



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202-3222

CELRD-PD-G

15 Jan 14

MEMORANDUM FOR Commander, U.S. Army Engineer District, Buffalo, ([REDACTED]), 1776 Niagara Street, Buffalo, NY 14207-3199

SUBJECT: Decision Document Review Plan, Lake County Water Pump Station, Lake Erie, Painesville, Ohio, CAP Section 103 Storm Damage Reduction Project

1. The attached decision document Review Plan (RP) for the Lake County Water Pump Station project was presented to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-214 "Civil Works Review" dated 15 Dec 2012.
2. The proposed project is located at the Painesville Raw Water Pump Station on Lake Erie in the city of Painesville, Lake County, Ohio, approximately 30 miles east of Cleveland, Ohio. The project will evaluate storm damage reduction measures along Lake Erie at the Lake County Raw Water Pump Station. Frequent Lake Erie storms have eroded the shoreline bluff at the Lake County Raw Water Pump Station. Bluff retreat has exceeded 50 feet in some locations during a single storm. The access road to the plant within the last decade was moved landward up to 75 feet from its previous location as it was being lost due to bluff erosion. The pump station fence and building are presently located within 27 and 80 feet of the 50-foot high bluff, respectively. Protection needs to be completed in order to maintain a safe buffer between the plant and the top of the bluff. It is feared that further erosion of the bluff at the plant under saturated soil conditions coupled with the additional soil loading of the building could result in a large bluff failure. If the erosion is left unchecked, the pump station and a number of its components will be affected. The proposed alternative consists of planning, engineering, design and construction of a 500 foot long stone revetment only along the portion of the bluff near the water plant. A lakeshore access road would be cut along the bluff face at that location in order to build the revetment.
3. The RP defines the scope and level of peer review for the activities to be performed for the subject project. The USACE LRD Review Management Organization (RMO) has reviewed the attached RP and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-214.
4. I concur with the recommendations of the RMO and approve the enclosed RP for the Lake County Water Pump Station project.

CELRD-PD-G

SUBJECT: Decision Document Review Plan, Lake County Water Pump Station, Lake Erie, Painesville, Ohio, CAP Section 103 Storm Damage Reduction Project

5. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP and the dollar values of all project costs should be removed.

6. If you have any questions please contact

Encl
Review Plan



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

CELRB-DE

24 June 2013

MEMORANDUM FOR Commander, Great Lakes and Ohio River Division, ([REDACTED])
[REDACTED], 550 Main Street, RM 10-524, Cincinnati, OH 45202-3222

SUBJECT: District Transmittal Letter – Review Plan for Lake County Raw Water Pump Station,
Painesville, OH Section 103 Storm Damage Reduction Project

1. The enclosed Review Plan (RP) is presented for approval.
2. The purpose of this project is to evaluate the feasibility of providing storm damage reduction measures along Lake Erie at the Raw Water Pump Station in Painesville, Lake County, Ohio. Frequent Lake Erie storms have eroded the shoreline bluff, and continued erosion threatens the integrity of the pump station. Protection needs to be completed soon to ensure the integrity of the access road and to maintain a safe buffer between the plant and the top of the bluff.
3. The review plan contained herein has undergone District Quality Control (DQC) review by CELRB-PM-PA/Mr. David Schulenberg. We have coordinated development of the review plan with the Coastal Storm Risk Management PCX, and it has been determined that the review plan is technically correct and policy compliant. I recommend approval of the review plan.
4. The point of contact for this subject is [REDACTED]

3 Encls

1. Review Plan
2. PCX Memo
3. Life/Safety Decision Brief





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS NORTH ATLANTIC DIVISION
FORT HAMILTON MILITARY COMMUNITY
302 GENERAL LEE AVENUE
BROOKLYN, NY 11252-6700

CEPCX-CSRМ

10 Dec 2013

MEMORANDUM FOR U.S. Army Engineer District, Buffalo, ATTN: [REDACTED]
[REDACTED] 1776 Niagara Street, Buffalo, NY 14207

SUBJECT: Review Plan for Lake Erie Raw Water Pump Station, Painesville, OH Section 103 Storm Damage Reduction Project

1. The Coastal Storm Risk Management Planning Center of Expertise (CSRМ-PCX) has reviewed the Review Plan (RP) dated August 2013 for the subject project and concurs that the RP satisfies peer review policy requirements outlined in Engineering Circular (EC) 1165-2-214 Civil Works Review, dated 15 December 2012, and outlines an appropriate scope and level of review for the study phase.
2. The review was performed by [REDACTED]. All comments have been resolved. LRD is the Review Management Organization for the subject study. CSRМ-PCX will be available to advise and assist, if necessary.
3. CSRМ-PCX supports this study for an IEPR Exclusion request on the basis that no IEPR criteria "triggers" are set off and the fact that this study is so limited in scope and impact that it would not significantly benefit from an Independent External Peer Review.
4. The CSRМ-PCX recommends the RP for approval by the Major Subordinate Command (MSC). Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander's approval memorandum, and the link to where the RP is posted on the District website to CSRМ-PCX Deputy Director.
5. The RP is a living document and should be updated as the study progresses. Please provide any updates to me to enable us to provide effective and timely PCX support for the study.
6. Thank you for the opportunity to assist in the preparation of the RP.

Encl



**Coastal Storm Risk Management Planning Center of Expertise (CSRMP-CX) Comments
on the Review Plan for Lake Erie Raw Water Pump Station, Painesville, OH Section 103
Storm Damage Reduction Project**

1. Page 2, section c, reference (3). The correct date for EC 412 is 31 March 2011.
2. Page 5, Life Safety. As this study is a Section 103, the LRB Chief of Engineering Division should prepare a memo concurring with the life safety finding. This would also support LRD's decision in not requiring IEPR.
3. Page 12. The RMO point of contact listed needs to be the lead from LRD, not the PCX. This person would also sign the Statement of Technical Review in the RMO signature block (or the LRD designee) when ATR is completed.

**CAP SECTION 103 – FEASIBILITY STUDY
LAKE COUNTY RAW WATER PUMP STATION AT PAINESVILLE, OHIO
DECISION BRIEF**

Purpose: To provide a summary to discuss the absence of significant threat to human life associated with the Lake County Raw Water Pump Station Feasibility Study at Painesville, Ohio.

Background:

According to EC 1165-2-214, (Water Resources Policies and Authorities - Civil Works Review, 15 December 2012) it is required that the review plan include the District Chief of Engineer's assessment as to whether there is a significant threat to human life associated with the project. Comments from the Coastal Storm Risk Management Planning Center of Expertise (CSRMP-CX) concerning the review plan mention that the Chief of the Technical Services Division should prepare a memo concurring with the life safety finding to support LRD's decision that no IEPR will be required for the project. The project will still be subject to District Quality Control and Agency Technical Review as described in the study Review Plan.

The project is a single-purpose project with the purpose of providing storm damage reduction measures for the Lake County Raw Water Pump Station at Painesville, Ohio. Frequent Lake Erie storms have eroded the shoreline bluff, with bluff retreat exceeding 50 feet in some locations during a single storm. The access road to the plant within the last decade was moved landward up to 75 feet from its previous location as it was being lost due to bluff erosion. The pump station fence and building are presently located within 27 and 80 feet of the 50-foot high bluff, respectively. Protection needs to be completed soon in order to maintain a safe buffer between the plant and the top of the bluff. It is feared that further erosion of the bluff at the plant under saturated soil conditions coupled with the additional soil loading of the building could result in a large bluff failure. If the erosion is left unchecked, the pump station and a number of its components will become affected.

The cost share sponsor for the project is Lake County, Ohio. The integrated DPR is 50% complete and is preparing for DQC and ATR reviews.

Discussion - The following summarizes the life safety risk associated with the project:

The project will neither be justified by life safety or will involve significant threat to human life/safety assurance. There is no reason to believe that any measures involved in the project are associated with a significant threat to human life/safety assurance.

Furthermore, the project does not meet any of the specific criteria which would require IEPR, including:

- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;

- The project does not require an Environmental Impact Statement (EIS),
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- It is anticipated that there are other circumstances where the Chief of Engineers or Director of Civil Works would determine that IEPR is warranted.

Recommendation – The Buffalo District Chief of Technical Services Division (a.k.a. Chief of Engineering) has assessed the potential life and safety issues relative to the proposed project and has concluded that the narrative provided in the Discussion section satisfactorily meets the review requirements of the CSR-M-PCX and supports the conclusion that the project does not present a significant threat to human life/safety assurance.



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202

CELRD-PD-G

26 Dec 13

MEMORANDUM FOR Commander, U.S. Army Engineer District, Buffalo, ([REDACTED])
[REDACTED], 1776 Niagara Street, Buffalo, NY 14207-3199

SUBJECT: Lake Erie Raw Water Pump Station at Painesville, Ohio, Section 103 Coastal Storm Risk Management Project - Type I Independent External Peer Review (IEPR)

1. References:

- a. Engineer Circular (EC) 1165-2-214, 15 Dec 2012.
- b. Memorandum from CELRB-DE, subject as above.
- c. Draft Review Plan (RP) dated 28 Aug 2013 for the subject project and its associated documents.
- d. Memorandum dated 10 Dec 2013 from the Coastal Storm Risk Management Center Planning Center of Expertise (CSRM-PCX).

2. This memo approves a request for favorable consideration of an exclusion from the requirement for a Type I Independent External Peer Review (IEPR) for the Lake Erie Raw Water Pump Station project. The coastal storm risk management project is so limited in scope or impact that it would not significantly benefit from a Type I, Independent External Peer Review. Additionally, I considered these factors:

- a. The total project cost is less than \$45 million.
- b. The project does not present any threats to life safety.
- c. The Governor has not requested a peer review by independent experts.
- d. No requests were received from the heads of Federal or state agencies requesting IEPR.
- e. The project does not require an Environmental Impact Statement (EIS).
- f. The project is not likely to involve significant public dispute as to the size, nature, effects, economic cost or benefit of the project.
- g. The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative material or techniques, present complex

SUBJECT: Lake Erie Raw Water Pump Station at Painesville, Ohio, Section 103 Coastal Storm Risk Management Project - Type I Independent External Peer Review (IEPR)

challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

h. The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule.

3. Reference 1.d supports a Draft Review Plan that recommends an exclusion from Type I IEPR by the Chief of Engineers.

4. CELRD has reviewed the subject request and concurs with the CELRB recommendations.

5. For further information or clarification on this action, please contact the LRD POC,

[REDACTED]

[REDACTED]



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

CELRB-DE

MEMORANDUM FOR Commander, Great Lakes and Ohio River Division, [REDACTED]
[REDACTED] 550 Main Street, RM 10-524, Cincinnati, OH 45202-3222

SUBJECT: Lake Erie Raw Water Pump Station at Painesville, Ohio, Section 103 Coastal Storm Risk Management Project – Independent External Peer Review (IEPR) Exclusion

1. References:

a. EC 1165-2-214, Civil Works Review, 15 Dec 2012.

b. Memorandum, CECW-CP, 19 Jan 2011, subject: Continuing Authority Program Planning Process Improvements .

2. The PDT and Coastal Storm Risk Management Planning Center of Expertise have recommended Type I IEPR exclusion.

3. I hereby concur with the conclusion that the project does not present any threats to human life/safety assurance and external peer review of this project is not necessary because:

a. The total project cost is less than \$45 million;

b. The Governor has not requested peer review by independent experts;

c. The project does not require an Environmental Impact Statement (EIS);

d. The project is not likely to involve significant public dispute as to the size, nature, effects, economic cost or benefit of the project;

e. The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices; and

f. The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule.

CELRB-DE

SUBJECT: Lake Erie Raw Water Pump Station at Painesville, Ohio, Section 103 Coastal Storm Risk Management Project – Independent External Peer Review (IEPR) Exclusion

4. The Buffalo District point of contact is

[REDACTED]

[REDACTED]

**DECISION DOCUMENT REVIEW PLAN
USING THE PROGRAMMATIC REVIEW PLAN MODEL
for
Continuing Authorities Program
Section 14, 107, 111, 204, 206, 208 and 1135 Projects**

LAKE COUNTY WATER PUMP STATION
LAKE ERIE, PAINESVILLE, OH
CG CAP SECTION 103
STORM DAMAGE REDUCTION PROJECT

Project No.: 326432

Buffalo District

MSC Approval Date: Pending

Last Revision Date: 28 August 2013



**US Army Corps
of Engineers** ®

**DECISION DOCUMENT REVIEW PLAN
USING THE PROGRAMMATIC REVIEW PLAN MODEL**

**LAKE COUNTY RAW WATER PUMP STATION
LAKE ERIE, PAINESVILLE, OH
CG CAP SECTION 103
STORM DAMAGE REDUCTION PROJECT**

PROJECT NO.: 326432

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS.....	1
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION	3
3. STUDY INFORMATION.....	3
4. DISTRICT QUALITY CONTROL (DQC).....	6
5. AGENCY TECHNICAL REVIEW (ATR)	7
6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).....	9
7. POLICY AND LEGAL COMPLIANCE REVIEW	10
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	12
12. REVIEW PLAN APPROVAL AND UPDATES.....	12
13. REVIEW PLAN POINTS OF CONTACT	13
ATTACHMENT 1: TEAM ROSTERS.....	14
ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION 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 Construction General – Continuing Authorities Program Section Lake County Raw Water Pump Station, Painesville, OH Storm Damage Reduction project Detailed Project Report and Environmental Assessment decision document.

Section 103 of the River and Harbor Act of 1962, as amended, provides authority for the U.S. Army Corps of Engineers to plan, design, and construct projects to protect public or private properties and facilities against damages caused by storm driven waves and ocean currents.

This authority may be used for protecting multiple public and private properties and facilities and single non-Federal public properties and facilities against damages caused by storm driven waves and currents. All projects must be formulated for hurricane and storm damage reduction, in accordance with current policies and procedures governing projects of the same type which are specifically authorized by Congress.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F.

- b. **Applicability.** This review plan is based on the model Programmatic Review Plan for Section 14, 107, 111, 204, 206, 208 and 1135 project decision documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in EC 1165-2-214 Civil Works Review. A Section 14, 107, 111, 204, 206, 208 and 1135 project does not require IEPR if ALL of the following specific criteria are met:

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

If any of the above criteria are not met, the model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate

Planning Center of Expertise (PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-214.

Applicability of the model Programmatic Review Plan for a specific project is determined by the home MSC. If the MSC determines that the model plan is applicable for a specific study, the MSC Commander may approve the plan (including exclusion from IEPR) without additional coordination with a PCX or Headquarters, USACE. An automatic exclusion from IEPR is not assumed for Section 103 or Section 205 projects. The MSC Commander must make the determination if exclusion from Type I IEPR is appropriate (per Section 3a of the Director of Civil Works' Policy Memorandum #1, Subject Continuing Authority Program Planning Process Improvements).

The initial decision as to the applicability of the model plan should be made no later than the Federal Interest Determination (FID) milestone (as defined in Appendix F of ER 1105-2-100, F-10.e.1) during the feasibility phase of the project. A review plan for the project will subsequently be developed and approved prior to execution of the Feasibility Cost Sharing Agreement (FCSA) for the study. In addition, per EC 1165-2-214, the home district and MSC should assess at the Alternatives Formulation Briefing (AFB) whether the initial decision on Type I IEPR is still valid based on new information. If the decision on Type I IEPR has changed, the District and MSC should begin coordination with the appropriate PCX immediately.

This review plan does not cover implementation products. This review plan will be modified after completion of the feasibility phase to incorporate information for the review of the design and implementation phases of the project.

c. References.

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 Dec 2012
- (2) Director of Civil Works' Policy Memorandum #1, Jan 19, 2011
- (3) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (7) Project Management Plan for the Feasibility Study, May 2013

d. Requirements. This programmatic review plan was developed in accordance with EC 1165-2-214, 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 1165-2-214) and ensuring that planning models and analysis are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports (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 Section 103 decision documents is the home MSC. The MSC will coordinate and approve the review plan and manage the ATR. The home District will post the approved review plan on its public website. A copy of the approved review plan (and any updates) will be provided to the Coastal Storm Risk Management PCX (CSR-M-PCX) to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. Decision Document.** The Section 103 decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The approval level of the decision document (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.

Study/Project Description.

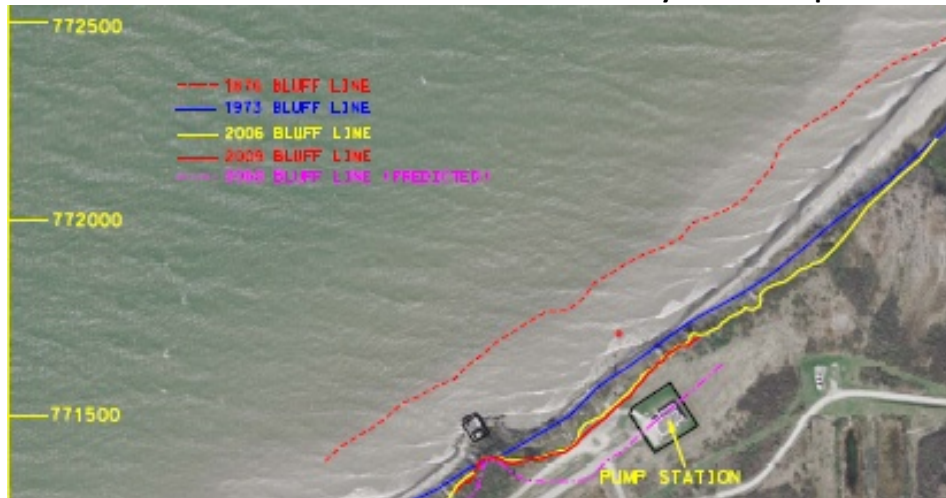
This investigation is being conducted under Section 103 of the 1962 River and Harbor Act, as amended; Construction General (Continuing Authorities Program) authority. This legislation provides the Secretary of the Army authority to investigate and assist in prevention of shore damages, which are caused predominantly by wind-generated waves. A project is accepted for construction only after detailed investigation clearly shows its engineering feasibility, environmental feasibility, and economic justification. Each project must be complete within itself and not part of a larger project. The maximum Federal expenditure per project is \$5 million, which includes both planning and construction costs. Costs of lands, easements, rights-of-way, relocations and operation and maintenance are non-Federal.

The project is a single-purpose project with the purpose of evaluating the feasibility of providing storm damage reduction measures along Lake Erie at the Lake County Raw Water Pump Station, in Painesville, Lake County, Ohio. The proposed project is located at the Painesville Raw Water Pump Station on Lake Erie in the city of Painesville, Lake County, Ohio, approximately 30 miles east of Cleveland, Ohio. The project site is located within Congressional District OH-14.



Frequent Lake Erie storms have eroded the shoreline bluff at the Lake County Raw Water Pump Station, located in Painesville, Ohio. Bluff retreat has exceeded 50 feet in some locations during a single storm. The access road to the plant within the last decade was moved landward up to 75 feet from its previous location as it was being lost due to bluff erosion. The pump station fence and building are presently located within 27 and 80 feet of the 50-foot high bluff, respectively. Protection needs to be completed soon in order to maintain a safe buffer between the plant and the top of the bluff. It is feared that further erosion of the bluff at the plant under saturated soil conditions coupled with the additional soil loading of the building could result in a large bluff failure. If the erosion is left unchecked, the pump station and a number of its components will become affected. Assuming a yearly erosion rate of 1.8 feet, given that the pumping station is currently 75 feet from the bluff (2009), and a minimum buffer area needed between the bluff and the pumping station, in order to insure its structural integrity, is 50 feet, the pumping station would be affected in 14 years or sooner if a major erosion event occurs. The proposed alternative consists of planning, engineering, design and construction of a 500 foot long stone revetment only along the portion of the bluff near the water plant. The revetment would consist of geotextile, bedding stone, under layer stone and armor stone. A lakeshore access road would be cut along the bluff face at that location in order to build the revetment.

Historic and Predicted Recession Lines in the Vicinity of the Pump Station



This Detailed Project Report/Environmental Assessment (DPR/EA) will present the findings of the Section 103 feasibility study. The feasibility study will document the plan formulation process and potential environmental effects associated with the implementation of shoreline protection alternatives for the proposed site. This DPR/EA summarizes baseline existing conditions in the study area. It also develops and discusses potential solutions as a guide to potential Federal and non-Federal involvement in the storm damage reduction project and serves as a resource to assist in the decision-making of local government and others. This report provides a description and discussion of the likely array of alternative plans, including their benefits, costs, and environmental effects and outputs. This report also identifies, evaluates, and recommends a solution (the Preferred Action Alternative) that best meets the planning objectives of comprehensive habitat restoration through the study area. There are no existing or anticipated policy waiver requests (pursued per paragraph F-10.f.(4) of ER 1105-2-100, Appendix F).

b. Factors Affecting the Scope and Level of Review.

Challenges: The area of concern is located at the foot of an approximately 75-foot high bluff. Lake Erie is subject to large fluctuations in water levels, increased wave energy from storm events, and severe ice loading, which will limit the type(s) of measures that are feasible for construction. The Buffalo District has in-house expertise and experience constructing storm damage reduction projects consisting of measures that will be used for this project.

Project Risks: Erosion has moved the bluff dangerously close to the road providing access to the pump station. The pumping station building is currently about 65 feet from the edge of the 50-foot high bluff. The fence for the facility is approximately 30 feet from the edge of the bluff. While the long-term erosion rates give an indication of future bluff locations, recession does not occur uniformly but as a catastrophic landward retreat. Protection needs to be completed soon to ensure the integrity of the access road and to maintain a safe buffer between the plant and the top of the bluff. Further erosion of the bluff at the plant under saturated soil conditions, coupled with the additional soil loading of the building, could result in a large bluff failure. Continued erosion will eventually threaten the integrity of the pumping station. Since there is no other source of water for the township, any shutdown of the pumping station will affect the whole community.

Life Safety: The project will neither be justified by life safety or will involve significant threat to human life/safety assurance. There is no reason to believe that any measures involved in the project are associated with a significant threat to human life.

Governor Request for Peer Review: The Governor **has not** requested peer review by independent experts.

Public Dispute: The project/study is not anticipated to be controversial nor result in significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project.

Project Design/Construction: The anticipated project design will take advantage of prevailing practices and methodologies. It is not expected to be based on novel methods or involve the use of innovative techniques, or present complex challenges for interpretation. It also not anticipated that the project will require unique construction sequencing or redundancy.

c. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. No in-kind contributions are anticipated.

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 regional Quality Management System.

Documentation of DQC. District Quality Control will be completed following the guidelines set forth in Section 7.2 District Quality Control (DQC) and Agency Technical Review (ATR) of the 14 February 2011 CELRD Quality Management System (QMS) Document ID: 4921: QC / QA Procedures for Civil Works.

Following the completion of the DQC review by the PDT members and their respective counterparts as necessary, the PDT will sign a certification sheet documenting DQC. The Chief of Planning will also sign a certification sheet documenting that District Quality Control has been completed.

a. Products to Undergo DQC.

- (1) Alternative Formulation Briefing Documentation
- (2) Draft Feasibility Study Report and Draft Environmental Assessment Documentation
- (3) Final Feasibility Study Report and Final Environmental Assessment Documentation

b. Required DQC Expertise. Additional DQC of all products will be accomplished by senior (GS-12 or above) staff not directly involved in preparation of the products from the following disciplines:

- (1) Planning
- (2) Programs and Project Management
- (3) Project Management
- (4) Coastal Engineering

- (5) Design
- (6) Operations
- (7) Environmental
- (8) Office of Counsel
- (9) 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 as indicated in the Director of Civil Works' Policy Memorandum #1, Jan 19, 2011, "the ATR lead is to be outside the home MSC unless the CAP review plan justifies an exception and is explicitly approved by the MSC Commander".

a. Products to Undergo ATR.

Supporting analysis and documents, including but not limited to the following will also be subject to Agency Technical Review:

- (1) Detailed Project Report and appendices
- (2) Cost estimates
- (3) Geotechnical analysis
- (4) Environmental Outputs
- (5) Supporting environmental analysis (cultural resources, resource inventories, etc.)

Supporting Analysis and Documents provided as work in-kind will also be subject to Agency Technical Review.

b. Required ATR Team Expertise. The expertise/disciplines represented on the ATR team should reflect the significant disciplines involved in the planning effort. The PDT has determined that the expertise needed for review shall include Coastal Engineering, Civil Engineering, Geotechnical Engineering, Environmental Analysis, Economics, Plan Formulation, and Real Estate. The roster of the ATR team and the expertise required is outlined in the table that follows.

Name	Organization	Discipline	Expertise Required
[REDACTED]	[REDACTED]	ATR Lead/ Plan Formulation/Coastal Engineering	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR's with coastal storm damage reduction projects. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Team member will be experienced in design and construction of coastal or inland storm damage reduction projects.
[REDACTED]	[REDACTED]	Environmental Analysis	Team member will be experienced in the NEPA process and analysis, and have a biological or environmental background that is familiar with the project area. Team member should be familiar with cultural/historic resource and coastal storm damage reduction projects.
[REDACTED]	[REDACTED]	Economics	Technical specialist for economic evaluation. Familiar with storm damage reduction projects.
[REDACTED]	[REDACTED]	Cost Engineering DX	Team member will be experienced in design and construction of storm damage reduction projects. In addition the Team member will be familiar cost estimating for similar civil works projects using MCACES.
[REDACTED]	[REDACTED]	Civil/Geotechnical Engineering	Team member will be experienced in the design and construction storm damage reduction projects.
[REDACTED]	[REDACTED]	Real Estate	Team member will be experienced with lands, easements, rights-of-way, relocation, and disposal real estate processes.

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:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and

- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

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

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

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, 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 1165-2-214, 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 1165-2-214.

For Section 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type I IEPR is not required. For CAP Sections 103 and 205 the MSC Commander must make the determination if exclusion from Type I IEPR is appropriate (Section 3a of the Director of Civil Works' Policy Memorandum #1, Subject Continuing Authority Program Planning Process Improvements)."

- **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.

For Section 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type II IEPR is not anticipated to be required in the design and implementation phase, but this will need to be verified and documented in the review plan prepared for the design and implementation phase of the project.

- a. Decision on IEPR.** Based on the information and analysis provided in the preceding paragraphs of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis. If any of the criteria outlined in paragraph 1(b) are not met, this model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate PCX and approved by the home MSC in accordance with EC 1165-2-214.
- b. Products to Undergo Type I IEPR.** Not applicable.
- c. Required Type I IEPR Panel Expertise.** Not Applicable.
- d. Documentation of Type I IEPR.** Not Applicable.

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. For decision documents prepared under the model Programmatic Review Plan, Regional cost personnel that are pre-certified by the DX will conduct the cost engineering ATR. The DX will provide the Cost Engineering DX certification. The RMO will coordinate with the Cost Engineering DX on the selection of the cost engineering ATR team member.

9. MODEL CERTIFICATION AND APPROVAL

The approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC Commanders are responsible for assuring 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. Therefore, the use of a certified/approved planning model is highly recommended should be used whenever appropriate. Planning models 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 selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

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 and ATR.

a. Planning Models. No planning models are anticipated to be used in the development of the decision document:

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

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
MCACES	Microcomputer-Aided Cost Estimation System; Used to generate detailed cost estimates for each alternatives.	Approved

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

Item to Undergo ATR	Schedule	Estimated Cost (by PDT) for ATR
Draft DPR and Appendices	60 days for review of 75% DPR, 60 days for response to ATR comments and ATR certification	\$25,000

b. Type I IEPR Schedule and Cost. Not applicable.

c. Model Review Schedule and Cost. For decision documents prepared under the model Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, review of the model for use will be accomplished through the ATR process. The ATR team should apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

11. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments.

The public involvement process will include public meetings throughout the study period, and study briefings for interested and affected parties and agencies. There will be multiple opportunities for public review and comment during the NEPA process. Several agency coordination meetings are also anticipated. Detailed information on the study will be posted on the public webpage. This information will include public meeting presentation, technical information and reports, study schedule, and other pertinent information about the study. Additional project information will be posted to an internal project webpage (Sharepoint) for USACE use. Outreach will be coordinated with individuals and groups concerned.

12. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this review plan and ensuring that use of the Model Programmatic Review Plan is appropriate for the specific project covered by the plan. 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. Significant changes may result in the MSC Commander determining that use of the Model Programmatic Review Plan is no longer appropriate. In these cases, a project

specific review plan will be prepared and approved in accordance with EC 1165-2-214 and Director of Civil Works' Policy Memorandum #1. The latest version of the review plan, along with the Commanders' approval memorandum, will be posted on the home district's webpage.

13. REVIEW PLAN POINTS OF CONTACT

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

[Redacted]

[Redacted]

[Redacted]

ATTACHMENT 1: TEAM ROSTERS.

Project Development Team

Name	Function	Organization	Phone	Email
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

ATR TEAM

Name,	Discipline	Organization	Phone	Email
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

VERTICAL TEAM

Name	Location	Phone	Email
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE	
<u>Name</u> ATR Team Leader <u>Office Symbol/Company</u>	Date

SIGNATURE	
<u>Name</u> Project Manager (home district) <u>Office Symbol</u>	Date

SIGNATURE	
<u>Name</u> Architect Engineer Project Manager ¹ <u>Company, location</u>	Date

SIGNATURE	
<u>Name</u> Review Management Office Representative <u>Office Symbol</u>	Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE	
<u>Name</u> Chief, Engineering Division (home district) <u>Office Symbol</u>	Date

SIGNATURE	
<u>Name</u> Chief, Planning Division (home district) <u>Office Symbol</u>	Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

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
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	OMB	Office and Management and Budget
CSRM	Coastal Storm Risk Management	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DPR	Detailed Project Report	OEO	Outside Eligible Organization
DQC	District Quality Control/Quality Assurance	OSE	Other Social Effects
DX	Directory of Expertise	PCX	Planning Center of Expertise
EA	Environmental Assessment	PDT	Project Delivery Team
EC	Engineer Circular	PAC	Post Authorization Change
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
ER	Ecosystem Restoration	QMP	Quality Management Plan
FDR	Flood Damage Reduction	QA	Quality Assurance
FEMA	Federal Emergency Management Agency	QC	Quality Control
FRM	Flood Risk Management	RED	Regional Economic Development
FSM	Feasibility Scoping Meeting	RMC	Risk Management Center
GRR	General Reevaluation Report	RMO	Review Management Organization
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RTS	Regional Technical Specialist
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
ITR	Independent Technical Review	USACE	U.S. Army Corps of Engineers
LRR	Limited Reevaluation Report	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		