



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NORTH ATLANTIC DIVISION
FORT HAMILTON MILITARY COMMUNITY
302 JOHN WARREN AVENUE
BROOKLYN, NY 11252-6700

CENAD-PD-P (1105-2-10c)

3 June 2024

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, New England
District 696 Virginia Road Concord, MA 01742-2751

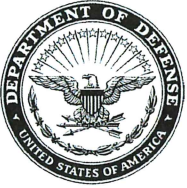
SUBJECT: Boston Metropolitan Area, Massachusetts (Section 729, Watershed Study)
Review Plan

1. Reference Memorandum, CENAE-PDP dated 15 Dec 2023, Subject: Submission of the Review Plan for the Boston Metropolitan Area, MA (Section 729, Watershed Study) P2 No. 463336 for Approval
2. The Coastal Storm Risk Management Planning Center of Expertise of the North Atlantic Division (NAD) is the lead office to execute the referenced Review Plan. The Review Plan does not include Independent External Peer Review, as it is not required for watershed plans.
3. The enclosed Review Plan is approved for execution and is subject to change as study circumstances require, consistent with study development under the Project Delivery Business Process. Subsequent revisions to this Review Plan or its execution require new written approval from NAD.
4. The point of contact is Mr. Larry Cocchieri, NAD Planning Program Manager at 347-370-4571 or Lawrence.J.Cocchieri@usace.army.mil.

Encl

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JOHN P. LLOYD
Brigadier General, USA
Commanding



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

CENAE-PDP

15 December 2023

MEMORANDUM FOR Commander, North Atlantic Division, U.S. Army Corps of Engineers, (CENAD-PD-CID-P/Mr. Christopher Ricciardi), Fort Hamilton Military Community, 301 John Warren Avenue, Brooklyn, NY 11252-8400

SUBJECT: Submission of the Review Plan for the Boston Metropolitan Area, MA (Section 729, Watershed Study) P2 No. 463336 for Approval.

1. References: ER 1165-2-217, Review Policy for Civil Works, 1 May 2021.
2. Background: The New England District developed the enclosed Review Plan dated December 2023 for the Boston Metropolitan Area, Coastal Watershed Study. The Review Plan has been reviewed for technical sufficiency and policy compliance by the National Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSRМ). The PCX's endorsement of the Review Plan is provided in the enclosed memorandum dated 16 June 2023.
3. Request: The New England District requests that the North Atlantic Division approve the attached Review Plan.
4. Please contact Barbara Blumeris, Study Manager at 978-318-8737, or email barbara.r.blumeris@usace.army.mil if you require further information.

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- 2 Encls
1. Review Plan Final
 2. PCX-CSRМ Endorsement

JUSTIN R. PABIS, PE
COL, EN
Commanding



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NORTH ATLANTIC DIVISION
FORT HAMILTON MILITARY COMMUNITY
302 JOHN WARREN AVENUE
BROOKLYN, NY 11252-6700

CENAD-PD-X (1105-2-10c)

16 June 2023

MEMORANDUM FOR: Commander, U.S. Army Corps of Engineers, New England District (CENAE-PDP/Jeffrey Herzog) 696 Virginia Road Concord, MA 01742-2751

SUBJECT: Boston Metropolitan Area, Massachusetts Study

1. The National Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSR) has reviewed the Review Plan (RP) for the subject study and concurs that the RP complies with current peer review policy requirements contained in ER 1165-2-217, entitled "Civil Works Review Policy".
2. The review was performed by Mr. Donald Cresitello.
3. PCX-CSR has no objection to RP approval by the Commander, North Atlantic Division.
4. Thank you for the opportunity to assist in the preparation of the RP. PCX-CSR is prepared to lead the Agency Technical Review for the subject study and will continue to coordinate with the project delivery team. For further information, please contact me at 347-370-4571.

A handwritten signature in black ink, appearing to read "Larry Cochieri", is positioned above the printed name.

LARRY COCHIERI
Deputy, National Planning Center of
Expertise for Coastal Storm Risk
Management

Review Plan
May 2024

1. Project Summary

Project Name: Boston Metropolitan Area, Massachusetts (Section 729, Watershed Study)

Location: Coastal Communities on Boston Harbor: Winthrop, Revere, Saugus, Chelsea, Everett, Boston¹, Quincy, Braintree, Weymouth, Hingham, Hull, and inland communities of Cambridge, Brookline, Malden, Medford, Somerville, Arlington, Belmont, Milton, Massachusetts

P2 Number: 46336

Decision and Environmental Compliance Document Type: Watershed Plan (not considered to be a USACE decision document).

Congressional Authorization Required: No, however, a final report is transmitted to Congress for information in response to the study authority and to the Office of Management and Budget if required for budgetary consideration.

Project Purpose(s): Watershed Study to conduct a regional assessment of long-term coastal flood risk to populations, property, ecosystems, and infrastructure, develop potential strategies to manage risk, and identify the recommended risk management strategy(s).

Non-Federal Sponsor: Massachusetts Executive Office of Energy and Environmental Affairs (EEA)

Points of Public Contact for Questions/Comments on Review Plan:

District: New England District

District Contact: Project Manager/978-318-8737

Major Subordinate Command (MSC): North Atlantic Division

MSC Contact: District Support Team Lead/ 347-370-4534

Review Management Organization (RMO): USACE National Planning Center for Coastal Storm Risk Management (PCX-CSRМ)

RMO Contact: Deputy Director for National Operations/ 917-539-4174

¹ Boston is being assess under the USACE City of Boston, Coastal Strom Risk Management Feasibility study.

Key Review Plan Dates

Date of RMO Endorsement of Review Plan	May 31, 2024
Date of MSC Approval of Review Plan	Pending
Date of IEPR Exclusion Approval	N/A
Has the Review Plan changed since RMO Endorsement?	No
Date of Last Review Plan Revision	None
Date of Review Plan Web Posting	Pending

Milestone Schedule and Other Dates

	Scheduled	Actual
Watershed Agreement Execution		December 16, 2021
Shared Vision Milestone	June 2023	June 21, 2023
Recommendations Milestone	February 2025	(enter date)
Release Draft Report to Public	April 2025	(enter date)
Report Milestone	September 2025	(enter date)
ASA (CW) Memorandum of Concurrence	October 2025	(enter date)

2. References

Engineer Regulation 1165-2-217 – Water Resources Policies and Authorities – Civil Works Review Policy, 1 May 2021.

Engineering Regulation 1105-2-102- Water Resource Policies and Authorities- Watershed Studies, 01 April 2022.

Engineer Circular 1105-2-412 – Planning – Assuring Quality of Planning Models, 31 March 2011.

Planning Bulletin 2013-02, Subject: Assuring Quality of Planning Models (EC 1105-2-412), 31 March 2013.

Office of Management and Budget, Final Information Quality Bulletin for Peer Review, Federal Register Vol. 70, No. 10, January 14, 2005, pp 2664-267

3. Review Execution Plan

The general plan for executing all required independent reviews is outlined in the following two tables.

Table 1 lists each study product to be reviewed, and the level of review. District Quality Control (DQC) is a district led effort to review products. Agency Technical Review is a review conducted by an experienced, but objective team outside the district for technical competencies and processes. The ATR Lead is usually assigned by the PCX-CSR. The Policy and Legal Compliance Review (P&LC) is coordinated between HQUSACE Office of Water Project Review (OWPR) and the

MSC to ensure policy compliance and legal sufficiency of the Watershed Plan document. The table provides the schedules and costs for the anticipated reviews. Teams also determine whether a site visit will be needed to support each review. The decisions about site visits are documented in the table. As the review plan is updated the team will note each review that has been completed.

Table 1: Schedule and Costs of Reviews

Product to undergo Review	Review Level	Site Visit	Start Date	End Date	Cost	Complete
SVM Milestone	DQC	No	June 2023	June 2023	\$5,000	
Recommendations Milestone	DQC	No	February 2025	February 2025	\$15,000	
Draft Report	DQC	No	March 2025	March 2025	\$20,000	
Draft Report	ATR	No	April 2025	April 2025	\$50,000	
Draft Report	P&LC	No	April 2025	April 2025	N/A	
Final Report	DQC	No	July 2025	July 2025	\$20,000	
Final Report	ATR	No	August 2025	August 2025	\$40,000	
Final Report	P&LC	No	August 2025	August 2025	N/A	
Total					\$150,000	

Table 2 identifies the specific expertise and role required for the members of each review team. The table identifies the technical disciplines and expertise required for members of review teams. In most cases the team members will be senior professionals in their respective fields. In general, the technical disciplines identified for a DQC team will be needed for an ATR team. Each ATR team member will be certified to conduct ATR by their community of practice. The table is set up to concisely identify common types of expertise that may be applicable to one or more of the reviews needed for a study.

Table 2: Review Teams - Disciplines and Expertise

Discipline / Role	Expertise	DQC	ATR
DQC Team Lead	Extensive experience preparing Civil Works Watershed Plans and leading DQC. The lead may serve as a DQC reviewer for a specific discipline (planning, economics, environmental, etc.).	Yes	No
ATR Team Lead	Professional with extensive experience preparing Civil Works Watershed Planning and conducting ATR. Skills to manage a virtual team through an ATR. The lead may serve on the ATR team for a	No	Yes

Discipline / Role	Expertise	DQC	ATR
	specific discipline (such as planning, economics, or environmental work).		
P&LC Team Lead	Professional with extensive experience preparing Civil Works Watershed Planning and conducting policy reviews. Skills to manage virtual team through the review. The lead may also serve on the P&LC team for a specific discipline (such as planning, economics, or environmental work).	N/A	N/A
Planning	Skilled water resources planner knowledgeable in complex planning investigations and the application of SMART principle to problem solving.	Yes	Yes
Economics	Experience with applying theory, methods and tools used in the economic evaluation of water resources projects.	Yes	Yes
Environmental Resources	Experience with environmental evaluation and compliance requirements, national environmental laws and statutes, applicable Executive Orders, and other planning requirements.	Yes	Yes
Cultural Resources	Experience with cultural resource survey methods, area of potential effects, National Historic Preservation Act Section 106, and state and federal laws pertaining to American Indian Tribes.	Yes	Yes
Coastal Engineering	Experience applying coastal engineering principles and analytical tools to project planning and familiar with the Massachusetts Coastal Flood Risk Model	Yes	Yes
Civil Engineering	Experience with concept level design of structural and non-structural coastal risk management features, as well as nature and natural based features.	Yes	Yes
Cost Engineering	In watershed planning, costs for measures and strategies are pre-USACE budget development and may be rough order of magnitude cost estimates. Should have working knowledge of water resource project construction; capable of making professional determinations using experience.	Yes	Yes
Real Estate	Detailed real estate information is not required for a watershed study and a Real Estate plan will not be prepared. Experience applying general principles of real estate requirements to a watershed plan.	Yes	No
Climate Preparedness and Resilience	A member of the Climate Preparedness and Resiliency Community of Practice knowledgeable of coastal hydrology climate change assessment policy and practice.	Yes	Yes

4. Documentation of Reviews

Documentation of DQC. Quality Control will be performed continuously. A specific certification of DQC completion will be prepared at the base conditions (existing and future), draft and final report stages. Documentation of DQC will follow the District Quality Manual and the MSC Quality Management Plan. DrChecks will be used for documentation of DQC comments. An example DQC Certification statement is provided in ER 1165-2-217, Appendix D. Documentation of completed DQC, to include the DQC checklist, will be provided to the MSC, RMO and the ATR Team leader. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort.

Documentation of ATR. DrChecks will be used to document all ATR comments, responses, and resolutions. Comments should be limited to those needed to ensure product adequacy. All members of the ATR team will use the four-part comment structure (see ER 1165-2-217, Section 5). If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team to resolve using the issue resolution process in ER 1165-2-217, Section 5.9. Unresolved concerns will be closed in DrChecks by noting the concern has been elevated. ATR documentation will include an assessment by the ATR team of the effectiveness of DQC. The ATR Lead will prepare a Statement of Technical Review (see ER 1165-2-217, Section 5.11, and Appendix D), for the draft and final reports, certifying that review issues have been resolved or elevated. ATR will be certified when all concerns are resolved or referred to the vertical team and the ATR documentation is complete.

5. Supporting Information

Study or Project Background

Study Authority

USACE is conducting the study under authority contained in Section 729 of the Water Resources Development Act (WRDA) 1986, as amended, that allows USACE to study the water resources needs of coastal regions of the United States in consultation with federal, state, tribal, interstate, and local governmental entities. Funding for a Boston Metropolitan area coastal flood risk management study was appropriated by Congress in 2021 and a cost share agreement (75/25) was signed with MA EEA in December 2021.

Study or Project Area

The focus of the study is the Boston Harbor coastal communities (see Figure 1). Boston Harbor is a large harbor which constitutes the western extremity of Massachusetts Bay. The study region is defined by Winthrop Peninsula to the north and the hooked Nantasket Peninsula/Hull to the south. Inland communities impacted by coastal storm surge along the river channels flowing into Boston Harbor will also be considered, but to a lesser extent as the focus of the study is on the coastal areas.

Boston falls within the study area and is also being investigated under a separate USACE led Coastal Storm Risk Management Feasibility (CSRMF) study effort with the City of Boston (study

sponsor). The Metro study will consider and incorporate the findings of the Boston CSRM Feasibility study in the strategies developed for the larger Boston Harbor coastal area.

Figure 1 also provides a display of flood inundation based on the Massachusetts Coastal-Flood Risk Management (MC-FRM), coastal storm modeling for the 2070 100-year inundation area (about a 4-foot increase in sea level from present day) for Boston Harbor and areas adjacent to harbor.

Study or Project Area Map



Figure 1 – Study Area Map.

Problem Statement

Coastal storms, tidal flooding, and climate change related impacts create risk to life and public safety within the study area. Additionally, there is risk of damage to structures and infrastructure within the study area including both commercial and residential structures, some of which are disproportionately impacted Justice 40 communities. Furthermore, these risks create issues for emergency, government, transportation, other public services, and utilities to prepare, respond and recover from coastal storms.

Goals and Objectives

The broad goal of the study is to conduct a regional assessment of long-term coastal flood risk to populations, property, ecosystems, and infrastructure, develop potential strategies to manage risk, and identify the recommended risk management strategy(s). Objectives include manage risk of coastal storm and tidal flooding and damage to assets and critical infrastructure, manage life and health safety risk, improve, to the extent practicable, public access to open space and recreation, and moderate, to the extent practicable, impacts to salt marsh ecosystems.

Future Without Project Conditions

The Boston Metropolitan area, including the 19 municipalities in this study is predominantly dense urban development with a mix of residential, historical, commercial, coastal communities. These communities are connected through a complex network of transportation systems that include roads, tracks, and tunnels, some of which are submerged within the harbor, rivers, and channels. Some of the Metropolitan Boston area was constructed on fill lands during development in the 19th century and is now subject to subsidence. There are five coast-sheds that make up the study area and an estimated 266 miles of coastline. Based on initial modeling a 1% annual exceedance probability (AEP) event would inundate approximately 39.6 square miles in the study area with a potential sea level change of 4.3 feet by 2070 depending on which scenario comes to pass.

Types of Measures/Strategies Being Considered

This study is a Watershed Study focused on developing strategies and recommendations to be undertaken by federal, state and local agencies. There is no specific measure or alternative to consider, but instead a comprehensive watershed plans that factors in measures, alternatives, and strategies to be implemented by the whole of government to improve resiliency and manage risk in the study area over the period of analysis. A full suite of coastal storm risk management measures will be considered including both structural and nonstructural and natural and nature-based features. Plans to be implemented by others, policy and legislative recommendations, as well as strategies such as managed retreat will all be evaluated. A simplified list of measures is-

- Accommodation Measures: elevated structures, structure floodproofing, elevated roads
- Defense Measures: Floodwalls, raised seawalls, levees, breakwaters, tide gates, storm surge barriers
- Nature-Based Measures: beach/dune nourishment, wetland creation, living shorelines, reefs, etc.
- Managed Retreat Measures: managed retreat from high-risk coastal areas, acquisition and removal of vulnerable structures, relocation of vulnerable infrastructure
- Local Regulatory Measures: re-zoning, etc.

Measures will be used to form strategies applicable to each coast-shed in the study area.

Estimated Cost/Range of Costs

Costs to implement strategies across the whole of government are unknown currently. However, given the size of the study area, the complexity of the coastal storm risk, and the cost of construction in a dense urban environment, costs could exceed several billion dollars for a comprehensive whole of government approach to managing coastal storm risk in the study area.

6. Models to be Used in the Study

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 are any models and analytical tools used 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 following planning model may be used to develop the Watershed Plan:

Table 3: Planning Models.

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Certification / Approval
Expected Annual Damages Calculator	This is a New England District model that will be used to provide an estimate of expected annual damages for the Metropolitan Boston area watershed study. The model uses a readily available floodplain structure inventory, estimated water surface elevations for a range of storm events, and published damage curves to estimate expected annual damage in the watershed study area.	Approved for one time use.

SLAMM model “Sea Level Affecting Marshes Model” results to be provided by Massachusetts Coastal Zone Management office to NAE and may be used to identify marsh impacts in the study area. No SLAMM modeling will be conducted by NAE.

USACE tools and planning models that are not certified for use require a one-time use approval from the MSC Chief of Planning. The Watershed Study is determining what, if any planning models should be applied to the study to help weigh strategies and make recommendations. Tools such as multi-criteria decision-making models, IWR Planning Suite, and or other spreadsheet models may be developed to assist in formulation later in the study. Reviewers should be familiar with these types of models and decision-making frameworks.

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. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many

engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. For example, HH&C models need to comply with the requirements of HH&C CoP Enterprise Standard 08101.

NAE is planning to use a proprietary coastal hydraulic model, the Massachusetts Coastal Flood Risk Model (MC-FRM) developed by Woods Hole Group, for the study. This model uses ADCIRC and SWAN model to evaluate coastal inundation while incorporating climate change, overland flow, as well as overtopping analysis into the model. The model is recommended for the study due to its refined mesh in a densely populated, built out constrained area. The refined mesh and overland flow will better inform plan formulation and risk informed design for structural alternatives in the project area. The MC-FRM is already used for planning and decision making throughout the State of Massachusetts and is the accepted model in the region.

These engineering models may be used to develop the Watershed Plan:

Table 4: Engineering Models.

Model Name	Brief Model Description and How It Will Be Used in the Study	Approval Status
Woods Hole Group, Massachusetts Coastal Flood Risk Model (MC-FRM)	Detailed proprietary coastal model that utilizes ADCIRC and SWAN model to evaluate coastal inundation while incorporating climate change, overland flow, as well as overtopping analysis into the model. The model is a product of a Government Contract with the Architectural and Engineering Firm, Woods Hole Group, Boston MA.	Concurrence by PCX-CSR, CPR CoP, HH&C CoP

All civil works planning studies must document compliance with CECW-P memo (28 July 2023), Model Coordination for Civil Works Planning Studies, to coordinate models and confirm assigned modelers possess the requisite knowledge and experience to complete modeling tasks. A questionnaire for each model is attached in Appendix D.

7. Factors Affecting Level and Scope of Review

All planning products are subject to the conduct and completion of District Quality Control. Most planning products are subject to Agency Technical Review and a smaller sub-set of products may be subject to Independent External Peer Review and/or Safety Assurance Review. Information in this section helps in the scoping of reviews through the considerations of various potential risks.

Objectives of the Reviews

Teams should perform a critical analysis of the intended outcome of reviews with particular attention to key technical considerations and associated risks likely to be encountered during the study and/or in later phases of the project. The Planning Centers of Expertise are adept at facilitating these types of outcome-based discussions and in capturing study-specific statements characterizing risks and the relevance of those risks to the objectives of various reviews. Teams

are encouraged to collaborate with the appropriate planning center in conducting and documenting these risk assessments. Document the objectives of the reviews in this section.

Assessing the Need for IEPR

In accordance with ER 1105-2-102 Par. 11(e)- Independent External Peer Review as described in ER 1165-2-217 is not required for watershed plans.

8. Risk Informed Decisions on Level and Scope of Review

Targeted ATR. Some study products may be crucial in determining the scope and direction of alternative plans and study outcomes. In these instances, teams may seek to conduct a “Targeted ATR” of these products to help assure the quality of key technical information. Will a targeted ATR be conducted for the study? **No.** The models identified herein will be reviewed as part of the concurrent ATR review conducted at draft release. However, there is no formal net benefit evaluation, nor is there a detailed model driving engineering decisions.

IEPR Decision. In accordance with ER1105-2-102, the District will not be conducting an IEPR.

Safety Assurance Review. Safety Assurance Reviews are managed outside of the USACE and are conducted on design and construction products for hurricane, storm and flood risk management projects, or other projects where existing and potential hazards pose a significant threat to human life. In some cases, significant life safety considerations may be relevant to planning decisions. These cases may warrant the development of relevant charge questions for consideration during reviews such as ATR or IEPR. In addition, if the characteristics of the recommended plan warrant a Safety Assurance Review, a panel will be convened to review the design and construction activities on a regular schedule before construction begins and until construction activities are completed.

Decision on Safety Assurance Review. There is no implementation decision (design or construction) to be made, the study results in a Watershed Plan with no design or construction. Based on this, a Safety Assurance Review is not applicable.

9. Policy and Legal Compliance Review

Policy and legal compliance review of draft and final planning Watershed Plans is delegated to the MSC (ER 1105-2-102).

(i) Policy Review.

The policy review team is identified through the collaboration of the MSC Chief of Planning and Policy and the HQUSACE Chief of the Office of Water Project Review. The makeup of the Policy Review team will be drawn from Headquarters (HQUSACE), the MSC, the Planning Centers of Expertise, and other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of Watershed Plans as well as the Watershed Milestone meetings. These

engagements may include In-Progress Reviews, Issue Resolution Conferences or other vertical team meetings plus the milestone events.

- The input from the Policy Review team should be documented in a Memorandum for the Record (MFR) produced for each engagement with the team. The MFR should be distributed to all meeting participants.
- Teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

(ii) Legal Review.

Representatives from the Office of Counsel will be assigned to participate in reviews. Members may participate from the District, MSC and HQUSACE. The MSC Chief of Planning and Policy will coordinate membership and participation with the office chiefs.

- In some cases, legal review input may be captured in the MFR for the particular meeting or milestone. In other cases, a separate legal memorandum may be used to document the input from the Office of Counsel.

Each participating Office of Counsel will determine how to document legal review input.

10. Public Comment

ER 1165-2-217 requires the Review Plan for Decision Documents be posted on the District's website. As a Watershed Plan is not a decision document posting of the Review Plan is not required. However, for study transparency, this Watershed Study Review Plan will be posted on the District's website. Public comments on the scope of reviews, technical disciplines involved, schedules and other considerations may be submitted to the District for consideration. If the comments result in a change to the Review Plan, an updated plan will be posted on the District's website.

11. Documents Distributed Outside the Government

For information distributed for review to non-governmental organizations, the following disclaimer shall be placed on documents:

“This information is distributed solely for the purpose of pre-dissemination review under applicable information quality guidelines. It has not been formally disseminated by USACE. It does not represent and should not be construed to represent any agency determination or policy.”

Appendix A - Brief Description of Each Type of Review

This section describes each level of review to be conducted. Based upon the factors discussed in Section 1, this study will undergo the following types of reviews:

District Quality Control. All Watershed Plans and accompanying components will undergo DQC. This internal review covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan. The DQC team will read all reports and appendices. The review must evaluate the correct application of methods, validity of assumptions, adequacy of basic data, correctness of calculations (error-free), completeness of documentation, and compliance with guidance and standards. Districts are required to check all computations and graphics by having the reviewer place a highlight (e.g., place a “red dot”) on each annotation and/or number indicating concurrence with the correctness of the information shown.

Agency Technical Review. ATR will be performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. These teams will be comprised of certified USACE personnel. The ATR team lead will be from outside the home MSC.

Policy and Legal Compliance Review. These reviews culminate in determinations that report recommendations 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.

Public Review. The District will post the Review Plan and approval memo on the District’s internet site. Public comment on the adequacy of the Review Plans will be accepted and considered. Additional public review will occur when the report and environmental compliance document(s) are released for public and agency comment.