



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

CELRD-PD-S

24 May 2017

MEMORANDUM FOR Commander, Buffalo District, Corps of Engineers (ATTN: CELRC-PM-PA / Mr. Craig Forgette), 1776 Niagara Street, Buffalo, NY 14207-3199

SUBJECT: Review Plan for Broderick Park/Unity Island Waste Water Treatment Plant, Buffalo, NY CAP Section 103 Coastal Storm Risk Management Project – LRD Approval

1. References:

a. Memorandum, CELRB-DE, Subject: Review Plan for Broderick Park/Unity Island Waste Water Treatment Plant, Buffalo, NY CAP Section 103 Storm Damage Reduction Project, dated 14 February 2017.

b. Broderick Park/Unity Island Waste Water Treatment Plant CAP 103 Coastal Storm Risk Management Project Review Plan, Willow Springs, IL, Review Plan - Section 408 Evaluation of Expansion of Stage 2, dated May 2017.

2. The subject Decision Document Review Plan (RP) was presented to the Great Lakes and Ohio River Division for approval in accordance with Engineering Circular (EC) 1164-2-214 "Civil Works Review" dated 15 Dec 12. LRD received the review plan on 23 March 2017. The RP addresses the technical and policy review requirements for the feasibility study, which will investigate storm risk management measures to address erosion and seawall damage risks that threaten the waste water treatment plant.

3. The USACE LRD Review Management Organization (RMO) has reviewed the attached Section 408 RP and concurs that it describes an appropriate scope and level of review. The RP satisfies peer review policy requirements described in EC 1165-2-214, and adequately defines the scope and level of peer review for the activities to be performed for the subject project phase. The size of the review team has been appropriately scaled based upon consideration of relative risk of the respective disciplines.

4. I concur with the recommendations of the RMO and approve the enclosed RP. 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.

5. The LRD POC for this action is Mr. Matthew Burkett, CELRD-PD-S, who can be reached at (513) 684-2049, or email at Matthew.S.Burkett@usace.army.mil.

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Encl

R. MARK TOY
Brigadier General, USA
Commanding

DECISION DOCUMENT REVIEW PLAN

BRODERICK PARK/UNITY ISLAND
WASTE WATER TREATMENT PLANT
BUFFALO, ERIE COUNTY, NEW YORK
CG CAP SECTION 103
STORM DAMAGE REDUCTION PROJECT

Project No.: 328958

Buffalo District

Last Revision Date: May 2017

LRD Commander Approval Date: June 1, 2017



US Army Corps
of Engineers ®

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I. PURPOSE AND REQUIREMENTS

A. Purpose

This Review Plan defines the scope and level of peer review of a Detailed Project Report and Environmental Assessment for the Construction General– Continuing Authorities Program Section 103 Broderick Park/Unity Island Waste Water Treatment Plant (WWTP) Storm Damage Reduction Project, Buffalo, New York.

Section 103 of the Rivers and Harbors Act of 1962, as amended, authorizes the US Army Corps of Engineers (USACE) to study, adopt and construct continuing authority beach erosion control (coastal storm damage reduction) projects. The Continuing Authorities Program (CAP) focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The CAP is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

B. Applicability

This review plan is based on the LRD CAP Programmatic Review Plan Model, which includes the GLFER Section 506 and Lake Michigan Waterfront Section 125 programs. It also accounts for CAP Section 103 and Section 205 projects, which require case-by-case determination on the appropriateness of Type I Independent External Peer Review (IEPR). The LRD CAP Programmatic Review Plan Model **is not approved** for use on any CAP, GLFER or Lake Michigan Waterfront projects where:

- A significant threat to human life/safety assurance exists;
- Total Project Cost is likely to exceed the limits established for the applicable Section in law.
- The Governor of an affected state has requested a peer review by independent experts;
- An Environmental Impact Statement (EIS) is required;
- Significant public dispute is likely due to the size, nature, or effects of the project;
- Significant public dispute is likely due to the economic or environmental cost or benefit of the project;
- Complex challenges will likely require use of novel methods, innovative materials, new techniques, precedent-setting methods or models, or result in conclusions that are likely to change prevailing practices;

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- Redundancy, resiliency, and/or robustness are required or unique construction sequencing, or a reduced or overlapping design construction schedule will likely be required; or
- The Chief of Engineers or Director of Civil Works is likely to determine Type I IEPR is warranted.

If any of the circumstances above exist on the subject project, the LRD CAP Programmatic Review Plan Model 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 LRD in accordance with EC 1165-2-214.

EC 1165-2-214, specifies the threshold programmatic criteria listed above that trigger a requirement to conduct Type I IEPR, and it explicitly requires a case-by-case risk informed decision on whether to conduct a Type I IEPR for CAP Section 103 projects. Section 3.c. below provides a project specific assessment of the factors affecting the scope for each level of feasibility study review; District Quality Control, Agency Technical Review and Type I IEPR. Section 6.a. provides the District's recommendation on Type I IEPR with supporting rationale relevant to the threshold programmatic criteria above.

Applicability of the LRD CAP Programmatic Review Plan Model for a specific project is initially determined by the Buffalo District and subsequently reviewed and approved by the LRD Commander. If the LRD determines that the model plan is applicable for a specific study, the LRD Commander may approve the plan (including exclusion from IEPR) without additional coordination with a PCX or Headquarters, USACE. The initial decision as to the applicability of the model plan shall 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 LRD shall assess at the MSC Decision Meeting (MDM) 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 LRD shall promptly begin coordination with the appropriate PCX.

After approval of the project decision document and prior to execution of a Project Partnership Agreement with the non-federal sponsor to implement the Broderick Park/Unity Island WWTP Storm Damage Reduction Project, this review plan shall be updated and revised for the Implementation Phase by the Buffalo District, and subsequently reviewed by the LRD staff and approved by the LRD Commander. The revised and approved review plan shall specify the Design and Implementation phase products to be reviewed and the associated level of peer review of each, including the appropriateness of a Type II IEPR (Safety Assurance Review).

C. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2010
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (6) LRD Continuing Authority Program Management Plan and Standard Operation Procedures, 1 Oct 2015.

D. Requirements

This review plan was developed in accordance with EC 1165-2-214 and 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 Major Subordinate Command (MSC) 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). Additionally, it ensures 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).

II. REVIEW MANAGEMENT ORGANIZATION (RMO)

The Review Management Organization (RMO) is responsible for managing the overall peer review effort described in this review plan. The RMO for CAP Section 103 decision documents is typically LRD, because the LRD Commander is responsible for approving the Review Plan and the decision to implement projects under this authority. However, an appropriate National Planning Center of Expertise (PCX) may also serve as the RMO. Because of the potential for CAP Section 103 projects to have significant life safety implications, determination of the RMO for the decision document for those type projects is made on a case-by-case basis at the FID approval stage. Also, during the FID review and approval process, the home District may request LRD to delegate its RMO responsibility to the most appropriate PCX for any CAP project.

The information presented in Section 3 below provides the basis for the determination that LRD will serve as the RMO for the Feasibility Phase of the Broderick Park/Unity Island WWTP Storm Damage Reduction Project.

III. STUDY INFORMATION

A. Decision Document

The Continuing Authorities Program Section 103 Broderick Park/Unity Island WWTP, City of Buffalo, Erie County, New York decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The preferred decision document format is contained in the Detailed Project Report (DPR) template in the LRD CAP Program Management Plan/Standard Operating Procedures, which integrates the environmental documentation required under NEPA and other relevant environmental statutes into the project decision document. The purpose of a DPR is to document the basis for a recommendation to invest Federal and non-Federal resources to address a local water resource problem or opportunity of significance to the Nation. The approval level of the decision document is the LRD Commander.

B. Study/Project Description.

Broderick Park is located on the southeastern shore of Lake Erie in the city of Buffalo, Erie County, New York, at the south end of Unity Island (formerly Squaw Island) at the foot of the Bird Island Pier. Broderick Park is located at the mouth of the Niagara River approximately 0.5 miles just north of the Peace Bridge and just south of the Sewer Authority Waste Water Treatment Plant. The Niagara River runs along the west side of the park and the Black Rock Channel/Canal runs along the east side of the park.

This report will provide a description and discussion of the likely array of alternative plans, including their benefits, costs, and environmental effects and outputs. This report will also identify, evaluate, and recommend if Federal interest exists. There are no existing or anticipated policy waiver requests (pursued per paragraph F-10.f.(4) of ER 1105-2-100, Appendix F).

The study will consider benefits associated with structural alternatives consisting of rehabilitation of the existing seawall/shoreline, and protection costs avoided by the non-federal sponsor (City of Buffalo). At a minimum, the following five alternatives are to be considered: (1) No Action, (2) Rubble mound Revetment and Submerged Breakwater, and (3) Temporary Jersey Barrier Placement, and (4) Steel Sheetpile, and (5) H-Piles and Precast Concrete Panels.

Stability analysis of the wall/shoreline will be completed during feasibility and design phase to determine if the whole length of the shoreline would require rehabilitation or only portions that are below the required safety factor. Sufficient geotechnical sampling and a dive inspection of the structure is also recommended. These would be used to obtain the appropriate geotechnical and structural

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parameters and to ensure the timber crib/pile structure is intact and has no major structural deficiencies below the waterline.

The total project costs and benefit-to-cost ratio for all alternatives will be defined in the Feasibility Study.

C. Factors Affecting the Scope and Level of Review.

Challenges: Broderick Park is located at the east end of Lake Erie; it is subjected to large fluctuations in water levels due to seiches, increased wave energy from storm activities, and severe ice loading. The Federal Navigation Channel is also located immediately adjacent to the concrete seawall at the Black Rock Entrance Channel. This will limit the type of repair/rehabilitation.

Project Risks: If no action is taken to protect and rehabilitate the existing concrete seawall, it will continue to deteriorate. The deterioration of the existing concrete seawall is compounded by damage and deterioration of the existing timber cribbing that the concrete wall is founded on. Damage to the timber cribbing has resulted in sinkholes and material loss that will continue to be prevalent with the potential for an increase in severity. This will lead to a decrease in capacity for the park and unsafe conditions for pedestrians. To provide safe use of the park the City of Buffalo would be responsible for yearly repairs that include filling voids with granular fill and patching pavement in areas where voids caused damage. Continued deterioration has the potential to adversely affect the city of Buffalo's only waste water treatment plant.

Life Safety: The project will neither be justified by life safety nor 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.

D. 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.

IV. 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 District and LRD QMS procedures. Attachment 1 lists the DQC team members according to each significant area of expertise needed to accomplish the feasibility study objectives.

A. Products to Undergo DQC.

Detailed Project Report, Environmental Assessment, and all associated appendices.

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) Economics
- (3) Programs and Project Management
- (4) Project Management
- (5) Coastal Engineering
- (6) Design
- (7) Operations
- (8) Environmental
- (9) Office of Counsel
- (10) Real Estate

C. 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 13 August 2015 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.

V. 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 LRD. At a minimum, the name of the ATR lead will be provided at the time of initial decision document review plan submission. Remaining ATR team members will be selected and identified in a revised review plan (Attachment 1) once the study funds are obtained.

A. Products to Undergo ATR.

ATR will be performed throughout the study in accordance with the regional QMS as found in Qualtrax. The ATR shall be documented and discussed at the MDM milestone. Certification of the ATR will be provided prior to the District Commander signing the final report.

Products to undergo ATR include the Detailed Project Report, Environmental Assessment, appendices, and all supporting documentation. ATR of key technical and interim products, MSC-specific milestone documentation, and In-Progress Review (IPR) documentation will occur depending on the study needs and the requirements of regional Quality Management System.

Where practical, technical products that support subsequent analyses will be reviewed prior to being used in the study and shall include: surveys & mapping, hydrology & hydraulics, geotechnical investigations, economic, annual damage and benefit estimates, cost estimates, etc. Supporting analysis and documents, including but not limited to the following, will also be subject to ATR prior to the MDM draft report submittal for MSC Review:

- (1) Economic analysis and appendices
- (2) Cost estimates and appendices
- (3) Civil/Structural/Geotechnical/H&H analysis and appendices

B. Required ATR Team Expertise.

The Table below lists the technical disciplines and requisite expertise deemed appropriate to successful accomplishment of the subject feasibility study objectives. The selected ATR members are listed according to discipline in Attachment 1.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing Section 103 decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc). The ATR Lead MUST be from outside the home district's MSC.
Planning	The Planning reviewer should be a senior water resources planner with extensive experience in preparing Civil Works decision documents and conducting ATR's with storm damage reduction projects.
Economics	Technical specialist for economic evaluation. Familiar with storm damage reduction projects.
Coastal Engineering	The Coastal/Geotechnical engineering reviewer will be an expert in their field and will be experienced in the design and construction storm damage reduction projects.
Civil/Structural Engineering	Team member will be experienced in design and construction of storm damage reduction projects.
Cost Engineering	Cost MCX Staff or Cost MCX Pre-Certified Professional as assigned by the Walla Walla Cost Engineering Mandatory Center of Expertise with experience preparing cost estimates for Storm Damage Reduction Project.

C. Documentation of ATR.

DrChecksSM 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 been 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 DrChecksSM 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, LRD, 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 EC 1165-2-214 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecksSM with a notation in the ATR Summary Report and the DrChecks comment evaluation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare an ATR Summary Report, which will be 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;

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- 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 prior to the District Commander signing the final report. A sample Statement of Technical Review is included in Attachment 2.

VI. Independent External Peer Review

While CAP projects are generally smaller and less technically complicated than specifically authorized feasibility studies, IEPR may be required for CAP 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. Where designated, IEPR panels will consist of independent, recognized technical experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for planning, design and construction of a Civil Works project. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project feasibility studies, which upon approval, serve as a federal decision document. 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 covers the entire decision document, including key component actions taken to address the 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.

Section 506, 125, and CAP project decision documents are generally excluded from Type I Independent External Peer Review (IEPR) except those under Section 103 and Section 205. The exceptions are any project that requires an EIS or any project that meets the mandatory triggers stated in Appendix D of EC 1165-2-214. Due to the nature of flood risks, Section 103 and Section 205 decision documents require a case-by-case risk informed decision to conduct a Type I IEPR, which may be prepared using the LRD CAP Programmatic Review Plan Model or prepared as a project specific Review Plan that meets the requirements of EC 1165-2-214. Section VI.A below specifies the project specific circumstances and rationale for adopting or excluding Type I IEPR of the Broderick Park/Unity Island WWTP Storm Damage Reduction project decision document.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), considers the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare, and in some cases may include decision document reviews during the Feasibility Phase. Type II IEPR is managed outside the USACE and is 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 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 risk informed decision on whether Type I and/or II IEPR will be required is documented below.

A. Decision on IEPR.

Based on the information and analysis provided in the following paragraphs, 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 below 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.

1. No significant threat to human life exists.

a) Life safety consequences and risk of non-performance of a project are not greater than under existing conditions. The primary purpose of this project is to provide shoreline protection measures for the continued safe operation of the Wastewater Treatment Facility (WWTP). This would ensure

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that potential wind generated wave force damage to the shoreline and the WWTP would be reduced. Protective measures would also ensure safe public access to the park and seaway pedestrian trail, the park grounds, public utilities, WWTP access roads, and maintain/enhance the aesthetically pleasing nature of Unity Island. The implementation of such protective measures would reduce the chance for loss of life and damages to the WWTP.

b) Risks of non-performance will be fully disclosed during the Public Involvement process and in the O&M manual upon construction completion.

2. The total Project cost is not expected to exceed the limits established for the applicable Section in law. The total cost for implementing the selected plan is estimated to be approximately...

3. No peer review by independent experts has been requested by the Governor of the State of New York for this project.

4. Project does not require an EIS. The feasibility-level investigation of environmental resources (i.e. wetlands, species of concern) is expected to identify no threatened and endangered species that would be impacted by the alternatives proposed, no significant environmental impacts, no significant socio-economic impacts, and no significant environmental justice impacts, and therefore it is anticipated that the study will include an integrated DPR, Environmental Assessment (EA) and not an EIS.

5. USACE has not received any indication of any controversy or significant public dispute concerning this project regarding the size, nature, or effects of the project.

6. No significant public dispute is likely due to the economic or environmental cost or benefit of the project.

7. Formulation of Alternative Plans is anticipated to result in alternatives that are considered to be low complexity, straight-forward engineering solutions that feature no unusual, or novel methods, innovative materials, new techniques or precedent-setting methods or models, or result in

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conclusions that are likely to change prevailing practices. Implementation of the proposed plan are not expected to require unique construction sequencing and should follow the normal design, bid and construct sequence.

8. Above-average consideration of redundancy, resiliency, and robustness, or unique construction sequencing, or a reduced or overlapping design construction schedule will not be required. Normal, conservative and sensible design methods found in standard Corps practice expected.

9. The Chief of Engineers or Director of Civil Works are not expected to determine Type I IEPR is warranted. The LRB Chief of Engineering has reviewed the subject project circumstances relative to the criteria in Section 1.B. and EC1165-2-214 for determining appropriate level of review, and determined it is unlikely the alternatives being considered for resolving Storm Damage Reduction due to wind generated waves will pose any significant life safety risk. While Section 103 projects may pose potential life safety risks, the subject feasibility study is deemed by the LRB Chief of Engineering to be of a scale and level of complexity that does not warrant IEPR because it does not meet any of the threshold criteria listed in Section 1.B. or EC 1165-2-214.

Assuming a successful feasibility study and future USACE approval of the project, the project review plan will subsequently be updated and include an explanation and consideration of life safety risks during construction, operation and maintenance of the project as a basis for determining whether Type II IEPR - Safety Assurance Review is warranted.

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.

VII. 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 by the MSC Commander,

or warrant a recommendation by the MSC Commander to higher authority for approval. 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.

VIII. COST ENGINEERING MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

The home District, in conjunction with the RMO, is responsible for coordinating with the Cost Engineering MCX located in the Walla Walla District for review of the cost estimate for all CAP decision documents. For decision documents prepared under the LRD CAP Programmatic Review Plan Model, regional cost personnel that are pre-certified by the MCX, and assigned by the Cost Engineering MCX, will conduct the cost engineering ATR. The MCX will provide the Cost Engineering MCX certification. Either the designated ATR Lead or the Cost Engineering MCX shall make the selection of the cost engineering ATR team member.

IX. 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 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 and 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 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
HEC-RAS	Performs one-dimensional steady flow, one and two-dimensional unsteady flow calculations, sediment transport / mobile bed computations, and water temperature / water quality modeling.	Approved

X. REVIEW SCHEDULES AND COSTS

A. ATR Schedule and Cost.

ATR Schedule

Task	Schedule	
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

ATR Cost

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Item to Undergo ATR	Schedule	Estimated Cost (by PDT) for ATR
Draft DPR/EA and Appendices	75% complete (100% draft) DPR/EA, 60 days for response to ATR comments and ATR certification	\$20,000

B. Type I IEPR Schedule and Cost.

Not applicable.

C. Model Review Schedule and Cost.

For decision documents prepared under the LRD CAP Programmatic Review Plan Model, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved models 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.

XI. 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. It is anticipated that coordination with the United States Fish and Wildlife Service (USFWS) and the New York State Department of

Environmental Conservation (NYSDEC) would be necessary in accordance with the Fish and Wildlife Coordination Act and the Endangered Species Act.

The public involvement process will include study briefings for interested and affected parties and agencies. Several agency coordination meetings are also anticipated. Detailed information on the study will be posted on the public webpage.

XII. REVIEW PLAN APPROVAL AND UPDATES

The LRD Commander is responsible for approving this review plan and ensuring that use of the LRD CAP Programmatic Review Plan Model 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 LRD 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 LRD Commander following the process used for initially approving the plan. Significant changes may result in the MSC Commander determining that use of the LRD CAP Programmatic Review Plan Model 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 Commander Approved Review Plan, along with the Commanders' approval memorandum, will be posted on the home district's webpage.

XIII. REVIEW PLAN POINTS OF CONTACT

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

USACE Buffalo District (LRB) Points of Contact

- Project Manager – [REDACTED]
- Plan Formulator – [REDACTED]

Great Lakes and Ohio River Division Points of Contact

- [REDACTED]

Review Management Organization Points of Contact

- [REDACTED]

National Planning Center of Expertise for Coastal Storm Risk Management

- [REDACTED]

ATTACHMENT 1: TEAM ROSTERS.

PROJECT DELIVERY TEAM				
Discipline	Team Member	District	Phone	Email
Project Manager	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Plan Formulator	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Environmental Analysis	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]il
Civil/Structural	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Hydrology & Hydraulics	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Coastal/Geotech	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Safety Office	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Office of Counsel	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Outreach	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Cost Engineering	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Value Engineering Officer	[REDACTED]	Buffalo - LRB	[REDACTED]	[REDACTED]
Real Estate	[REDACTED]	Detroit - LRE	[REDACTED]	[REDACTED]

AGENCY TECHNICAL REVIEW TEAM				
Discipline	Team Member	District	Phone	Email
Team Lead	[REDACTED]	Los Angeles - SPL	[REDACTED]	[REDACTED]
Engineering	[REDACTED]	Los Angeles - SPL	[REDACTED]	[REDACTED]
Plan Formulation	[REDACTED]	Los Angeles - SPL	[REDACTED]	[REDACTED]
Economics	[REDACTED]	New York - NAN	[REDACTED]	[REDACTED]
Cost Engineering	[REDACTED]	Walla Walla – NWW	[REDACTED]	[REDACTED]

ATTACHMENT 2: 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 and brief description of it> 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

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Project Manager (home district)

Office Symbol

Date

SIGNATURE

Architect Engineer Project Manager¹

Company, location

Date

Project No.: 328958

May 2017

SIGNATURE

Name

Date

Review Management Office Representative

Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE

Name

Date

Chief, Engineering Division (home district)

Office Symbol

SIGNATURE

Name

Date

Chief, Planning Division (home district)

Office Symbol

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS LOG

<All revisions after the initial LRD Commander approved review Plan shall be documented here, including major revisions (i.e. at initiation of Design and Implementation Phase) where LRD Commander is required and the cover page updated to reflect the latest Commander approval date. >

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
ASA(CW)	Assistant Secretary of the Army for Civil Works	NED	National Economic Development
ATR	Agency Technical Review	NER	National Ecosystem Restoration
CAP	Continuing Authorities Program	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office of Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMS	Quality Management System
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RED	Regional Economic Development
IEPR	Independent External Peer Review	RMC	Risk Management Center
		RMO	Review Management Organization
LERRDs	Lands, Easements, Rights-of-Way, Relocations, Disposal/borrow areas	RTS	Regional Technical Specialist
MCX	Mandatory Center of Expertise	SAR	Safety Assurance Review
MDM	MSC Decision Meeting	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act