DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, US ARMY CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
BROOKLYN, NEW YORK 11252-6700

REPLY TO
ATTENTION OF

CENAD-PD-PP

DEC 14 2012

MEMORANDUM FOR Commander, Baltimore District, ATTN: CENAB-PL

SUBJECT: Review Plan Approval for Assateague Island Restoration, Maryland

1. The attached Review Plan for the subject study has been prepared in accordance with EC 1165-2-209, Civil Works Review Policy.

2. The Review Plan has been coordinated within the North Atlantic Division, which is the lead office to execute this plan. For further information, contact Mr. Alan Huntley at 347-370-4664. The Review Plan does not include independent external peer review, as it is not applicable since the project is in the construction phase and there are no life and safety issues.

3. I hereby approve this Review Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

Encl

KENT D. SAVRE
Colonel, EN
Commanding

REVIEW PLAN FOR THE ASSATEAGUE ISLAND RESTORATION, MARYLAND

BALTIMORE DISTRICT

MSC Approval Date:

1. PURPOSE AND REQUIREMENT

a. **Purpose:** The purpose of this review plan is to identify the requirements and plan of action for the review of the products for the Assateague Island Restoration Project located in Worcester County, Maryland. Since the project is in construction, the products being generated are implementation documents necessary for construction such as plans and specifications and the cost estimate.

b. References:

- EC 1165-2-209, Civil Works Review Policy, 31 Jan 2012
- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006 as revised through 31 March 2011
- WRDA 2007 H.R. 1495 Public Law 110-114, 8 Nov 2007

c. **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 all Civil Works projects from initial planning through design, construction, operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC's outline includes three levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review and Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

d. **Review Management Organization (RMO):** The RMO responsible for managing the overall peer review effort described in this review plan is the North Atlantic Division (MSC), Mr. Alan Huntley, P.E., Business Technical Division, Regional Technical Directorate.

2. PROJECT INFORMATION

Project Description: The Ocean City inlet was formed in 1933 during a severe storm. In 1934, the Army Corps of Engineers constructed jetties to protect the newly-formed waterway in an effort to provide for navigation between the coastal bays and the ocean. The inlet has functioned as a thoroughfare for boating traffic for the past 60 years; however, the jetties have disrupted the sediment supply between Ocean City and Assateague Island. Prior to the formation of the inlet, the sand generally traveled from Ocean City to Assateague Island, but the north jetty has been preventing a large portion of the sand from reaching Assateague Island. Consequently, the island, particularly the northern portion, has been eroding at an accelerated rate. This disruption in the natural long-shore transport of sand between Ocean City and Assateague Island has resulted in adverse physical, biological, and economic impacts to the area. The island is in a very unnatural condition and does not have the geologic integrity that a barrier island is supposed to have. Due to the disruption of the sediment transport along Assateague Island, the diversity of the habitat has been diminished. However, the island supports several threatened and endangered species. The island is extremely vulnerable to breaching, which would most likely cause additional inlets to form, changing the dynamics of the area, creating navigation hazards, and increasing storm damages on the island and the mainland communities.

Construction of the short-term restoration plan was completed in December 2002, included dredging approximately 1.4 million cubic meters from Great Gull Bank and placing it on Assateague Island in the area between 2.5 kilometers and 12 kilometers south of the south jetty. The beach was widened varying distances based on the varying erosion rates. A low-storm berm was constructed to an approximate elevation of 3.3 meters National Geodetic Vertical Datum (NGVD) (averaging 0.8 meters in height) between approximately 5.1 kilometers and 7.9 kilometers south of the south jetty. The final placement and berm elevation was configured to minimize adverse impacts to the two federally-listed threatened species (piping plover and sea beach amaranth) that occur on the island, and to restore the integrity of the island. The short-term phase included five years of project monitoring, beginning at the start of the first phase of construction and ending in December 2007. The cost for the short-term restoration project and five years of monitoring was $13,200,000.

The jetties and inlet will continue to disrupt the long-shore transport, so a long-term plan must also be implemented. The long-term plan allows for the "mobile bypassing" of sand that would naturally have reached the island had the jetties never been built. Mobile bypassing will involve using a small mobile hopper dredge to remove sand that has been redirected to a number of sites, and then bypassing it to Assateague Island. This dredging will take place during the spring and

fall of each year, using the Currituck, a small split-hull dredge built, owned, and operated by the Wilmington District. Potential sand sources include the ebb shoal, flood shoal, navigation channels, and Ocean City up-drift fillet. The annual fully-funded cost of the long-term plan is approximately $2,000,000. The fully-funded short-term and long-term cost over the full 25-year (2003-2028) project life is $63,700,000.

Implementation Documents: This review plan has been prepared for the plans and specifications and supporting cost estimates for the construction elements that remain on the Assateague Island project.

3. DISTRICT QUALITY CONTROL (DQC)

All implementation documents shall undergo DQC fulfilling the project quality requirements defined in the Project Management Plan (PMP) and ER 1110-2-1150. DQC will be documented through the use of DrChecks and a DQC report, which will be signed by all reviewers. Products that will undergo DQC include the plans and specifications and the supporting cost estimates. DQC will be performed by staff at the Baltimore District that have not been involved in the preparation of the documents. The State of Maryland, acting through the Maryland Department of Natural Resources, is the cost sharing partner for the Assateague Island project and they take an active role in the review of all documents related to the construction of the project.

4. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all implementation documents. The objective of ATR is to ensure consistency with established criteria, guidance, procedures and policy. He ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonable clear manner. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home District that is not involved with the day-to-day production of the project. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATP lead should be a senior professional with experience in preparing Civil Works implementation documents and conducting ATR. The lead should have the necessary skills and experience to lead a virtual team. The ATR lead may also serve as a reviewer for a specific discipline. Additional ATR team members should be experts in the respective fields that the implementation report is addressing, for instance if an Engineering Documentation Report was required to address a substantive change in the design then the appropriate Civil, Geotechnical, Hydrology and Hydraulics, Cost, etc. engineering experts would be require as a part of the ATR team. All comments from an ATR will be captured in DrChecks so that a record of the comment and response can be formally documented.

Products to Undergo ATR. ATR will occur prior to major decision points in the planning process so that the technical results can be relied upon in setting the course for further study. It is not anticipated that there will be any key technical products for which interim review will be required; however, as circumstances warrant it may be determined that ATR will be necessary for read-ahead materials or other products. All ATR will be coordinated with the Eco-PCX. The ATR will be accomplished by an independent entity outside the Baltimore District, within USACE, as designated by the PCX. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices of all project decision documents. The intent is for an ATR to not only ensure technical analyses are correct, but also ensure compliance with all pertinent USACE guidance early in the study prior to MSC review. No further implementation documents are anticipated to be prepared for this project.

Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

(1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
(2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be 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.

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 will include 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.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

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 Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date.

5. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

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

- Type I IEPR. Type I IEPRs are managed outside USACE and are conducted on project studies. Type I panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analyses, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in 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 al underlying engineering,

economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- Type II IEPR. Type II IEPRs, or Safety Assurance Review), 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.

Type I IEPR is not applicable as per ER 1165-2-209 since the Assateague Island project is in the Construction Phase. Type II IEPR is also not applicable since the Assateague Island is a mitigation restoration project and life safety is not an issue.

6. POLICY AND LEGAL COMPLIANCY REVIEW

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR facilitate the policy review processes by addressing compliance with pertinent published Army policies, particular policies on analytical methods and the presentation of results in implementation documents.

7. COST ENGINEERING DIRECTORATE OF EXPERTISE (DX) REVIEW AND CERTIFICATION

Any cost estimate updates shall be coordinated with the Cost Engineering DX which is located in the Walla Walla District. The DX will assist in determining the expertise required for an ATR and in the development of the associated review charges. The DX will provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

8. REVIEW PLAN APPROVAL AND UPDATES

The Baltimore District 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 for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home 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 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should 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, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

9. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

Kevin Brennan, Project Manager, Programs and Project Management Division, Baltimore District (410) 962-6113

Daniel Bierly, Acting Chief, Civil Projects Development Branch, Planning Division, Baltimore District (410) 962-6139

Alan Huntley, P.E., Business Technical Division, North Atlantic Division, (347) 370-4664.

ATTACHMENT 1: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, 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

_____ _____

Name Date

ATR Team Leader

Office Symbol/Company

SIGNATURE

_____ _____

Name Date

Project Manager

Office Symbol

SIGNATURE

_____ _____

Name Date

Architect Engineer Project Manager[1]

Company, location

SIGNATURE

Name Date

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

_____ _____

Name Date

Chief, Engineering Division

Office Symbol

SIGNATURE

_____ _____

Name Date

Chief, Planning Division

Office Symbol

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

ATTACHMENT 2: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 3: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development

Term	Definition	Term	Definition
		RMC	Risk Management Center
NED	National Economic Development	RMO	Review Management Organization
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RTS	Regional Technical Specialist
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
ITR	Independent Technical Review	USACE	U.S. Army Corps of Engineers
LRR	Limited Reevaluation Report	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		
Home District/MSC	The District or MSC responsible for the preparation of the decision document		