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

MAY 29 2009

CENAD-PSD-PP

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

SUBJECT: Review Plan Approval for Peckman River Basin Flood Risk Management Feasibility Study, Essex and Passaic Counties, NJ

1. Reference is made to EC 1105-2-410, entitled "Review of Decision Documents" dated 22 Aug 2008.

2. The attached Review Plan for the subject study has been prepared in accordance with EC 1105-2-410.

3. The Review Plan has been made available for public comment and any comments received have been incorporated. It has been coordinated with the Flood Risk Management Planning Center of Expertise of South Pacific Division which is the lead office to execute this Plan. The Review Plan currently includes independent external peer review.

4. 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

for Joseph R. Vietri
Chief, Planning & Policy Community of Practice
Program Support Division
Programs Directorate

CESPK-PD-W 19 March 2009

MEMORANDUM FOR Ms. Jodi McDonald, NAN

SUBJECT: FRM-PCX Assessment of Review Plan for the Peckman River Basin, Flood Risk Management Feasibility Study (March 2009)

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has reviewed the updated Review Plan (RP) for the subject study and concurs that the RP satisfies peer review policy requirements outlined in Engineer Circular (EC) 1105-2-410 Review of Decision Documents, dated 22 August 2008.

2. The FRM-PCX review was performed by Miki Fujitsubo, Sacramento District. The RP checklist documenting the review is attached.

3. The FRM-PCX recommends the RP for approval by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander approval memorandum, and the link to where the RP is posted on the District website to Mr. Eric Thaut, Program Manager for the FRM-PCX (eric.w.thaut@usace.army.mil).

4. Thank you for the opportunity to assist in the preparation of the RP. Please coordinate the Agency Technical Review, Independent Peer Review and Model Certification efforts outlined in the RP with Mr. Thaut.

Encl

Miki Fujitsubo
Regional Technical Specialist
National Planning Center of Expertise for
Flood Risk Management (FRM-PCX)

REVIEW PLAN

PECKMAN RIVER BASIN
FLOOD RISK MANAGEMENT FEASIBILITY STUDY
ESSEX AND PASSAIC COUNTIES, NEW JERSEY

NEW YORK DISTRICT

Revised April 2009

US Army Corps
of Engineers®
New York District

REVIEW PLAN

PECKMAN RIVER BASIN
FLOOD RISK MANAGEMENT FEASIBILITY STUDY
ESSEX AND PASSAIC COUNTIES, NEW JERSEY

NEW YORK DISTRICT

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REVIEW PLAN

PECKMAN RIVER BASIN
FLOOD RISK MANAGEMENT FEASIBILITY STUDY
ESSEX AND PASSAIC COUNTIES, NEW JERSEY

NEW YORK DISTRICT

1. PURPOSE AND REQUIREMENTS

A. **Purpose.** This document outlines the review plan for the Peckman River Basin Flood Risk Management Feasibility Study. Engineer Circular (EC) *Peer Review of Decision Documents* 1105-2-408, dated 31 May 2005 a) establishes procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process and b) requires that documents have a review plan. The Circular applies to all feasibility studies and reports and any other reports that lead to decision documents requiring authorization by Congress. The feasibility report for the Peckman River Flood Risk Management Study may lead to Congressional Authorization and is therefore covered by the Circular. Additionally, any models used in developing a decision document is subject to the requirements of EC 1105-2-407 "Planning Models Improvement Program: Model Certification" (May 31, 2005)

A subsequent circular, *Review of Decision Documents*, EC 1105-2-410, dated 22 August 2008 (Circular), revises the technical and overall quality control review processes for decision documents. It formally distinguishes between technical review performed by in-district (District Quality Control, "DQC") and out-of-district resources (formerly Independent Technical Review, "ITR," now Agency Technical Review, "ATR"). It also reaffirms the requirement for Independent External Peer Review (IEPR); this is the most independent level of review and is applied in cases that meet certain criteria where the risk and magnitude of a proposed project are such that a critical examination by a qualified team outside of the U.S. Army Corps of Engineers (USACE) is warranted.

B. **Requirements.** The Circular outlines the requirement of the three review levels [District Quality Control (DQC), agency technical review (ATR) and independent external peer review (IEPR)] and provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approach. This document addresses review of the decision document as it pertains to both levels of review, to the extent warranted, and planning coordination with the appropriate Center.

(1) District Quality Control. 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; DQC is not addressed further in this Review Plan. DQC is required for this study.

(2) ATR. Reviewing the technical aspects of the decision document is accomplished through an ATR level or approach. ATR is a critical examination by a qualified person or team outside of the home district that was not involved in the day-to-day technical work that supports the decision document. ATR is intended to confirm that such work was done in accordance with clearly established professional principles, practices, codes, and criteria. In addition to technical review, documents should also be reviewed for their compliance with laws, regulations and policies. The Circular also requires that DrChecks (https://www.projnet.org/projnet/) be used to document all ATR comments, responses, and associated resolution accomplished. To assure independence, the leader of the ATR team shall be from outside the home MSC. This Review Plan outlines the proposed approach to meeting this requirement for the Peckman River, Feasibility Study. ATR is required for this study.

(3) IEPR. EC 1105-2-410 recharacterized the external peer review process that was originally added to the existing Corps review process via EC 1105-2-408. 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. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c) (3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will be on the technical aspects of the project while the ATR will be responsible for the agency and administration's policy review. IEPR is required for this study.

(4) PCX Coordination. EC 1105-2-408 and EC 1105-2-410 outline PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Flood Risk Management (FRM). The FRM-PCX is responsible for the accomplishment of ATR and IEPR for the Peckman River, New Jersey Feasibility Study. The DQC is the responsibility of the MSC/District. The FRM-PCX may conduct the review or manage the ATR and IEPR reviews to be conducted by others.

(5) Policy and Legal Compliance Review. In addition to the technical reviews, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level 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 Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. Technical reviews described in EC 1105-2-410 are to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices on analytical methods and the presentation of findings in decision documents.

DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration polices, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers. Legal reviews will be conducted concurrent with ATR of the preliminary, draft and final feasibility report and environmental impact statement.

(6) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, North Atlantic Division (NAD). Once the Review Plan is approved, the District will post it to its district public website and notify NAD and the FRM-PCX.

(7) Safety Assurance Review. In accordance with Section 2035 of WRDA 2007, EC 1105-2-410 requires that all projects addressing flooding or storm damage reduction undergo a safety assurance review during design and construction. Safety assurance factors must be considered in all reviews for those studies. Implementation guidance for Section 2035 is under development. When guidance is issued, the study will address its requirements for addressing safety assurance factors, which at a minimum will be included in the draft report and appendixes for public review. Prior to preconstruction engineering and design (PED) of the project identified for construction, a PMP will be developed that will include safety assurance review. Safety assurance review will also be accomplished during construction.

2. Study Description

A. Decision Document. The purpose of this study is to identify and evaluate Flood Risk Management (FRM) options in the Peckman River Basin, in Essex and Passaic Counties, New Jersey. The decision document will present planning, engineering and implementation details of the recommended plan to allow final design and construction to proceed subsequent to approval of the plan. The effort is a General Investigations funded study undertaken to evaluate structural and non-structural flood risk management measures, including but not limited to, floodwalls, levees, and channel modifications. The Feasibility Study is cost shared 50/50 with the project partner, the New Jersey Department of Environmental Protection. Although the intent was to have a multi-purpose study for Flood Risk Management and Aquatic Ecosystem Restoration, based on recent discussions with the non-Federal partner and other stakeholders, and the limited aquatic ecosystem restoration opportunities in the Peckman River Watershed, the primary focus of this study effort is only Flood Risk Management (FRM). Therefore, coordination between the FRM-PCX and the ECO-PCX is not necessary, other than for model certification described further in the document. However, if the project partner decides at a later time to move forward with Aquatic Ecosystem Restoration opportunities, we will revise this Review Plan and reinitiate coordination with the appropriate PCXs.

B. General Site Description. The drainage area is approximately 9.8 square miles and is one of the major sub-watersheds of the Passaic River. The Peckman River originates in the Town of West Orange, New Jersey, and flows northeasterly through the Borough of Verona, the Township of Cedar Grove, the Township of Little Falls, and the Borough of Woodland Park (formerly West Paterson) to its confluence with the Passaic River. The elevation change along the river is approximately 260 feet with the majority of the drop occurring within Cedar Grove. Great Notch Brook is a major tributary to the Peckman River, entering the river just downstream of New Jersey State Highway 46. Great Notch Brook is subject to extremely rapid runoff from higher elevations in the eastern side of the watershed. Two other small tributaries enter the river in Cedar Grove.

The downstream portion of the Peckman River in Woodland Park is within close proximity to Dowling Brook, which is also a tributary to the Passaic River. During extreme flooding events, it has been reported that flows from the Peckman River inundate the area of Woodland Park located between the Peckman River and Dowling Brook.

The Peckman River is a tributary to the Passaic River, which, during certain flood events can cause backwater flooding from the Passaic. However, the event on the Passaic River may occur at a different frequency than a flood event on the Peckman River or there may only be an event on one river. In some cases, the flood events are tied together, but in other cases they may be separate and distinct events. This is an issue that the team has recognized should be elevated to the PCX.

C. Project Scope. The study will focus on FRM alternatives in the Peckman River Basin primarily within Woodland Park (formerly West Paterson) and Little Falls, New Jersey. Estimates of the total project cost are $50 Million

D. Problems and Opportunities. The primary water resources problem within the Peckman River Basin is flooding.

E. Potential Measures. At a minimum, the potential FRM measures that may be examined in the feasibility study include channel modification, levees, floodwalls, diversion, as well as non-structural measures and the "no action" alternative. Non-structural measures such as "buyouts" and preservation and/or creation of open space in the floodplain will also be considered.

F. Project Delivery Team. The Project Delivery Team (PDT) is comprised of those individuals directly involved in the development of the decision document. Individual contact information and disciplines are presented in Appendix B.

G. Vertical Team. The Vertical Team includes District Management (Resource Providers), District Support Team (DST) and the HQUSACE Regional Integration Team (RIT) staffs as well as members of the Planning Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in Appendix B.

H. Planning Model Certification. The District recognizes that they are responsible for identifying which models qualify as planning models and the extent to which they need to be processed under current model certification processes in use by the PCXs. The computational models to be employed in the Peckman River Basin Feasibility Study have either been developed by or for

USACE. However, the District will coordinate the use and certification of these models with the appropriate PCX. More specifically, the planning model to be employed in the completion of this Feasibility Study are as follows:

• HEC-FDA: This model, developed by the Corps' Hydrological Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by, EM 1110-2-1419. This program:

- Provides a repository for both the economic and hydrologic data required for the analysis
- Provides the tools needed to understand the results
- Calculates the Expected Annual Damages and the Equivalent Annual Damages
- Computes the Annual Exceedance Probability and the Conditional Non-Exceedance Probability
- Implements the risk-based analysis procedures contained in EM 1110-2-1619

The following are considered to be engineering models as opposed to planning models and undergo a different review and approval process for usage. Engineering tools anticipated to be used in this study are:

• MCACES (MII): This shall be the cost-estimating tool used for the development of the construction cost estimate.

• HEC-RAS: The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man made channels. HEC-RAS major capabilities are:

- User interface
- Hydraulic Analysis
- Data storage and Management
- Graphics and reporting

• HEC-HMS: By applying this model the PDT is able to:

- Define the watersheds' physical features
- Describe the metrological conditions
- Estimate parameters
- Analyze simulations
- Obtain GIS connectivity

In addition, the PDT will determine the most appropriate habitat evaluation method to evaluate aquatic ecosystem impacts of the alternatives and to develop a mitigation plan if one is required. The choice of the specific habitat evaluation method will be based on the alternatives being considered and on a method that can adequately assess the impacts to the natural resources specific to the project area without requiring extensive modification to existing habitat evaluation models or the development of new habitat evaluation models.

Any model certifications and approvals for all identified planning models will be coordinated through the appropriate PCX as needed. Project schedules and resources will be adjusted to address this process for certification and PCX coordination.

3. Agency Technical Review Plan

As outlined above in paragraph 1.B. (1), the District is responsible for ensuring adequate technical review of decision documents. The responsible PDT District of this decision document is New York (NAN). It is recommended that the Flood Risk Management PCX nominate

individuals to serve as the review team, however, proposed Districts to undertake the review are included in Appendix B.

A. General. An ATR Manager from a district outside of NAD will be designated for the ATR process by the PCX. The ATR Manager is responsible for providing information necessary for setting up the review, communicating with the New York District's Plan Formulation Section Chief, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy.

B. ATR Team (ATRT). The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT. It is anticipated that the team will consist of approximately 8 reviewers. The ATRT members will be identified at the time the review is conducted and will be presented in Appendix B. The PCX will coordinate with the Cost Estimating Directorate of Expertise (DX) (Walla Walla District) for their participation in ATR. Furthermore, if the total project cost is greater than $40 million, a cost risk analysis will also need to be performed by the DX. A description of the disciplines needed for the ATRT is also provided in Appendix B.

C. Communication. The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The NAN Plan Formulation Section Chief will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in Word format at: ftp://ftp.usace.army.mil/pub/ at least one business day prior to the start of the comment period.

(2) The PDT shall host an ATR kick-off meeting virtually to orient the ATRT during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall provide a presentation about the project, including photos of the site, for the team.

(3) The NAN Plan Formulation Section Chief shall inform the ATR manager when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(4) A revised electronic version of the report and appendices with comments incorporated shall be posted at ftp://ftp.usace.army.mil/pub/ for use during back-checking of the comments.

(5) Team members shall contact ATRT members or leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks, but a summary of discussions may be provided in the system.

(6) Reviewers will be encouraged to contact PDT members directly via e-mail or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

D. Funding

(1) The PDT district shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through a government order. The NAN Plan Formulation Section Chief and the NAN Project Manager will work with the ATR manager to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for each review is $35,000 (P7, AFB, Draft Report, Final Report). Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.
(2) The ATR Manager shall provide organization codes for each of the ATR team members and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.
(3) ATRT members shall monitor individual labor code balances and alert the ATRT Manager to any possible funding shortages.

E. Timing and Schedule

(1) Throughout the development of this document, the team will hold planning meetings to ensure planning quality. Senior staff and subject matter experts from the PDT District and members of the vertical team (DST, PCX, Planning CoP, and RIT, as needed) will attend the meetings and provide comments on the product (2) The ATR will begin with the without project conditions Hydrology and Hydraulics and Economics sections of what will ultimately become the P7 Report, or Preliminary Alternatives Report. This will include the preliminary formulation, economics, and preliminary engineering design, including the H&H model. The Alternative Formulation Briefing (AFB) review will include the plan formulation process, economics, environmental impact assessment, preliminary engineering design, and the recommended plan.
(2) The PDT will hold a "page-turn" session to review the draft report to ensure consistency across the disciplines and resolve any issues prior to the start of ATR. Writer/editor services will be performed on the draft prior to ATR as well.
(3) The ATR process for this document will follow the timeline below. Actual dates will be scheduled once the period draws closer. It is estimated that review of the without project conditions Hydrology and Hydraulics and Economics sections of what will ultimately become the P7 Report. This initial review will begin in April 2009. The P7 report review will begin in the 1st Quarter of FY 2010. Review of the AFB will begin in the 1st Quarter of FY 2011. The certification of the AFB, Draft Feasibility Report and Final Feasibility Report will follow the completion of each review.

Task	**Date**
ATR of the Without Project Conditions H&H and Economics	April 2009
ATR of P7 (Preliminary Alternatives Report)	December 2009
ATR of draft AFB documentation begins	October 2010
ATR Certification of AFB	January 2011
Draft Feasibility Report Complete	September 2011
ATR of Draft Report Complete	November 2011
ATR Certification/Completion of Draft Report	December 2011

IEPR of Draft Report Complete	June 2012
Public Review of Draft Report	September 2012
Final Report – Completed by District	February 2013
ATR Certification/Completion of Final Report	June 2013

F. Review

(1) ATRT responsibilities are as follows:

(a) ATRT members shall review the draft report(s) to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the report shall be submitted into DrChecks.

(b) Reviewers shall pay particular attention to one's discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating as such.

(c) Grammatical and editorial comments shall not be submitted into DrChecks. Comments should be submitted to the ATR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ATR manager shall provide these comments to the NAN Plan Formulation Section Chief.

(d) Review comments shall contain these principal elements:

- a clear statement of the concern
- the basis for the concern, such as law, policy, or guidance
- significance for the concern
- specific actions needed to resolve the comment

(e) The "Critical" comment flag in DrChecks shall not be used unless the comment is discussed with the ATR manager and/or the NAN Plan Formulation Section Chief first

(2) PDT Team responsibilities are as follows:

(a) The team shall review comments provided by the ATRT members in DrChecks and provide responses to each comment using "*Concur*", "*Non-Concur*", or "*For Information Only*". *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

(b) PDT Team members shall contact the PDT and ATRT managers to discuss any "Non-Concur" responses prior to submission.

G. Resolution

(1) Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements. Conference calls shall be used to resolve any conflicting comments and responses.

(2) Reviewers may "agree to disagree" with any comment response and close the comment with a detailed explanation. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR manager and, if not resolved by the ATR manager, it should be brought to the attention of the planning chief who will

need to sign the certification. ATRT members shall keep the ATR manager informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during HQ review.

H. Certification

To fully document the ATR process, a statement of technical review will be prepared. Certification by the ATR manager and the NAN Plan Formulation Section Chief will occur once issues raised by the reviewers have been addressed to the review team's satisfaction and the final report is ready for submission for HQ review.

Indication of this concurrence will be documented by the signing of a certification statement (Appendix A). A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process. An interim certification will be provided by the ATR manager to indicate concurrence with the report to date until the final certification is performed when the report is considered final.

I. Alternative Formulation Briefing (AFB)

The AFB for this project will occur after the PDT has developed the alternatives to a sufficient level of detail that would allow for review of the plan formulation process. It is possible that the briefing will result in technical or policy comments from high level reviewers for resolution. The resolution of significant policy comments may result in major changes to the document. Therefore, the ATRT members will perform a review of the report to ensure that technical issues are resolved.

4. Independent External Peer Review Plan

This decision document will present the details of a feasibility study undertaken to evaluate structural and non-structural flood risk management measures in the Peckman River Basin, in Essex and Passaic Counties, New Jersey as described in paragraph 2 above. At this time, our assumption is that this project will trigger the requirements for Independent External Peer Review (IEPR) as described in the Circular and in Section 2034 of WRDA 2007 based on conducting an EIS with total project costs exceeding $45M. It is not expected that the report will disseminate influential scientific information or conduct any influential scientific assessments. It is expected that the District will coordinate with the PCX and the PCX manage the IEPR. The PMP for this study will be updated to include a maximum placeholder of $500K for the cost of the IEPR, which is at 100% Federal cost.

A. Project Magnitude. The magnitude of this project is determined as low-medium, as shown in Table 4.1, below. At this time, the cost of the project may exceed $45 million. The project is not considered complex and involves implementation of standard concepts. It is anticipated that the report will not present influential scientific information or influential scientific assessments.

B. Project Risk. This project is considered low-medium risk overall. The potential for failure is low because the project involves straight forward concepts with numerous successful national applications. 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 at least one public meeting 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.

Project Risk was assessed using Table 4.2 below. Other District projects were considered as a comparison and previous project experience was also considered when making this analysis.

Table 4.1: Project Magnitude Assessment

Project Magnitude Item	**Assessment Score (Low Degree to High Degree)**					**Score**
	Low		Medium		High	
Project Schedule/Cost	1	2	3	4	5	2
Project Complexity	1	2	3	4	5	4
Project Benefits	1	2	3	4	5	2
Project Scale	1	2	3	4	5	3
Avg. Project Magnitude Score						**2.75**

Table 4.2: Project Risk Assessment

Project Risk Item	**Assessment Score (Low Degree to High Degree)**					**Score**
	Low		Medium		High	
Potential for Failure	1	2	3	4	5	2
Uncertainties of Predictions	1	2	3	4	5	3
Long Term Cumulative Effects/Customer Expectations	1	2	3	4	5	3
Staff Technical Experience	1	2	3	4	5	2
Failure Impact and Consequences	1	2	3	4	5	3
Avg. Project Risk Assessment Score						**2.6**

C. Vertical Team Consensus. This review plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX concurrence, the plan will be provided to the NAD for approval. MSC approval of the plan will indicate vertical team consensus. The ATR, IEPR and Public and Agency Review will serve as the main review approaches.

5. Public and Agency Review

Public review of the draft report will occur after completion of the ATR and IEPR and concurrence by NAD and HQUSACE that the document is ready for public release. As such, any public comments provided at any public meetings held during the planning process will available to the review team. In addition, the PDT may hold an "information session" with the public to describe the recommendations and findings and to gather public opinion information, which will also be available to the IEPR Panel.

Public review of the draft report will begin approximately one (1) month after the completion of the ATR/IEPR process and policy guidance memo. The period will last 30 days as required.

Public review comments will be forwarded to the ATR and IEPR Team Leads upon completion of the public review comment period.

A formal State and Agency review will occur concurrently with the public review. However, it is anticipated that intensive coordination with these agencies will have occurred concurrently with the planning process.

Upon completion of the review period, comments will be consolidated and addressed if needed. A comment resolution meeting will take place if needed to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the final document.

6. PCX Coordination

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at South Pacific Division (SPD). This review plan will be submitted to the PCX Manager, for approval and designation of an ATRT manager. Since it was determined that the total project costs will likely exceed the $45M threshold, IEPR will be required. As such, the PCX will be asked to manage the Peer Review process and is requested to nominate the ATR team as discussed in Paragraph 3.b above. The approved review plan will be posted to NAN's website.

7. Approvals

The PDT will carry out the review plan as described. The NAN Plan Formulation Section Chief will submit the plan to the Chief, Planning and Policy Community of Practice, North Atlantic Division for approval. Coordination with the PCX will occur through the NAN Planning Chief. The Points of Contact for questions and comments to this Review Plan are as follows:

District Point of Contact: Mrs. Jodi McDonald
MSC Point of Contact: Mr. Cliff Jones
FRM-PCX Point of Contact: Mr. Eric Thaut

APPENDIX A
STATEMENT OF TECHNICAL REVIEW

COMPLETION OF AGENCY TECHNICAL REVIEW
PECKMAN RIVER BASIN, ESSEX AND PASSAIC COUNTIES, NJ
FEASIBILITY STUDY
WITH ENVIRONMENTAL IMPACT STATEMENT AND APPENDICES

The New York District has completed the project implementation report (Feasibility Report) with an Environmental Impact Statement and appendices for the Peckman River Basin Study, Essex and Passaic Counties, New Jersey. Notice is hereby given that an agency technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the agency technical review, 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 result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an agency team composed of staff from multiple districts. All comments resulting from the ATR have been resolved.

TBD_____ _____
NAME DATE
Manager, Peckman River Basin
Agency Technical Review Team

_____
JODI M. MCDONALD
Plan Formulation Section Chief
New York District

CERTIFICATION OF AGENCY TECHNICAL REVIEW

A summary of all comments and responses is attached. Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact and resolution)

As noted above, all concerns resulting from the agency technical review of the study have been fully resolved.

_____ _____

Frank Santomauro, P.E.
Chief, Planning Division
New York District

Date

APPENDIX B

REVIEW PLAN TEAMS

PROJECT DELIVERY TEAM

Name	Discipline	Phone	Email
Alicia Gould	Project Management	(917) 790-8327	Alicia.Gould@usace.army.mil
Jodi McDonald	Section Chief, Plan Formulation	x-8720	Jodi.m.mcdonald@usace.army.mil
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Johnny Chan	Economics	x-8706	johnny.c.chan@usace.army.mil
Nancy Brighton	Section Chief, Environmental Analysis	x-8703	Nancy.J.Brighton@usace.army.mil
Kimberly Rightler	Biology/NEPA	x-8722	Kimberly.A.Rightler@usace.army.mil
Carissa Scarpa	Cultural Resources	x-8612	Carissa.A.Scarpa@usace.army.mil
Roy Messaros	Lead Project Engineer	x-8247	Roy.C.Messaros@usace.army.mil
Mukesh Kumar	Cost Engineering	x-8257	mukesh.kumar@usace.army.mil
Harry Donath	Cost Engineering	x-8255	harry.a.donath@usace.army.mil
Charlie Cavanna	Real Estate	x-8450	Charles.P.Cavanna@usace.army.mil
William Barth	Hydrology	x-8352	William.R.Barth@usace.army.mil
Frank Santangelo	Lead H&H	x-8266	Frank.A.Santangelo@usace.army.mil
Stan Bloom	Civil/Site/Utility	x-8374	Stanley.bloom@usace.army.mil
Ben Baker	Geotechnical	x-8379	Ben.A.Baker@usace.army.mil
Michael Chen	Structural	x-8749	Xiaoming.Chen@usace.army.mil

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Possible Review District**
TBD	ATR Manager/Plan Formulation	Philadelphia
TBD	Civil Design	Baltimore
TBD	Biology/NEPA	New England
TBD	Hydrology/Hydraulics	Baltimore
TBD	Economics	Baltimore
TBD	Cost-Engineering*	New England
TBD	Real Estate	Philadelphia
TBD	Cultural Resources	St. Louis

* 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.

INDEPENDENT EXTERNAL PEER REVIEW PANEL DISCIPLINES

Name	Discipline
TBD	Plan Formulation
TBD	Civil Design
TBD	Biology/NEPA
TBD	Hydrology/Hydraulics
TBD	Economics
TBD	Cost-Engineering

AGENCY TECHNICAL REVIEW TEAM AND INDEPENDENT EXTERNAL PEER REVIEW PANEL DISCIPLINE DESCRIPTIONS

Discipline-Specific Guidance & Requirements. ATR and IEPR Team representation is required in the disciplines listed below. In general, the ATR and IEPR team members will each have a minimum of 15 years experience in their respective discipline and hold a professional engineer license where applicable. A statement of qualifications is required for each team member prior to acceptance as an ATR and IEPR Team member and for any subsequent changes thereto.

Hydrology & Hydraulics: Team member will be an expert in the field of urban hydrology & hydraulics, have a thorough understanding of the dynamics of the both open channel flow systems, enclosed systems, application of detention / retention basins, effects of best management practices and low impact development on hydrology, approaches that can benefit water quality, application of levees and flood walls in an urban environment with space constraints, non-structural measures especially as related to multipurpose alternatives including aquatic ecosystem restoration, 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, HEC-RAS, UNET, and TABS). A certified flood plain manager is recommended but not required.

Structural: Team member will have a thorough understanding of non-structural measures, levee, flood wall, and retaining wall design, and structures typically associated with levees (pump stations, gate well structures, utility penetrations, stoplog & sandbag gaps, and other closure structures). A certified professional engineer is recommended though not required.

Mechanical: Team member shall be familiar with levee pump station and closure structure design. Engineering disciplines other than Mechanical may be acceptable for review of this area of work subject to meeting the experience requirement stated above.

Electrical (if deemed necessary): Team member shall be familiar with levee pump station and electrical utilities design. Electrical ATR and IEPR requirements for this study are very minimal.

Geotechnical: Team member will have extensive experience in levee & floodwall design, post-construction evaluation, and rehabilitation. A certified professional engineer is recommended.

Economics: Team member will have extensive experience in related flood risk management projects, and have a thorough understanding of HEC-FDA.

Plan Formulation: Team member will be familiar with watershed level projects, current flood risk management planning and policy guidance, and have experience in plan formulation for multipurpose projects, specifically integrating measures for flood risk management, ecosystem restoration, recreation, a watershed approach, and planning in a collaborative environment.

Civil / Site / Utilities / Relocations: This discipline may require a dedicated team member, or may be satisfied by structural or geotechnical reviewer, depending on individual qualifications. Team member will have experience in utility relocations, positive closure requirements and

internal drainage for levee construction, and application of non-structural flood risk management, specifically flood proofing. A certified professional engineer is suggested.

Cost Estimating: Team member will be familiar with cost estimating for similar projects using MCACES. 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.

Other disciplines/functions involved in the project include Hazardous/Toxic Waste, Environmental/NEPA, Real Estate, Cultural Resources, and Legal. In each case, any required Independent Technical Review within these disciplines may be accomplished within District or by other independent sources. The general experience requirements and principles contained in this document also apply to these disciplines/functional areas.

(Exception: Legal review is not under the purview of the ATR and IEPR Manager but is instead responsible to the Corps of Engineers Ofc of Counsel chain-of-command).

ATR and IEPR Manager. One member of the ATR and IEPR Team will act as the ATR and IEPR manager. Manager designation will be finalized based on input from the PCX. The ATR and IEPR manager shall, in addition to discipline-specific review requirements, be responsible for:

Acting as a liaison between the Project Development Team and the ATR Team
In conjunction with the NAN Plan Formulation Section Chief, the ATR manager will perform active coordination of the ATR process and study findings with the Corps Flood Risk Management Center of Expertise (FRM) in South Pacific Division, and ensure compliance with an adequate level of FRM review.

Distributing information for review and coordinating efforts of the ATR Team. Ensuring that individual ATR Team members are operating IAW the guidelines established for ATR by EC 1105-2-410.The ATR team is not geographically co-located. Therefore, it is of paramount importance that the ATR Manager be capable of organizing the total ATR efforts across District and Division boundaries. A substitute ATR Manager from the ATR team will be named by the ATR Manager for periods of extended (over 60 days) absence.

VERTICAL TEAM

Name	Discipline	Phone	Email
Thomas J. Hodson	NAN Plan Formulation Branch Chief	917-790-8602	Thomas.J.Hodson@usace.army.mil
Anthony Ciorra	NAN PPMD Civil Works Branch Chief	917-790-8208	Anthony.ciorra@usace.army.mil
Leonard J. Houston	NAN Environmental Analysis Branch Chief	917-790-8702	Leonard.houston@usace.army.mil
Robert Alpern	NAN Civil Resources Branch Chief	917-790-8273	Robert.L.Alpern@usace.army.mil
Peter Blum	NAD Planning CoP	718-765-7066	Peter.R.Blum@usace.army.mil

Joe Forcina	NAD DST Lead	718-765-7084	Joseph.Forcina@usace.army.mil
Wes Coleman	NAD RIT	202-761-5782	Wesley.E.Coleman@usace.army.mil
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Others as necessary			