# DECISION DOCUMENT REVIEW PLAN

# South Branch Pike River Aquatic Ecosystem Restoration, Kenosha, Wisconsin

***Continuing Authority Program Section 206***

***Detroit District***

**LRD Commander Approval Date:** *09 Mar 2018*

US Army Corps of Engineers ®

## TABLE OF CONTENTS



## TABLE OF ATTACHMENTS

# I. PURPOSE AND REQUIREMENTS

## A. Purpose

This Review Plan defines the scope and level of peer review for the South Branch Pike River Aquatic Ecosystem Restoration, Racine & Kenosha Counties, Wisconsin (WI), Section 206 of the Continuing Authority Program (CAP) project decision document.

Section 206 of the Water Resources Development Act of 1996, Public Law 104-303, authorizes the Secretary of the Army to carry out a program of aquatic ecosystem restoration with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. This authority also allows for dam removal. It is a CAP which 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;
- 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.

Applicability of the LRD CAP Programmatic Review Plan Model for a specific project is initially determined by the Detroit 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 South Branch Pike River Aquatic Ecosystem Restoration, Racine & Kenosha Counties, Wisconsin (WI), Section 206 project, this review plan shall be updated and revised for the Implementation Phase by the Detroit 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 from the LRD CAP Programmatic Review Plan Model. It 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 206 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 and Section 205 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 South Branch Pike River Aquatic Ecosystem Restoration Project.

## III. STUDY INFORMATION

### A. Decision Document

The South Branch Pike River Aquatic Ecosystem Restoration, Racine & Kenosha Counties, Wisconsin (WI), Section 206 feasibility study (decision document) will be prepared in accordance with ER 1105-2-100, Appendix F. The preferred decision document format is contained in the feasibility study 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 feasibility study 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

The Pike River watershed is located in Racine and Kenosha Counties, Wisconsin, and can be subdivided into three sub-watersheds including the upper or northern reaches of the Pike River, Pike Creek, and the lower or southern reaches of the Pike River. The Northern Branch of the Pike River and Pike Creek and their tributaries drain into the Southern Branch of the Pike River. The Southern Branch of the Pike River flows directly into Lake Michigan approximately three miles southeast of the confluence of Pike Creek and the Northern Branch of the Pike River. The non-Federal sponsor (NFS) is the County of Kenosha, Wisconsin.

The key product of the South Branch Pike River Aquatic Restoration Study is the integrated Feasibility Study and Environmental Assessment (EA) decision document. This document will be prepared in accordance with ER 1105-2-100, Appendix H. This study will develop alternatives to restore the aquatic ecosystem within the South Branch Pike River to a more natural condition. The river exhibits flashy and powerful discharges with significant aggradation and degradation of the streambed and the surrounding wetlands. Bank stability is low and there is significant erosion during high flow conditions. The study purpose is to restore the aquatic ecosystem within the south branch of the Pike River to a more natural condition. Restoration efforts would include: improving in-stream fishery habitat and wildlife habitat by enhancing wetland and upland habitat within the river corridor while decreasing flooding impacts, enhancing water quality, and repairing bank erosion. These objectives would be accomplished by the following measures: the creation of scarce wet-mesic and upland prairie, sedimentation reduction, providing emergent/ submergent habitat, improving in-stream fishery habitat and establishing native vegetation to stabilize the river banks and provide habitat.

## C. Factors Affecting the Scope and Level of Review

The biggest challenge to providing aquatic ecosystem restoration for the Pike River will be developing the in-stream measures that will produce the greatest benefits for the cost. Identifying the resources upon which to measure that benefit is of major importance. Another challenge to developing the in-stream measures will be accurately determining the likely response of the resources to the proposed measures. However, it is anticipated that the methods or measures used in, or proposed by this study will not be novel, controversial, or precedent setting, nor will they have significant national importance. This project is considered to have low overall risk, and health and human safety factors are minimal.

This project study does not require an IEPR and will not include an Environmental Impact Statement (EIS) since the project delivery team (PDT) has determined that the study/project:

- Is not expected to be controversial; there is no expectation that there will be any public dispute as to the size, nature or effects of the project. It is not expected that there will be any public dispute as to the economic or environmental cost or benefit of the project. It is well known in the project area

that the Detroit District (LRE) has an ongoing ecosystem restoration project in the region. No governmental agencies have demonstrated any concerns to date;

- Is not expected to have adverse impacts on scarce or unique cultural or historic resources;
- Is not expected to have adverse impacts on any fish or wildlife species or their habitat whether or not they are listed as endangered or threatened under the Endangered Species Act of 1973. Anticipated direct positive benefits would be improvement to aquatic habitat quality and riparian habitat quality from wetland creation, invasive removal and native plantings;
- Is not likely to contain influential scientific information, nor is it likely to be a highly influential scientific assessment;
- Does not involve rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates;
- Is not expected to be based on novel methods, does not present complex challenges for interpretation, does not contain precedent-setting methods or models, and will not present conclusions that are likely to change prevailing practices.
- Has minimal life safety risk;
- Is expected to have a total project cost of approximately $11.7 million which is less than $200 million;
- Is not expected to receive a request from the head of any Federal or state agency for either an EIS or an IEPR.

A preliminary assessment of where the project risks are likely to occur and the potential magnitude of those risks, is included with the project management plan (PMP). Primary risks are associated with the development of in-stream measures that will produce the greatest benefits for the cost. Identifying the resources upon which to measure that benefit is of major importance. Additional risks lie in the challenge of developing the in-stream measures and accurately determining the likely response of the resources to the proposed measures. These risks affect the timing of project completion as much as its ultimate success as a restoration initiative. Other completed projects in the region are proving beneficial and effective as restoration initiatives and these can be used as guides to minimize risks.

(1) District Quality Control/Quality Assurance (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 PMP. The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home Major Subordinate Command (MSC).

(2) 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 US Army Corps of Engineers (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 a designated Review Management Organization (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.

For decision documents prepared under the model National Programmatic Review Plan, the leader of the ATR team shall be from outside the home district, but may be from within the home MSC.

(3) 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 is generally for decision documents and Type II is generally for implementation products.

(a) 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.

CAP project decision documents are generally excluded from Type I IEPR except those under Section 103 and Section 205. The exceptions are any project that required an EIS or any project that meets mandatory triggers stated in Appendix D of EC 1165-2-214.

(b) Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction

activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

A Type II IEPR shall be conducted on design and construction activities for any project where potential hazards pose a significant threat to human life (public safety). The requirement for Type II IEPR is based on Section 2035 of WRDA 2007, the OMB Peer Review Bulletin, and other USACE policy considerations.

(4) 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.

(5) Cost Engineering MCX Review and Certification. All decision documents shall be coordinated with the Mandatory Cost Engineering Center of Expertise (MCX), located in the Walla Walla District.

For decision documents prepared under the National Programmatic Review Plan Model, Regional cost personnel that are pre-certified by the MCX will conduct the cost estimate ATR. The MCX will provide the Cost Engineering certification.

(6) Model Certification/Approval. EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required). EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. The use of engineering models is also subject to DQC, ATR, and IEPR (if required).

For decision documents prepared under the model National Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved models are used, approval of the model for use will be accomplished through the ATR process. The ATR team will 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.

### 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. The non-Federal sponsor, Kenosha County, Wisconsin, will provide LIDAR data, structure surveys, Phase I environmental site assessment, geotechnical analysis and hydraulic modeling efforts as work in-kind.

## 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 Quality Management System (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

The Feasibility report and EA will undergo DQC as will sub-products including hydraulic and economic models.

### B. Required DQC Expertise

The DQC team will mirror the production team in terms of expertise, including: Hydrology & Hydraulics, Environmental, Planning, Economics, Cost Engineering and Geotechnical and Structural Engineering.

### C. Documentation of DQC

In order to further the review capability of district staff, the DQC will be documented in DrChecks and will follow ATR guidelines as defined in section V. C. below.

## 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.

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 exclusion and the exclusion is explicitly approved by the MSC Commander.

## A. Products to Undergo ATR.

ATR will be performed in accordance with the regional QMS as found in QualTrax. The ATR shall be documented and discussed at the MDM milestone. Products to undergo ATR include the feasibility report, along with the supporting analyses/appendices including: surveys and mapping, hydrology & hydraulics, economic, environmental and cost estimates and the NEPA documentation. Certification of the ATR will be provided prior to the District Commander signing the final report.

## 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 number of ATR team members expected for this review is 10. Engineer discipline ATR members require (Corps of Engineers Reviewer Certification and Access Program) CERCAP certification. The ATR Team Leader will be identified in consult with LRD. The ATR Lead, in collaboration with LRE shall identify the remaining prospective ATR members to fill each key area of required expertise for the ATR Team. This will include cost engineering, consistent with Section VIII of this Review Plan. LRD will collaborate with the PDT and vertical team to determine the final ATR disciplines and team members. An ATR Team member may serve multiple roles if warranted. The ATR Team Leader shall use the "ATR Lead Checklist" and "ATR Charge Template" developed by the National Planning Centers of Expertise as resources when conducting the review.

The suggested minimum list of technical disciplines for Section 206 CAP authority includes:

- Plan Formulation,
- Biology/NEPA/Ecosystem Output Evaluation,
- Engineering/Hydraulics and Hydrology,
- Real Estate,
- Economics (CE/ICA) and
- Cost Estimating.
- The selected ATR members are listed according to discipline in Attachment 1.

The selected ATR members, their organizations, contact information, credentials and years of experience 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 206 decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead will also serve as a reviewer for planning/plan formulation. The ATR Lead MUST be from outside LRD. |
| Planning | The Planning reviewer should be a senior water resources planner with experience in aquatic ecosystem restoration and preparing CAP studies. |
| Environmental Resources/NEPA | The team member should have experience with freshwater aquatic habitat restoration. The environmental reviewer should also have extensive knowledge of the integration of environmental evaluation and compliance requirements, pursuant to national environmental statutes (NEPA), applicable executive orders and other Federal planning requirements, into the planning of Civil Works comprehensive plans and implementation projects. The team member(s) should also have a thorough understanding of the approved environmental software used for this project. |
| Hydraulic Engineering | Team member will have a thorough understanding of river dynamics and computer modeling techniques that will be used such as Hydrologic Engineering Center - River Analysis System (HEC-RAS). Team member shall be CPR certified in CERCAP. |
| Civil/Geotechnical Engineering | The Civil/Geotechnical engineering reviewer should be familiar with aquatic ecosystem restoration projects as well as experience designing grading plans, natural bank-protection, removal, or modification, and placement of habitat structures. |
| Cost Engineering | Team member should be familiar with the most recent version of Micro -Computer Aided Cost Estimating System II (MCACES II) software and total project cost summary. The Cost Reviewer should be either Walla Walla Cost MCX staff or Cost Professional Pre-certified by the Cost MCX and is required to coordinate with the Cost MCX for further cost engineering review and resulting certification. The |

| | |
|---|---|
| | reviewer should have experience preparing cost estimates for ecosystem restoration projects. |
| Real Estate | Team member(s) should have planning/appraisal/acquisition experience regarding ecosystem restoration type projects. Including, but not limited to, knowledge of estates to be acquired, induced flooding, zoning/buffer ordinances, and NFS acquisition responsibilities. |

## 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 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 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, 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 DrChecks 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;
- 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 South Branch Pike River Aquatic Restoration 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

EC 1165-2-214 exempts CAP Section 206 projects from Type I IEPR, and based on the consideration of project specific factors presented in Section III.C relative to the criteria in Paragraph I.B above, the level of risk of the South Branch Pike River Aquatic Ecosystem Restoration, Racine & Kenosha Counties, Wisconsin (WI) project does not warrant a Type I IEPR of the project decision documents.

### 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.
Planning Models.

As described in EC 1105-2-412, planning models are 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. It includes all models used for planning, regardless of their scope or source.

This evaluation will use the IWR Planning Suite 2.0.9 (4-2017) and/or a local spreadsheet model will be used in the development of the decision document. The project has a limited number of measures which may be better served using a spreadsheet model rather than the IWR Planning Suite. A Cost-Effectiveness and Incremental Cost Analysis will be completed either in IWR Plan or in Excel. The current version of @Risk utilized in LRE is 7.5.

| Model Name and Version | Brief Description of the Model and How It Will Be Applied in the Study | Certification / Approval Status |
|---|---|---|
| IWR Planning Suite 2.0.9 | IWR Planning Suite is a water resources investment decision support tool originally built for the formulation and evaluation of ecosystem restoration alternative plans. This model assists with formulating plans, cost-effectiveness, and incremental cost analysis, which are required in ecosystem restoration projects. | Certified |
| Qualitative Habitat Evaluation Index | The Qualitative Habitat Evaluation Index (QHEI) is a physical habitat index designed to provide an empirical, quantified evaluation of the general lotic macrohabitat characteristics that are important to fish communities. | Certified |
| Floristic Quality Assessment | The Floristic Quality Assessment (FQA) method assigns to plant species a rating that reflects the fundamental conservatism that the species exhibits for natural habitats. | Certified |

## A. 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 |
|---|---|---|
| HEC-RAS 5.0.3 (River Analysis System) | The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without-and with-project conditions. | HH&C CoP Preferred Model |

# X. REVIEW SCHEDULES AND COSTS

## A. ATR Schedule and Cost

ATR will occur of the draft Feasibility Report and associated appendices prior to the MDM milestone reviews, and will be scheduled for approximately 8 weeks (3 weeks for the ATR team to provide comments, 3 weeks for the PDT to coordinate and provide responses, and 2 weeks for back check and close-out of the ATR). The ATR is scheduled to start in May 2021.

## 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 study will be released for public review through the LRE website, hard copy and public notice mailings.

# 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:

- Project Manager, 313-226-2094

# ATTACHMENT 1: TEAM ROSTERS.

PDT Members

| Discipline | Office |
|---|---|
| Project Manager | CELRE-PM |
| Plan Formulator | CELRE-PLP |
| Environmental Analysis Branch | CELRE-PLE |
| Geotechnical Engineer | CELRE-EGC |
| Watershed Hydrology | CELRE-EHW |
| Economic Evaluation | CELRE-PLP |
| Cost Engineering | CELRE-ECC |
| Real Estate | CELRE-RT |

ATR Team Members

| Discipline | Office |
|---|---|
| Planning/Lead | CENAE |
| Environmental | CELRB |
| Hydraulics | CEMVP |
| Geotech | CENAE |
| Real Estate | CENAB |
| Cost | CENWW |

## 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 DrChecks[SM].

*SIGNATURE*

*Name* Date

ATR Team Leader

*Office Symbol/Company*

*SIGNATURE*

*Name* Date

Project Manager (home district)

*Office Symbol*

*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*

## 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

| Term | Definition | Term | Definition |
|---|---|---|---|
| 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 and Management and Budget |
| DQC | District Quality Control/Quality Assurance | OMRR&R | Operation, Maintenance, Repair, Replacement and Rehabilitation |
| DX | Directory of Expertise | OEO | Outside Eligible Organization |
| EA | Environmental Assessment | OSE | Other Social Effects |
| EC | Engineer Circular | PCX | Planning Center of Expertise |
| EIS | Environmental Impact Statement | PDT | Project Delivery Team |
| EO | Executive Order | PAC | Post Authorization Change |
| ER | Ecosystem Restoration | PMP | Project Management Plan |
| FDR | Flood Damage Reduction | PL | Public Law |
| FEMA | Federal Emergency Management Agency | 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 |