, and that the construction activities and projects are sufficiently sustainable. Effective BCOES reviews of design and contract documents will reduce risks of cost and time growth, unnecessary changes and claims, as well as support safe, efficient, sustainable operations and maintenance by the facility users and maintenance organization after construction is complete. A BCOES Review will be conducted for this project. Requirements and further details are stipulated in ER 1110-1-12, ER 415-1-11, and SAJ EN QMS 08550.

6. INDEPENDENT EXTERNAL PEER REVIEW

a. General.

EC 1165-2-214 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design and Construction Phases). The EC defines Section 2035 Safety Assurance Review (SAR), Type II Independent External Peer Review (IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers.

b. Type I Independent External Peer Review Determination.

A Type I IEPR is primarily associated with decision documents. A Type I IEPR is not applicable to the implementation documents covered by this Review Plan.

c. Type II Independent External Peer Review Determination.

This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-214) and therefore, a review under Section 2035 is not required. The factors in determining whether a review of design and construction activities of a project are necessary as stated under Section 2035 along with this review plans applicability statements follow.

(1) The failure of the project would pose a significant threat to human life.

The Northern Mitigation Area A berm is less than 3 feet in height. Failure of the structure would not pose a threat to human life.

(2) The project involves the use of innovative materials or techniques.

This project will utilize methods and procedures used by the Corps of Engineers on other similar works.

(3) The project design lacks redundancy.

The project features are not complex in nature and do not employ the concept of redundancy.

(4) The project has unique construction sequencing or a reduced or overlapping design construction schedule.

This project's construction does not have unique sequencing or a reduced or overlapping design. The installation sequence and schedule has been used successfully by the Corps of Engineers on other similar works.

Based on the discussion above, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review of the P&S and DDR.

7. POLICY AND LEGAL COMPLIANCE

The Jacksonville District Office of Counsel reviews all contract actions for legal sufficiency in accordance with Engineer Federal Acquisition Regulation Supplement 1.602-2 Responsibilities. The subject implementation documents and supporting environmental documents will be reviewed for legal sufficiency prior to advertisement.

8. MODEL CERTIFICATION AND APPROVAL

This ecosystem restoration project will not use any engineering models that have not been approved for use by USACE.

9. PROJECT DELIVERY TEAM DISCIPLINES

PDT Disciplines
Civil Engineering
Cost Engineering
Geotechnical Engineering
Hydraulic and Hydrologic Engineering

10. BUDGET AND SCHEDULE

a. Project Schedule.

Milestone	Task	Start Date	End Date
CW310	Draft Intermediate P&S complete	13-Apr-2015	21-Oct-2015
	Intermediate DQCR	22-Oct-2015	27-Oct-2015
	Intermediate PQCR/DQC*	29-Oct-2015	24-Dec-2015
	Intermediate ATR Review	26-Jan-2016	24-Feb-2016
	Intermediate ATR Certification	07-Apr-2016	22-Apr-2016
	Final P&S complete	17-Oct-2016	29-Nov-2016
	Final DQCR	30-Nov-2016	05-Dec-2016
	Final PQCR/DQC*	06-Dec-2016	21-Dec-2016
	Final ATR Review	23-Dec-2016	31-Jan-2017
	Final ATR Certification	02-Feb-2017	02-Feb-2017
	BCOES	03-Feb-2017	09-Mar-2017
CW320	BCOES Certification	10-Mar-2017	10-Mar-2017
CW400	Advertisement	22-Mar-2017	21-Apr-2017

* SAJ EN QMS 02611 defines DQC as the sum of DQCR and PQCR.

b. ATR Cost.

Funds will be budgeted for an ATR Coordination Meeting and to execute a final ATR as outlined above. It is envisioned that each reviewer will be afforded 24 hours for the review plus 8 hours for coordination. The estimated cost range is $15,000 - $20,000.

ATTACHMENT A: APPROVED REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT B: PARTIAL LIST OF ACRONYMS AND ABBREVIATIONS

Acronyms	Defined
AFB	Alternatives Formulation Briefing
ATR	Agency Technical Review
BCOES	Biddability, Constructability, Operability, Environmental, and Sustainability Review
CAP	Continuing Authorities Program
CERCAP	Corps of Engineers Reviewer Certification and Access Program
CY	Cubic Yards
DDR	Design Documentation Report
DQC	District Quality Control
DQCR	Discipline Quality Control Review
EC	Engineering Circular
ER	Engineering Regulation
EA	Environmental Assessment
ERDC-CERL	Engineer Research and Development Center – Construction Engineering Research Laboratory
ESA	Endangered Species Act
ETL	Engineering Technical Lead
FDEP	Florida Department of Environmental Protection
FONSI	Findings of No Significant Impacts
FSCA	Feasibility and Cost Sharing Agreement
FY	Fiscal Year
GRR	General Reevaluation Report
IEPR	Independent External Peer Review
LPP	Locally Preferred Plan
MCX	Mandatory Center of Expertise
MLLW	Mean Low Low Water
MSC	Major Subordinate Command
NAS	National Academy of Sciences
NEPA	National Environmental Policy Act
ODMDS	Ocean Dredged Material Disposal Site
OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
P&S	Plans and Specifications
PED	Preconstruction Engineering and Design
PDT	Project Delivery Team
PM	Project Manager
PMP	Project Management Plan

Acronyms	Defined
PPA	Project Partnering Agreement
PQCR	Product Quality Control Review
QA	Quality Assurance
QCP	Quality Control Plan
QMP	Quality Management Plan
QMS	Quality Management System
RMC	Risk Management Center
RMO	Review Management Organization
RP	Review Plan
RTS	Regional Technical Specialist
SAJ	South Atlantic Jacksonville District Office
SAD	South Atlantic Division Office
SAR	Safety Assurance Review (also referred as Type II IEPR)
SME	Subject Matter Expert
USACE	U.S. Army Corps of Engineers
WRDA	Water Resources and Development Act

ATTACHMENT C

ATR Report Outline and COMPLETION OF AGENCY TECHNICAL REVIEW

Northern Mitigation Area A Berm
Broward County Water Preserve Area
Broward County, Florida

Review of Plans and Specifications (P&S), Design Documentation Report (DDR)

ATR REPORT OUTLINE (Unneeded items, such as ATR Team Member Disciplines that are not identified as needed in the Review Plan, shall be deleted from the ATR Report.)

1. **Introduction:**

2. **Project Description:**

3. **ATR Team Members:**
   ATR Team Leader
   Geotechnical Engineering
   Civil Engineering

4. **ATR Objective:**

5. **Documents Reviewed:**

6. **Findings and Conclusions:**

7. **Unresolved Issues:**

Enclosures:

1. ATR Statement of Technical Review
2. ATR Comments (DrChecks)
3. Project Review Plan
4. Charge to Reviewers
5. Certification of District Quality Control Review

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Northern Mitigation Area A Berm, Broward County Water Preserve Area Project, Broward County, Florida, including the design documents, plans and specifications and DDR. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214 and ER 1110-1-12. 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.

_____ _____
NAME Date
ATR Team Leader

_____ _____
NAME Date
Project Manager

_____ _____
NAME Date
Review Management Office Representative

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.

_____ _____
NAME Date
Chief, Engineering Division
SAJ-EN