



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

CESAD-RBT

15 July 2020

MEMORANDUM FOR Commander, Wilmington District, 69 Darlington Avenue,
Wilmington, North Carolina 28403

SUBJECT: Approval of the Review Plan for Eagle Island Confined Disposal Facility
Improvements for Cell 1 (Fiscal Year 2020)

1. References:

- a. Memorandum, CESAW-DE, 7 July 2020, subject as above.
- b. Engineering Circular (EC) 1165-2-217, Water Resources Policies and Authorities Review Policy for Civil Works, 20 February 2018.

2. The enclosed Review Plan (RP) for the Eagle Island Confined Disposal Facility Improvements for Cell 1, submitted by the Wilmington District via reference 1.a. noted above has been reviewed by South Atlantic Division (SAD). The RP is hereby approved in accordance with reference 1.b.

3. The South Atlantic Division Office shall be the Review Management Organization (RMO) for this project.

4. SAD concurs with the District's RP recommendation that outlines the requirements for District Quality Control (DQC), Agency Technical Review (ATR), and Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review and the conclusion that a Safety Assurance Review/Type II Independent External Peer Review is not required.

5. The District should take steps to post the approved RP to its website and provide a link to CESAD-RBT. Before posting to the website, 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.

6. The SAD point of contact is [REDACTED], CESAD-RBT, [REDACTED].

Encl

[REDACTED]
COL, EN
Commanding



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

CESAW-DE

07 July 2020

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, South Atlantic Division,
(CESAD-RBT)

SUBJECT: Approval of Review Plan for Eagle Island Confined Disposal Facility Improvements
for Cell 1 (Fiscal Year 2020)

1. Reference-EC 1165-2-217, Civil Works Review Policy, 20 Feb 2018
2. I hereby request approval of the enclosed Review Plan for Eagle Island Confined Disposal Facility Improvements for Cell 1 (Fiscal Year 2020) Project. The Review Plan complies with applicable policy and includes DQC and ATR plans for this project. For this project a Type II IEPR (SAR) will not be performed.
3. The District will post the Corps of Engineers South Atlantic Division (CESAD) approved Review Plan to its website and provide a link to CESAD for its use. Names of Corps/Army employees are withheld from the posted version, in accordance with guidance.

[REDACTED]

Encls

[REDACTED]
COL, EN
Commanding

**Review Plan
U.S. Army Corps of Engineers
SAD Division
SAW District**

**Eagle Island Confined Disposal Facility
Improvements for Cell 1 (Fiscal Year
2020)**

Brunswick County, North Carolina

Implementation Documents

MSC Approval Date: *July 15, 2020*

Last Revision Date: *July 20, 2020*

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. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.



**US Army Corps
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1. Purpose and Requirements

a. Purpose

This Review Plan defines the scope and level of review activities for preparing implementation documents for the Eagle Island Confined Disposal Facility Cell 1 Improvements (Fiscal Year 2020) and will ensure that a quality engineering project is developed by the Corps of Engineers in accordance with EC 1165-2-217, "Review Policy for Civil Works." As discussed below, the review activities consist of a District Quality Control (DQC) effort, an Agency Technical Review (ATR), Policy and Legal Review, and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. Also discussed below, an Independent External Peer Review (IEPR) is not recommended. The project is in the Construction phase. The implementation documents to be reviewed are a Design Documentation Report (DDR) and Plans and Specifications (P&S). Upon approval, this Review Plan will be included in the Wilmington Harbor Project Management Plan as an appendix to the Quality Management Plan.

b. Guidance and Policy References

- EC 1165-2-217, Review Policy for Civil Works, 20 Feb 2018; expired 31 Mar 2020.
- ER 1110-1-12, Quality Management, 30 Sep 2006
- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- ER 415-1-11, Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review, 1 Jan 2013
- EM 1110-1-1804, Geotechnical Investigations, 1 Jan 2001
- EM 1110-1-1904, Settlement Analysis, 30 Sep 1990
- EM 1110-2-1902, Slope Stability, 31 Oct 2003
- EM 1110-2-1906, Laboratory Soils Testing 20 Aug 1986
- EM 1110-2-1913, Design and Construction of Levees, 30 Apr 2000
- EM 1110-2-5025, Dredging and Dredged Material Management, 31 Jul 2015
- Wilmington Harbor Project Quality Management Plan
- Wilmington Harbor Project Management Plan
- Wilmington District (SAW) QMS 100 Quality Management (QM) Standard Operating Procedure (SoP)
- Wilmington District (SAW) QMS 101.1 Quality Management System for Civil Works Products

c. 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 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), an Independent External Peer Review (IEPR), Policy and Legal Review, and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. The Review Plan identifies the most important skill sets needed in the reviews, 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 the PDT, and the DQC and ATR Teams.

d. Review Management Organization

The South Atlantic Division (SAD), the Major Subordinate Command (MSC), is the Review Management Organization (RMO) for this project. Contents of this Review Plan have been coordinated with the SAD. In-Progress Review (IPR) team meetings with SAD and Wilmington District (SAW) will be scheduled on an "as needed" basis to discuss programmatic, policy, and technical matters. SAW will assist the RMO with management of the ATR review and development of the charge to reviewers.

2. Project Description and Information

a. Project Description

Wilmington Harbor is located at Wilmington on the southern coast of North Carolina in New Hanover and Brunswick Counties. The Wilmington Harbor project consists of two separable elements, the portion for annual maintenance dredging of the harbor and the portion for constructing and raising the dikes on Eagle Island Confined Disposal Facility (CDF) to contain the dredged material.

Since the early 1900s, the upper portion of Wilmington Harbor has been dredged using a hydraulic cutterhead pipeline dredge with disposal of the dredged material in disposal areas located adjacent to the channel. The Eagle Island CDF, located on the peninsula between the Cape Fear and Brunswick Rivers south of Highway 17, has been the primary disposal site for dredged material from the upper portion of Wilmington Harbor for decades. The Eagle Island CDF is located on a 1,473-acre tract owned by the U.S. Army Corps of Engineers. Eagle Island dikes were constructed in the late 1970s and now encompass approximately 740 acres of diked uplands. The existing Eagle Island CDF currently consists of three cells: Cell 1, Cell 2, and Cell 3 with diked areas of

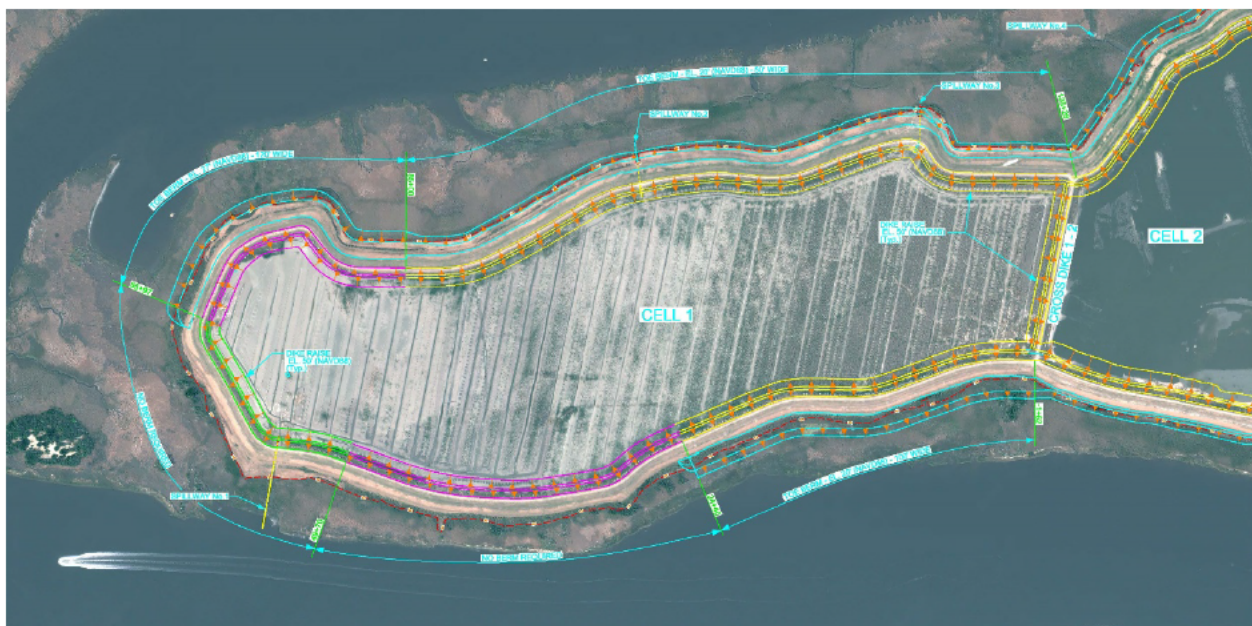
approximately 220, 260 and 260 acres, respectively. Cells are utilized for disposal on a rotating basis and dikes are raised as needed.

The operating plan for the Eagle Island CDF has been to pump dredged material into one of the three disposal cells each year during the annual Wilmington Harbor Anchorage Basin maintenance dredging while the other two disposal cells are being prepared for dike raising. The other two cells are dewatered and ditched to dry out material on the interior of the disposal cells to provide a source of borrow to raise the dikes. The top of dike elevations are increased in increments of approximately three to six feet for each dike raise event. The existing approximate top of dike elevation is 42' NAVD88 for Cells 2 and 3 and 40' NAVD88 for Cell 1. There are two to three spillway systems in each Cell. The spillway systems include a box weir with timber stop logs for adjusting the water level during disposal operations. The spillway box weirs are raised and relocated as needed for dike raising.

The project was authorized by the Water Resources Development Acts of 1986 (PL 99-662) and 1996 (PL 104-303) and the Energy and Water Development Appropriations Act of 1998.

b. Proposed Work Description

The proposed FY2020 project will improve Cell 1 of the Eagle Island CDF. The work consists of expanding the foundation of the existing dike base and modifying and improving the spillway system. Spillways will be replaced and constructed in accordance with most recent spillway designs. Perimeter toe berms will be constructed along the south and west sides of the embankment dike for Cell 1. Material required for construction will come from the interior of the Cell 1 diked area.



3. District Quality Control

a. Requirements

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo a DQC. District Quality Control (DQC) and Quality Assurance activities for implementation documents (DDRs and P&S) are stipulated in ER 1110-1-12, "Quality Management." The subject project DDR and P&S will be prepared by the Wilmington District using existing procedures and will undergo DQC Review. DQC Review Certification will be completed prior to the Agency Technical Review. The DQC Review will be managed by the Wilmington District and will include resources from the Wilmington District. The first DQC Review will consist of a geotechnical discipline specific review of the geotechnical analysis prior to the initiation of the development of P&S. A PDT Review will be performed during the 65% design phase. DQC Reviews will be performed at the 65% and 95% design phases of the P&S.

All computations, drawings or sketches shall undergo a rigorous independent check as part of the standard Quality Control (QC) process. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts. Quality checks include a review of the schedules, budgets, means and methods of construction, and whether lessons learned have been considered. DQC is assuring the math and assumptions are correct by having a checker review all computations. The documentation of the computation review will be done by initializing each sheet of the computations. Checking is accompanied by a red check mark or similar annotation next to the item that has been checked. An alternative method of documentation will be the use of a DQC Review Checklist that indicates items checked, which are initialized by reviewer. For drawings, the checker shall either follow similar procedures as the computations and place a red check mark or similar annotation on each dimension/elevation, note or reference showing concurrence with the correctness of the information shown, or use a DQC Review Checklist. Additionally, the PDT is responsible for ensuring 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. DrChecks review software will be the official system for the continuity of the review record for DQC Reviews. DrChecks

review software will be used to document DQC Review comments, responses and associated resolutions accomplished throughout the review process.

4. Agency Technical Review

a. Requirements

ATR is mandatory for all implementation documents (including supporting data, analyses, environmental compliance documents, etc.). A formal review period will be executed at the completion of the 65% design milestone. This review will be performed on the P&S and DDR. Any comments discussed and documented before such milestones will be resolved during those formal Review Periods.

The objective of ATR is to ensure consistency with established criteria, guidance and procedures. The ATR will assess whether the analyses presented are technically correct, went through robust DQC (DQC Review Certification will be verified at this time), and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner.

b. Documentation of ATR

DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process, both during the continuous review and the formal review periods. Comments will be limited to those that are required to ensure adequacy of the product. ATR comments will be captured throughout the entire design process. ATR members will work with the design team members to input comments anytime key assumptions and decisions are reached and documented during the design process. A 65% ATR review will be set up in DrChecks and will include all comments up to the 65% design.

The four key parts of a quality review comment will normally include:

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

c. Comment Resolution

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

d. Products to Undergo ATR

The products that will undergo ATR will be the 65% P&S, DDR, DQC documentation and any other design information. The DDR will include appendices documenting geotechnical design and civil design.

e. Required ATR Team Expertise and Requirements

The ATR team 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. The ATR team will be chosen based on each individual's qualifications and experience with similar projects. All Engineering and Construction (E&C) Community of Practice (CoP) reviewers will be certified in Corps of Engineers Reviewer Certification and Access Program (CERCAP):

<https://maps.crrel.usace.army.mil/apex/f?p=CERCAP>.

The ATR Team will be composed of four (4) members as follows as listed below. One team member will perform the combined duties of ATR Lead and review.

(See Appendix 2 for member's names)

- 1) **Geotechnical Engineer** – The team member shall be a senior level professional with 10 years of relevant experience in the field of geotechnical engineering, analysis, design, and construction of earthen embankments. The geotechnical engineer shall have experience in subsurface investigations, soil mechanics, slope stability evaluations, settlement analysis, foundation modification/improvement, and earthwork construction. Professional registration preferred.

- 2) **Civil Engineer** – The team member shall be a senior level professional with a minimum of 10 years of relevant dredging operations and/or civil/site work project experience that includes dredging and disposal operations, embankments, and navigation channels. Professional registration preferred.
- 3) **Structural Engineer** – The team member shall be a senior level professional with 10 years of relevant experience in the field of structural engineering, analysis, design, and construction of earthen retention structures, concrete structures, conduits through earthen embankments, and weirs. Professional registration preferred.
- 4) **Environmental Compliance**– The team member should have experience in environmental compliance requirements for navigation or shore protection projects, including, but not limited to the Clean Water Act, Endangered Species Act, Coastal Zone Management Act, Clean Air Act, National Historic Preservation Act, and the National Environmental Policy Act (NEPA), which includes the preparation of NEPA documents.

f. Completion and Certification of the ATR

At the conclusion of the ATR effort (65% ATR), the ATR team will prepare a Review Report summarizing the review. Review Report 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 / Safety Assurance Review

a. Requirements.

An 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 1165-2-217, 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.

Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health, safety and welfare.

b. Type I IEPR Determination

Type I IEPR is generally for decision documents. No decision documents or other applicable Section 2034 products are addressed by this Review Plan. Therefore, Type I IEPR is not applicable to the implementation documents addressed by this Review Plan.

c. Type II IEPR/Safety Assurance Review (SAR) Determination

For any design and construction activities that are justified by life safety or for which the failure of the project would pose a significant threat to human life, a SAR is required. A recommendation for an exclusion from this requirement must be documented in the Review Plan with a thorough discussion of why there are no potential failure modes for the project that would pose a significant threat to human life. A project is determined to have a “significant threat to human life” if at any time during the construction or operation, failure could result in a substantial life safety concern. The consequences of failure and the population at risk are paramount for the SAR determination. Existing risk

information, including risk assessments, should be used to facilitate and inform this determination.

A risk-informed decision was made as to whether conducting a Type II IEPR is appropriate based on the below consideration factors as outlined in EC 1165-2-217, Section 12 (h) thru (i).

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

The FY2020 Eagle Island Cell 1 Improvement project will include toe berms, dike raises, and spillway modifications and will be constructed in accordance with program requirements and constraints. The CDF is located on an island and any population near the CDF is located on the opposite side of the river. The river and tidal marshes between the dike and the houses would act as a buffer to reduce any effect of a failure. Therefore, failure or loss of the dike or spillways will not pose a significant threat to human life.

(2) The project involves the use of innovative materials or techniques and the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices.

This FY2020 Eagle Island Cell 1 Improvement project will utilize methods and procedures used by the Corps of Engineers on other similar works and are not innovative, novel, nor precedent-setting.

(3) The project design requires redundancy, resiliency, and robustness.

The Eagle Island CDF dike design is in accordance with EM 1110-2-1902, "Slope Stability," EM 1110-2-5025, "Dredging and Dredged Material Management," and EM 1110-2-1913, "Design and Construction of Levees." These manuals do not address the concept of redundancy, resiliency, and robustness for dike design.

(4) The project has unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement delivery systems.

The project design is not anticipated to require unique construction sequencing, or a reduced or overlapping design construction schedule. The construction sequence 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.

d. Products to Undergo Type II IEPR – Not Applicable

e. Required Type II IEPR Panel Expertise – Not Applicable

f. Documentation of Type II IEPR – Not Applicable

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. 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 at the Final Design Phase. BCOES will be managed by the Wilmington District with team members from SAW.

8. 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 shall be involved at key decision points and are encouraged to provide timely over the shoulder comments. An overall review schedule that shows timing and sequence of all reviews is provided below.

PROJECT PHASE/SUBMITTAL	REVIEW START DATE	REVIEW END DATE
DQC Review of Geotechnical Appendix	27 April 2020 (actual)	8 May 2020 (actual)
DQC Review of 65% Design	06 July 2020 13 July 2020 (actual)	10 July 2020¹ 17 July 2020 (actual)
ATR of 65% Design	10 August 2020	21 August 2020
ATR Certification	23 September 2020	6 October 2020
DQC Review of 95% Design	23 September 2020	29 September 2020
BCOES Review	7 October 2020	14 October 2020

*Dates subject to change

b. ATR Schedule and Cost

The preliminary review schedule is listed in the table in paragraph a. of this section. It is envisioned that each reviewer will be afforded 24 hours for the review plus an additional 20 hours for coordination for the ATR Lead. The cost for the ATR is estimated at \$19,000. This estimate includes services for all milestones as listed under article 4.a.

c. IEPR Schedule and Costs

A Type II IEPR will not be required for this project.

9. Public Participation of Review Plan

As required by EC 1165-2-217, the approved Review Plan will be posted on the District public website (<http://www.saw.usace.army.mil/Library/Review-Plans/>). The public will have 30 days to provide comments on the documents; after all comments have been submitted, the comments will be provided to the technical reviewers. This is not a formal comment period and there is no set timeframe for the opportunity for public comment. If and when comments are received, the PDT will consider them and decide if revisions to the review plan are necessary. This engagement will ensure that the peer

¹ DQC Review of 65% Design Schedule revised in 20 July 2020 version.

review approach is responsive to the wide array of stakeholders and customers, both within and outside the federal government.

10. Review Plan Approval and Updates

The MSC for this is the South Atlantic Division. The SAD Commander is responsible for approving this RP. The Commander's approval reflects vertical team input as to the appropriate scope and level of review. 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 SAD Commander's 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-approved by the SAD Commander following the process used for initially approving the plan. The latest Review Plan should be provided to the PDT, and the DQC, and ATR Teams.

11. 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 for this phase of the project.

MODEL	STATUS
GeoStudio 2019 SLOPE/W and SEEP/W, version 10.0.0.17401	Approved
MicroStation	Approved
Civil 3D	Approved



12. Review Plan Points of Contact


NAME/TITLE	ORGANIZATION	EMAIL/PHONE
<div>██████████</div> Civil Engineer	CESAW-ECP-ED	<div>██</div> <div>████████████████████</div>
<div>██████████</div> Geotechnical Engineer, Engineer Technical Lead	CESAW-ECP-EG	<div>██</div> <div>████████████████████</div>
<div>██████████</div> Quality Manager	SAD	<div>██</div> <div>████████████████████</div>

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.

ATR Team Leader


Date


Project Manager
CESAW-PM-DJ

Date


Engineer Technical Lead
CESAW-ECP-EG


Date


Quality Manager
CESAD-RBT

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.


Chief, Engineering Branch
CESAW-ECP-E

Date

For Official Use Only

Attachment 2: Team Rosters

PDT Members

Title	Name	Organization	Email / Phone
Project Manager	[REDACTED]	CESAW-PM-DJ	[REDACTED]
Engineering Technical Lead / Geotechnical Engineer	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Geotechnical Engineer	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Geotechnical Engineer	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Geotechnical Engineer	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Civil Engineer	[REDACTED]	CESAW-ECP-ED	[REDACTED]
Biologist	[REDACTED]	CESAW-ECP-PE	[REDACTED]
Surveyor	[REDACTED]	CESAW-ECP-ET	[REDACTED]
Cost Engineer	[REDACTED]	CESAW-ECP-ET	[REDACTED]
Deputy District Counsel	[REDACTED]	CESAW-OC	[REDACTED]
Contracting Specialist	[REDACTED]	CESAW-CT-D	[REDACTED]
Contracting Officer	[REDACTED]	CESAW-CT	[REDACTED]

² Removed as PDT member in 20 July 2020 version.



DQC Reviewers

Discipline	Name	Organization	Email/ Phone
Civil	[REDACTED]	CESAW-ECP-ED	[REDACTED]
<i>Civil</i>	[REDACTED]	CESAW-ECP-ED	[REDACTED]
<i>Civil Engineer</i>	[REDACTED]	CESAW-ECP-ED	[REDACTED]
Cost	[REDACTED]	CESAW-ECP-ET	[REDACTED]
Environmental	[REDACTED]	CESAW-ECP-PE	[REDACTED]
Geotechnical	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Geotechnical	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Geotechnical	[REDACTED]	CESAW-ECP-EG	[REDACTED]
Construction	[REDACTED]	CESAW-ECP-CA	[REDACTED]
Construction	[REDACTED]	CESAW-ECP-CA	[REDACTED]

³ Removed as PDT member in 20 July 2020 version.

⁴ Added as DQC Reviewer in 20 July 2020 version.



Agency Technical Review (ATR) Team

Discipline	Name	Organization	Email / Phone
ATR Lead/Civil	TBD		
Geotechnical	TBD		
Structural	TBD		
Environmental	TBD		

Attachment 3: Review Plan Revisions

Revision Date	Description of Change	Page / Paragraph Number
20 JUL 2020	Added SAD approval date of 15 JUL 2020.	Title Page
	Revised DQC Review of 65% Design schedule	Pg. 11 / Para. 8.a
	Revised Team Rosters, PDT Members and DQC Reviewers	Pg. A2-1 & A2-2