



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

DEC 14 2012

CENAD-PD-PP

MEMORANDUM FOR Commander, New York District, ATTN: CENAN-PL

SUBJECT: Review Plan Approval for Wreck Pond Watershed, Monmouth County, New Jersey

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 with the Ecosystem Planning Center of Expertise of the Mississippi Valley Division, which is the lead office to execute this plan. For further information, contact Ms. Jodi Creswell at 309-794-5448. The Review Plan currently does not include independent external peer review and will be revised after a risk-informed decision analysis has been made.
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

A handwritten signature in black ink, appearing to read "K. Savre", written over a horizontal line.

KENT D. SAVRE
Colonel, EN
Commanding

REVIEW PLAN

**Wreck Pond Watershed, Monmouth County, New Jersey
Feasibility Report**

New York District

**MSC Approval Date: NA
Last Revision Date: November 2012**



**US Army Corps
of Engineers ®**

REVIEW PLAN

Wreck Pond Watershed, Monmouth County, New Jersey
Feasibility Report

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Wreck Pond Watershed, Monmouth County, New Jersey, Feasibility Report. The review procedures have been described in accordance with EC 1105-2-209, Water Resources Policies and Authorities: CIVIL WORKS REVIEW POLICY.

b. References

- Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, Change 1, 31 Jan 2012
- EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- PMP for study, November 2003
- New York District Quality Management Plan

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 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).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

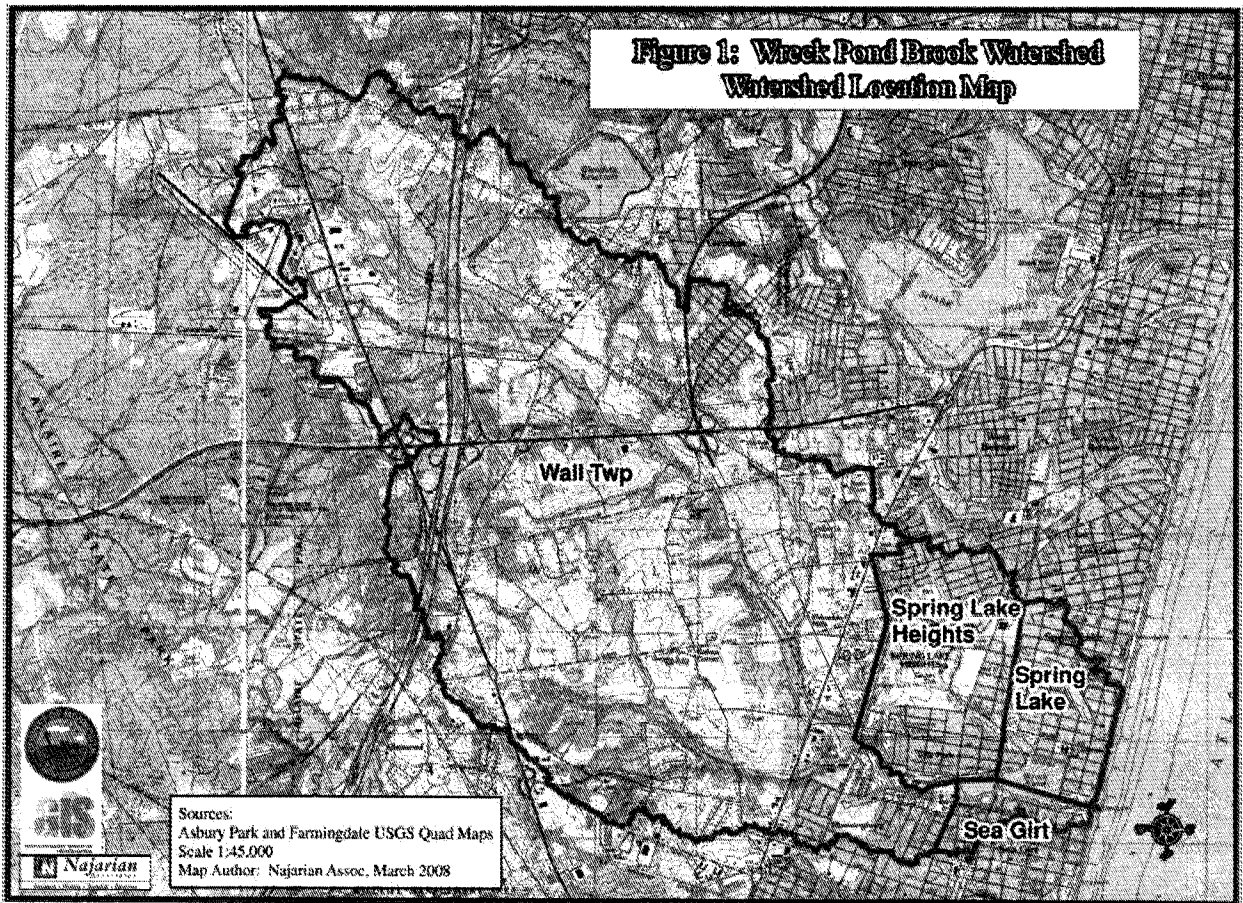
The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the Ecosystem Restoration PCX at Mississippi Valley Division (MVD).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

- a. **Decision Document.** The Wreck Pond Watershed, Monmouth County, New Jersey Feasibility Study is a General Investigations funded study and will require Chief of Engineers approval for the document and Congressional authorization. It will likely require an Environmental Assessment be prepared along with the document.

Study/Project Description. The Wreck Pond Brook watershed includes 8,174 acres in southern Monmouth County, New Jersey. The western boundary of the watershed is in Wall Township and extends east-southeast to Wreck Pond on the border of Spring Lake and Sea Girt. The study area is Wreck Pond, a tidal pond located on the coast of the Atlantic Ocean. The watershed also includes lands in the Borough of Spring Lake Heights and Wall Township. The major tributaries are Hannabrand Brook, Wreck Pond Brook, Hurley's Pond Brook, and Black Creek.



Wreck Pond is a natural waterbody, approximately 48 acres in size (plus an additional 20 acres in Black Creek and upstream basins) located in the Boroughs of Sea Girt and Spring Lake in Monmouth County, New Jersey. Due to Wreck Pond's location and the intensity of development surrounding the pond system, this natural waterbody now functions as a large stormwater retention basin for the watershed. Consequently, over the past several years, the pond has been the source of an increasing proportion of New Jersey's annual total of beach closings. In 2001, 35 ocean beaches were closed due to discharges from Wreck Pond; 16 beaches were closed in 2002; and 58 in 2003.

¹These closings were 87.5 percent of the total ocean beach closings statewide in 2001; 100 percent of the closings in 2002; and 72.5 percent of the total closings statewide in 2003.

The beach closings qualify as use impairments, meaning that DEP is required to include these waters on the Environmental Protection Agency (USEPA) 303(d) list of impaired water segments for 2004. 303(d) designation requires the development of total maximum daily loads (TMDLs) for bacteria in the ocean and requires implementation of a water quality restoration plan. Wreck Pond was included on the previous 2002 303(d) list for the reason of nutrients and sedimentation.

The Wreck Pond system clearly is in need of restoration. In addition to the problem of beach closures, there are a number of problems associated with the pond. These include the proliferation of waterfowl, excessive algal growth, and the reduced viability of Wreck Pond as an estuary as the pond moves through stages of succession toward being wetlands. These concerns have been implicated as direct and indirect reasons for the high bacteria concentrations in the Wreck Pond discharge.

All of these factors lead to the reduction in the water quality of the Wreck Pond which then degrades the habitat in the river and ultimately, leads to the loss of ecosystem services. Structural and non-structural ecosystem restoration measures to be considered include, but are not limited to, increasing water circulation (tidal exchange), dredging, and marsh and wetland restoration and or creation.

New Jersey Department of Environmental Protection (NJDEP) is the local sponsor for this single-purpose study. The estimated cost of the Feasibility Study is \$2.4 million, to be cost shared 50/50 between the USACE and NJDEP. Estimated costs of a recommended plan vary widely at this point in the planning process and will be more certain as the study progresses. Given the small scale of the watershed and the alternatives available, any plan recommended will likely range from \$10 million to \$20 million.

b. Factors Affecting the Scope and Level of Review.

- The most challenging part of the study will be the evaluation of with project conditions given the dynamic nature of a watershed focus. Current conditions are influenced by demographic, historic, and hydrologic conditions. The analysis will include a three-dimensional, finite-difference, physics-based numerical code used for modeling hydrodynamics and noncohesive sediment transport. A similar model, CH3D-SED, is being used in the Currituck Sound Feasibility Study in Wilmington District. Therefore, The Wreck Pond Watershed project can benefit from and adapt in response to lessons learned elsewhere.

This project is considered low risk overall. The potential for failure is low because the project involves straight forward concepts with numerous successful national applications. The alternatives presented in the Project Management Plan (PMP) include:

- a. Modify existing outfall.
- b. Add outfall or other drainage structure.
- c. Open & allow natural exchange (creates inlet, with or without jetties).
- d. Dredge material from Wreck Pond (several alternatives).

^{1 1} Wreck Pond Measures, NJDEP, May 2004 (*most of the data for this section came from the 2004 NJDEP report*).

- e. Dredge material west of Route 71 Bridge.
 - f. Modify transition between Wreck Pond & Black Creek.
 - g. Dredge material from Black Creek.
 - h. No Action Plan – as required by NEPA and other regulations, the No Action Plan (Future without Project Condition) will be identified and the impacts will be clearly discussed and analyzed.
- The potential for controversy regarding project implementation is low because the recommended plan will take into account the public concerns. A socio-economic analysis will be prepared and several public meetings will be held. The uncertainty of success of the project is low because the methods used for evaluating the project are standard and the concept of implementing proposed project features is not innovative. A detailed assessment of existing conditions is proposed to reduce risk of recommendation of a non-sustainable solution. Since many factors contribute to the impairment, and may vary over time, sustainability of the ecosystem restoration recommendation is the greatest risk in formulation. However, an Adaptive Management Plan will be prepared to reduce this non-performance risk.
 - The project does not likely involve significant threat to human life/safety assurance since the consequences of non-performance would be insignificant in that regard. The scale of a recommended project is yet to be determined, but in comparison to ecosystem restoration efforts in the region, it is expected that no safety assurance factors beyond those described in EC 1165-2-209 will be necessary to prevent consequences of non-performance on project economics or the environmental and social well-being.
 - The project is not likely to have significant economic, environmental, and social impacts to the nation, such as adverse impacts on scarce or unique cultural, historic or tribal resources, or adverse impacts on fish and wildlife species or their habitat, or any endangered species.
- c. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR, if applicable. The non-Federal sponsor has indicated that they would like to contribute in-kind services and/or products. However, these services and/or products will be determined at a later date.

4. DISTRICT QUALITY CONTROL (DQC)

- a. **Documentation of DQC.** District Quality Control (DQC) review will be performed by staff in the home district that are not involved in the study. Additional QC will be performed by the Project Delivery Team (PDT) during the course of completing the Feasibility Study. The detailed checks of computations and methodology will be performed at the District level, and the processes for this level of review are well established. A Quality Control Plan (QCP) is included in the PMP for the subject study and addresses DQC by the MSC/District. All in-kind submittals and submittals from team members will be provided to the ATR team at each review. DQC is required for this study.
- b. **Products to Undergo DQC.** A Quality Control Plan (QCP) is included in the PMP for the subject study and addresses DQC by the MSC/District. All in-kind submittals and submittals from team members will be provided to the ATR lead at each review.

- c. **Required DQC Expertise.** The review team will reflect the traditional disciplines of the PDT, and the specific expertise necessary are coastal engineering and hydrology & hydraulics. The review team member will be an expert in the field of coastal processes and hydrology & hydraulics have a thorough understanding of the dynamics of the both open channel flow systems, enclosed systems and non-structural measures especially as related to multipurpose alternatives including aquatic ecosystem restoration. The team member will have an understanding of computer modeling techniques that will be used for this project (HEC-HMS, CH3D-SED, HEC-RAS, UNET, and TABS).

5. AGENCY TECHNICAL REVIEW (ATR)

- a. **Products to Undergo ATR.** ATR will be performed Decision Point 1, Decision Point 2, Draft Report (including NEPA and supporting documentation), and Final Report (including NEPA and supporting documentation). Additional ATR will be conducted on key technical and interim products which result from the three-dimensional, finite-difference, physics-based numerical code used for modeling hydrodynamics and noncohesive sediment transport.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in the plan formulation process. The reviewer should be familiar with evaluation of alternative plans for ecosystem restoration projects in urban settings.
Economics	The economics reviewer should be able to evaluate the appropriateness of cost effectiveness and incremental cost analysis (CE/ICA), using IWR-Planning Suite, as applied to dollar costs and ecosystem restoration benefits. The reviewer should also have experience with National Ecosystem Restoration analysis procedures.
Environmental Resources	The Environmental Resources Reviewer should have particular knowledge of ecosystem restoration, including the methods used to evaluate benefits, and should also be familiar with all National Environmental Policy Act (NEPA) requirements. The reviewer should have experience in wetland ecology of urban regions, preferably experience in the densely populated mid-Atlantic or Northeast.
Cultural Resources	The Cultural Resources reviewer will be familiar with Section 106 requirements, and Corps of Engineers practices and ERs.
Hydrology	The Hydrology reviewer will have a thorough understanding of hydrologic transport models, including point source and surface area run-off inputs, for the analysis of sediment and pollutant

	movements within the river system.
Civil Engineering	The civil engineering reviewer should have experience with engineering analysis and design of wetland restoration or related projects in urban areas.
Cost Engineering	Team member will be familiar with cost estimating for similar projects using MII. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. A separate process and coordination is also required through the Walla Walla District DX for cost engineering.
Real Estate	The real estate reviewer will be familiar with the Corps of Engineers ER on Real Estate.
Hazardous, Toxic and Radioactive Waste (HTRW)	The HTRW reviewer will be familiar with HTRW investigations and Corps of Engineers practices and ERs.

c. **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:

- The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- 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
- 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, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision 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 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.
 - **Type II IEPR.** 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.
- a. Decision on IEPR.** The decision to conduct Type I IEPR will be deferred until after alternatives are evaluated during the analysis on the draft feasibility report for this study. Although the study is

neither controversial nor precedent setting, nor does it have highly significant national importance, the total project cost (given a programmatic authority) would not exceed the \$45M threshold and therefore, Type 1 IEPR may not be required. Type II IEPR is not warranted, as this is an ecosystem restoration study and little to no threat to human life or safety is at risk if the project fails. The consequences of non-performance on project economics would mean that the region and nation do not realize the level of National Ecosystem Restoration benefits that this project would provide.

- b. **Products to Undergo Type I IEPR.** The draft feasibility report and environment assessment are the products reviewed for the Type I IEPR.
- c. **Required Type I IEPR Panel Expertise.** The expertise represented on the Type I IEPR panel is shown in the table below.

IEPR Panel Members/Disciplines	Expertise Required
Economics	The Panel Member should have a degree in economics or a related field and should be able to evaluate the appropriateness of cost effectiveness and incremental cost analysis (CE/ICA), as applied to dollar costs and ecosystem restoration benefits, and preferably familiar with the Corps of Engineers tool for CE/ICA called IWR-Planning Suite. Panel member should also have experience with National Ecosystem Restoration analysis procedures.
Environmental	The Panel Member should have at minimum a Masters Degree in ecology or biology. Panelist should have particular knowledge of ecosystem restoration and should also be familiar with all National Environmental Policy Act (NEPA) requirements. Panel Member should have experience in wetland ecology of urban regions, preferably experience in the densely populated mid-Atlantic or Northeast.
Civil Engineering	The Panel Member should have degrees in civil engineering and have demonstrated experience in performing cost engineering/construction management for all phases of ecosystem restoration or related projects. Team member should be familiar with similar projects across US and related Cost Engineering. Experience in associated contracting procedures, total cost growth analysis and related cost risk analysis is desired. Panel member should be familiar with construction industry and practices used in wetland restoration.
Civil Works Planning	The Panel Member should have a degree in planning or a related field and should have experience in the plan formulation process. Panelist should be familiar with evaluation of alternative plans for ecosystem restoration projects. Familiarity with USACE standards and procedures is required.
Hydrology and Hydraulic	Reviewer will be an expert in the field of urban hydrology and

Engineering	hydraulics, have a thorough understanding of the dynamics of the both open channel flow systems, enclosed systems, coastal engineering, approaches that can benefit water quality, application of levees and flood walls in an urban environment with space constraints, non-structural solutions involving flood warning systems, and non-structural alternatives related to flood proofing. The team member will have an understanding of computer modeling techniques that will be used for this project (HEC-HMS, CH3D-SED, HEC-RAS, UNET, and TABS).
Geotechnical Engineering	Reviewer will be an expert in geotechnical engineering, have a thorough understanding of soils and dredging. Team member will have an understanding of computer modeling techniques to be used for this project (HEC-HMS, CH3D-SED, HEC-RAS, UNET, and TABS).

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-209, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

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

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. 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, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. 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).

EC 1105-2-412 does not cover engineering models used in planning. 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. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. 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).

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEP	A functional assessment methodology such as species-based HEP will be used to characterize the with and without project habitat conditions for representative species. Specific HEP models to be used will be identified later in the planning process when more information about the specific alternative recommended is available. The appropriate, approved HSI Model(s) will likely be used for functional assessment.	Certified
IWR Plan, Version 3.3	IWR-PLAN combines solutions to planning problems and calculates the additive effects of each combination, assists with plan comparison by conducting cost effectiveness and incremental cost analyses, and identifies the plans that are the best financial investments and displaying the effects of each on a range of decision variables.	Certified

b. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.0 (River Analysis System)	The Hydrologic Engineering Center’s River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady and unsteady flow analysis to evaluate the future without- and with-project conditions.	Certified
HEC-HMS 3.4	By applying this model the PDT is able to: <ul style="list-style-type: none"> ➤ Define the watersheds’ physical features ➤ Describe the metrological conditions ➤ Estimate parameters ➤ Analyze simulations ➤ Obtain GIS connectivity 	Certified
CH3D-SED	A three-dimensional, finite-difference, physics-based numerical code used for modeling hydrodynamics and noncohesive sediment transport. The program will be used to describe the existing conditions and the with project conditions in the Wreck Pond.	Certified
MCACES (MII)	This will support the development of the construction cost estimate.	Certified

10. REVIEW SCHEDULES AND COSTS

a. **ATR Schedule and Cost.** The ATR process for this document will follow the timeline below. Actual dates will be scheduled once the period draws closer. The study will begin in the ___ Quarter of FY _____. Decision Point 1 will be in the ___ Quarter of FY _____. Decision Point 2 will be in the ___ Quarter of FY _____. The Draft Feasibility Report and Final Feasibility Report will follow the completion of the reviews.

Task/Milestone	Date
ATR of DP1	February 2013
Revision of RP and IEPR Determination	February 2013
ATR of draft DP2	October 2013
ATR Certification of DP2	January 2014
Draft Feasibility Report Complete	September 2014
ATR of Draft Report Complete	November 2014
ATR Certification/Completion of Draft Report	December 2014
Public Review of Draft Report	July 2015
Final Report – Completed by District	May 2016
ATR Certification/Completion of Final Report	September 2016

PMP includes \$100,000 as the budget for the review support, which is anticipated to cover all reviews.

- b. Type I IEPR Schedule and Cost.** If it is determined that an IEPR is warranted, the IEPR process for this document will follow the timeline below. Actual dates will be scheduled once the period draws closer. The study will begin in the ___ Quarter of FY _____. Decision Point 1 will be in the ___ Quarter of FY _____. Decision Point 2 will be in the ___ Quarter of FY _____. The Draft Feasibility Report and Final Feasibility Report will follow the completion of the reviews.

Task/Milestone	Date
Revision of RP and IEPR Determination	February 2013
Imitate IEPR of Draft Report	December 2014
Complete IEPR of Draft Report	June 2015

- c. Model Certification/Approval Schedule and Cost.** Any model certifications and approvals for all identified planning models will be coordinated through the appropriate PCX as needed. It is most likely that the Habitat modeling will use approved Habitat Suitability Indices, and no certification will be required. Schedules and resources will be adjusted to address this process for certification and PCX coordination if it becomes necessary.

Task/Milestone	Date
Certification of Planning Model	May 2013

11. PUBLIC PARTICIPATION

Members of the public have provided comments on this study at public meetings and information sessions held throughout the study development. Additional public participation will occur with the release of the draft report to the public for their review and comment. The final decision document, associated review reports, will be made available to the public through the use of the District’s Web site and mailing of notices that information is available to interested parties and stakeholders.

12. REVIEW PLAN APPROVAL AND UPDATES

The North 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 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.

13. REVIEW PLAN POINTS OF CONTACT

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

- Jason Shea, Chief, Watershed Section, New York District, (917) 790-8727
- Clifford Jones, North Atlantic Division Planning and Policy Community of Practice Team Leader, (347) 370-4514
- Sue Ferguson, NAD Regional Program Manager, ECO-PCX, (615) 736-7192

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM (TBD)

Name	Discipline	Phone (917) 790	Email
	Project Management		
	Section Chief, Plan Formulation		
	Plan Formulation		
	Economics		
	Section Chief, Environmental Analysis		
	Biology/NEPA		
	Cultural Resources		
	Lead Project Engineer		
	Cost Engineering		
	Real Estate		
	Hydrology		
	Lead H&H		
	Geotechnical		

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Possible Review District**
TBD	ATR Manager/Plan Formulation	
TBD	Civil Design	
TBD	Biology/NEPA	
TBD	Hydrology/Hydraulics	
TBD	Economics	
TBD	Cost-Engineering*	
TBD	Real Estate	
TBD	Cultural Resources	
TBD	Geotechnical Engineering	
TBD	HTRW Specialist	

* The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Center of Expertise as required. NWW will determine if the cost estimate will need to be reviewed by PCX staff. **All resumes will be reviewed and approved by the PCX prior to initiating any ATR.

VERTICAL TEAM

Name	Agency	Email
Thomas Hodson	Chief, Plan Formulation	Thomas.J.Hodson@usace.army.mil
Leonard Houston	Chief, Environmental Branch	Leonard.Houston@usace.army.mil
Roselle Henn	North Atlantic Division	Roselle.Henn@usace.army.mil
Wes Coleman	Office of Water Policy Review	Wesley.E.ColemanJr@usace.army.mil
Cathy Shuman	Regional Integration Team	Catherine.M.Shuman@usace.army.mil

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION 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 DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Name
Project Manager
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name
Chief, Engineering Division
Office Symbol

Date

SIGNATURE

Name
Chief, Planning Division
Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
November 2012	New	All

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
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
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IBI	Index of Biotic Integrity	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
IWR	Institute of Water Resources	USACE	U.S. Army Corps of Engineers
ITR	Independent Technical Review	WRDA	Water Resources Development Act
LRR	Limited Reevaluation Report		
MSC	Major Subordinate Command		