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

DEC 14 20

CENAD-PD-PP

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

SUBJECT: Review Plan Approval for Hudson-Raritan Estuary Ecosystem Restoration Feasibility Report

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 includes independent external peer review.

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

Hudson-Raritan Estuary, New York & New Jersey
Feasibility Report

New York District

MSC Approval Date: February 2008
Last Revision Date: November 2012

US Army Corps
of Engineers ®

REVIEW PLAN

Hudson-Raritan Estuary, New York & New Jersey
Feasibility Report

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS 1
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION 1
3. STUDY INFORMATION 2
4. DISTRICT QUALITY CONTROL (DQC) 6
5. AGENCY TECHNICAL REVIEW (ATR) 6
6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR) 9
7. POLICY AND LEGAL COMPLIANCE REVIEW 11
8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION 11
9. MODEL CERTIFICATION AND APPROVAL 11
10. REVIEW SCHEDULES AND COSTS 12
11. PUBLIC PARTICIPATION 13
12. REVIEW PLAN APPROVAL AND UPDATES 13
13. REVIEW PLAN POINTS OF CONTACT 13

ATTACHMENT 1: TEAM ROSTERS 14
ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS 15
ATTACHMENT 3: REVIEW PLAN REVISIONS 16
ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS 17

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the HRE Ecosystem Restoration Feasibility Report.

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 study is the Hudson-Raritan Estuary (HRE), NY & NJ, Feasibility Report. The purpose of the Feasibility Report is to document project evaluations and facilitate acceptance of the study conclusions and recommendations by the sponsor, public, state and local agencies, and the Federal government. The study will recommend implementation of ecosystem restoration opportunities at multiple sites within the HRE and include a programmatic construction authority in response to the study authority. Following headquarters approval, the next step is Congressional authorization for implementation. The Feasibility Report will be accompanied by a Programmatic Environmental Impact Statement.

b. **Study/Project Description.** The Hudson Raritan Estuary is an estuary of national significance. The Hudson Raritan Estuary is within the boundaries of the Port District of New York and New Jersey, and is situated within a 25 mile radius of the Statue of Liberty. The HRE study area includes 8 Planning Regions: 1) Jamaica Bay; 2) Lower Bay; 3) Lower Raritan River; 4) Arthur Kill/Kill Van Kull; 5) Newark Bay, Hackensack River and Passaic River; 6) Lower Hudson River; 7) Harlem River, East River, and Western Long Island Sound; and 8) Upper Bay (see Figure 1).

The Hudson-Raritan Estuary (HRE) is located within one of the most urbanized regions in the United States. The waters and nearshore habitats of the HRE once supported a diverse mosaic of ecological communities, but centuries of industrialization and urbanization have resulted in severe habitat loss and degradation, poor water quality, pervasive sediment contamination and lack of public access to the estuary. These actions have significantly impacted the ecological integrity, health, and public perception of the estuary and its resources. Due the severity of the impacts many programs have been initiated by various Federal, state, municipal, and non-governmental organizations that have implemented successful habitat restoration projects.

A reconnaissance study was authorized by a resolution of the Committee on Transportation and Infrastructure of the United States House of Representatives, adopted 15 April 1999, to determine the feasibility of environmental restoration and protection related to water resources and sediment quality within the New York and New Jersey Port District, including but not limited to creation, enhancement, and restoration of aquatic, wetland, and adjacent upland habitats. Engineering solutions are available to meet ecosystem restoration goals and objectives, such as improvements in fish, wildlife, and benthic habitat values.

The FCSA was signed in 2001, with the Port Authority of New York and New Jersey as the non-Federal sponsor. In 2012, the PDT in consultation with the Vertical Team decided to consolidate the Flushing Creek and Bay, NY Ecosystem Restoration Study and the HRE-Hackensack Meadowlands, NJ Ecosystem Restoration Study into the larger HRE study to maximize resource efficiency.

The overall goal for the HRE Ecosystem Restoration Study is "To develop a mosaic of habitats that provides society with renewed and increased benefits from the estuary environment." In support of this overall goal, 11 Target Ecosystem Characteristics (TECs) were identified by a panel of regional scientists, resource agencies, and stakeholders. These TECs function as study objectives. The TECs, along with potential restoration activitities to meet these TECS, as listed below in Table 1.

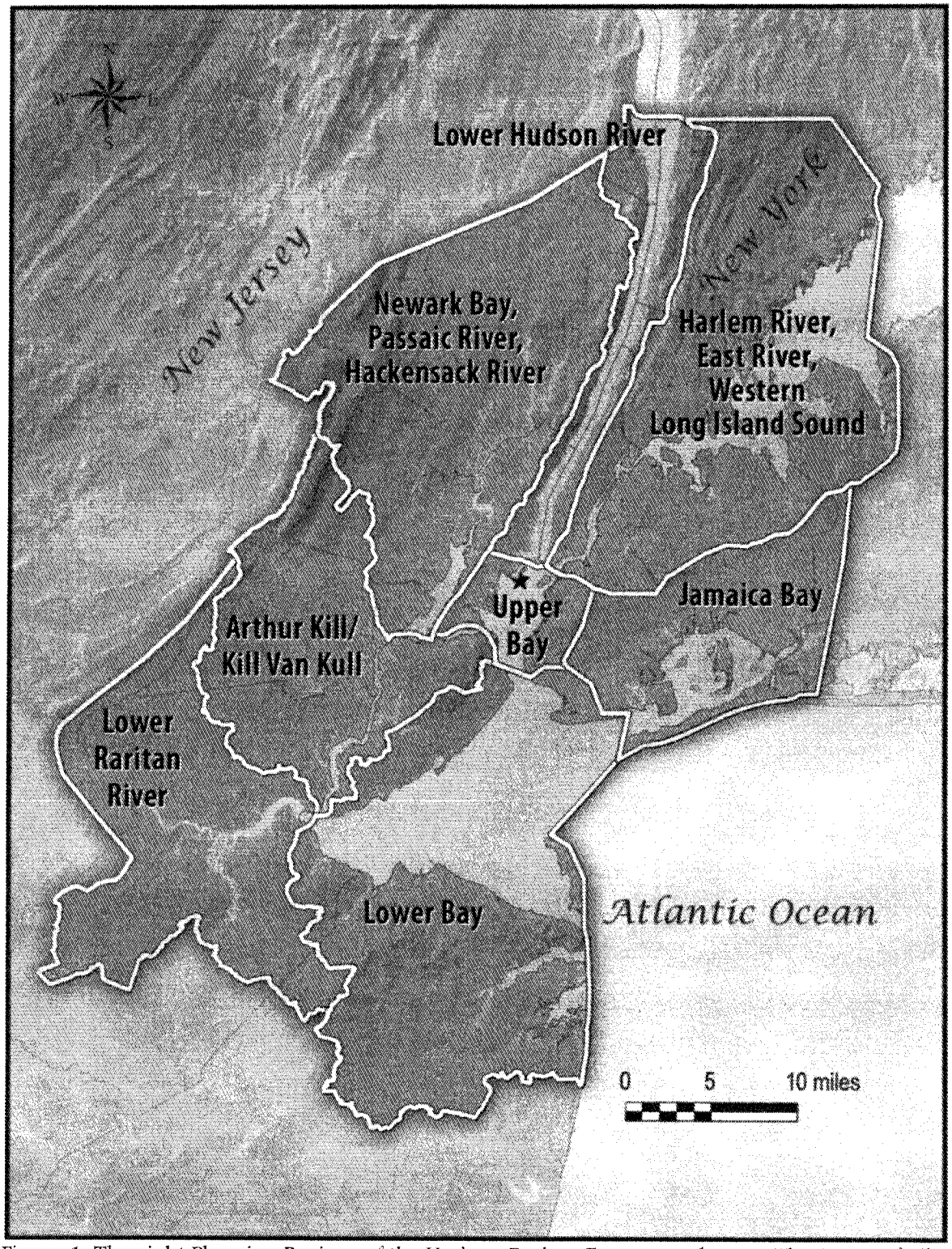

Figure 1. The eight Planning Regions of the Hudson-Raritan Estuary study area. The Statue of Liberty is represented by the star.

Table 1. HRE Target Ecosystem Characteristics and Potential Restoration Activities

Target Ecosystem Characteristic	Potential Restoration Activities
Wetlands	• Removal of historic fill • Regrading slopes to proper elevations for wetland plantings • Removal of invasive species • Native plant species plantings
Islands for Waterbirds	• Removal of invasive species • Expansion of existing islands using clean sand from the Harbor Deepening • Planting of native species
Maritime Communities	• Removal of invasive species • Native plant species plantings • Stabilization of dunes
Oyster Reefs	• Deposition of bolders or other appropriate materials at optimal locations in water to create reefs for spat
Eelgrass Beds	• Plantings of eelgrass at optimal locations
Shorelines & Shallows	• Removal of hard or bulkheaded shorelines • Regrading slopes to transitional intertidal and littoral elevations • Underwater baffles or training walls to redirect flows/maintain desirable depths • Increase light transmission to water through piers by increasing height or decreasing width of piers • Use texturized bulkheads/reef balls/ stacked hollow cubes to add physical complexity to environment
Habitat Complexes for Fish, Crabs, & Lobsters	• Removal of historic fill • Regrading slopes to proper elevations for wetland plantings • Removal of invasive species • Native plant species plantings • Deposition of bolders or other appropriate materials at optimal locations to create

	habitat complexes in water
Tributary Connections	• Dam removal • Modification of weirs, rock ramps • Installation of Fish ladders • Construction of canals • Widening of culverts
Enclosed and Confined Waters	• Removal of hardened/bulkheaded shorelines • Address extreme differences in bathymetry by depositing clean sand to restore more natural slope as found in historic tidal creeks
Sediment Contamination	• Removal of sediments (potential Sec. 312(b)) • Cap or contain sediments (non-USACE)
Public Access	• Construct direct access points for swimming, boating, fish (local action) • Indirect access (waterfront promenade) or waterfront vistas may be recreational component of restoration action

c. Factors Affecting the Scope and Level of Review.

- This will not be a highly controversial study, as the resource agencies and members of the public all support ecosystem restoration within the HRE. Implementation of the HRE program will provide National Ecosystem Restoration benefits to the Nation, in terms of habitat units. There is no influential scientific information presented in this study, as the study is essentially a larger scale ecosystem restoration study.
- The risks of this project occur mostly in the implementation phase, where risk of not receiving federal and non-federal funds would drive the costs of the project higher and delay the implementation and receipt of benefits to the environment. The risks of the project not performing as designed would result in those environmental restoration improvements not being realized and the HRE would retain the existing poor aquatic habitat quality and water quality.
- There are no significant threats to human life or safety as the alternatives mainly involve restoration of fresh and salt marsh grasses and earth moving. The purpose of the project does not involve storm damage reduction or flood risk management and there is no expectation from any stakeholder that the implementation of this project would provide any storm damage protection. As per the Deputy Chief, Engineering Division, New York District "The alternatives to be analyzed for the ecosystem restoration measures for the HRE will not be designed to increase potential flood risk from its existing condition. The alternatives identified are traditional/routine in nature and the use of or unique or innovation, technology, materials or construction methodologies are not envisioned or anticipated and does not pose a significant threat to human life."
- There has not been a request by the Governor of an affected state for a peer review by independent experts;

- There has not been any significant public dispute as to the size, nature, effects, or the projected economic or environmental benefits of the project, only the timing, with our non-Federal partners and stakeholders interested in accelerating implementation of the project.
- The alternatives identified in this ecosystem restoration study would be designed in such a way as they would be self-sustaining. The redundancy, resiliency and/or robustness discussion does not apply to this ecosystem restoration study, as the purpose of this study is to bring natural restoration to the HRE.

d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The non-Federal partner, the Port Authority of New York and New Jersey, contracted with the Hudson River Foundation to develop the Target Ecosystem Characteristics as part of their in-kind services to the study. This component is integral to the study and will be subject to the DQC/ATR/IEPR reviews.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. **Documentation of DQC.** District Quality Control will be documented through the use of a Quality Control Report, which is managed in Dr Checks and signed by the members performing the DQC as well as the Division Chiefs of the major technical offices responsible for producing this DQC report. This report will include the printout of all comments from Dr Checks.

b. **Products to Undergo DQC.** DQC will be conducted on the Report Synopsis, and the draft and final Feasibility Reports.

c. **Required DQC Expertise.** The expertise of the DQC review team will consist of Section Chiefs and subject matter experts or regional technical specialists in the fields of Plan Formulation, NEPA compliance, Engineering Design and Analysis as well as Real Estate.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

a. **Products to Undergo ATR.** ATR will be conducted on the Report Synopsis and associated documents, and the draft and final Feasibility Reports (including NEPA and supporting documentation)..

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 requirments, 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	The HTRW reviewer will be familiar with HTRW investigations and

Waste (HTRW)	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 be 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.** Type I IEPR will be conducted 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 exceed the $45M threshold and therefore, Type 1 IEPR is 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.

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:

b.

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
IWR-PLAN	This is the approved, certified model developed by IWR that will be used to evaluate alternatives.	Certified
Environmental Benefits model (like EPW) – to be determined on site specific basis	The details of the environmental benefits model(s) to be used are still being developed. The plan formulation method of analysis developed for the Hudson-Raritan Estuary Feasibility Study was approved for use by HQ in January 2010. This method allows us to use a GIS-based approach to identify conceptual-level project alternatives on individual sites within the watershed. These sites are then compared to the ecological restoration goals set for the HRE and conceptual levels costs as developed as well. This process allows us to present BCR-like results for the entire watershed. As a site is then identified by the non-Federal sponsor for implementation, we would proceed to developing site-specific detailed alternatives and impacts, using an IBI or other suitable habitat evaluation model and comparing the results through the use of IWR-Plan. At this point in the study, the sponsors have just identified the sites they would like us to focus on for the purpose of the detailed feasibility-level analyses. So, we haven't yet done the work to figure out which ecological model would be used for that purpose. As we initiate the site-specific data collection, we will identify possible benefit model(s) and update the review plan accordingly.	Unknown at this time.

c. **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
TBD		

10. REVIEW SCHEDULES AND COSTS

a. **ATR Schedule and Cost.** The first feasibility study product to undergo ATR is the Tentatively Selected Plan package, which will occur in FY13 at a cost of $60,000; the Draft Feasibility Report review will occur in FY 14 at a cost of $40,000; and the Final Feasibility Report review will occur in FY 15 at a cost of $40,000.

b. **Type I IEPR Schedule and Cost.** IEPR funds have been requested for FY14. Although the exact amount will be determined in the future, up to $500,000 may be applied to IEPR.

c. **Model Certification/Approval Schedule and Cost.** To be determined.

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

Hudson-Raritan Estuary Ecosystem Restoration Feasibility Study PDT, ATR, Vertical Team POCs.

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TBD			
TBD			
TBD			

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ATTACHMENT 2: 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 _____ Date _____
Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____
Name
Project Manager
Office Symbol

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

SIGNATURE _____ Date _____
Name
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE _____ Date _____
Name
Chief, Engineering Division
Office Symbol

SIGNATURE _____ Date _____
Name
Chief, Planning Division
Office Symbol

[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	Update to format of review plan	All

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
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/MSC	The District or MSC 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		