



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

CELRD-PDS-R

21 FEB 2013

MEMORANDUM FOR Commander, U.S. Army Engineer District, Louisville, Attention, Amy Babey (CELRL-PM-P), Louisville District, U.S. Army Corps of Engineers, 600 Dr. Martin Luther King Jr. Place, Louisville, Kentucky

SUBJECT: Review Plan for the Northern Kentucky Riverfront Commons GI Feasibility Study Approval Memorandum

1. The attached Review Plan (RP) for the Northern Kentucky Riverfront Commons GI Feasibility Study was distributed for review to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-209 "Civil Works Review Policy" on 20 December 2012.
2. The study area is located along the south shore of the Ohio River, including the confluence of the Licking River, from the eastern limit of the City of Fort Thomas, Kentucky (Ohio River mile 461.9), downstream to the western limit of the City of Ludlow, Kentucky (Ohio River mile 473.9). This is approximately a 12-mile corridor directly across the Ohio River from Cincinnati, Ohio. The six cities in the study area are Ft. Thomas, Dayton, Bellevue, Newport, Covington, and Ludlow. The Licking River flows into the Ohio River at the boundary between Newport in Campbell County and Covington in Kenton County.
3. Potential focus areas for the study include the planning, design and construction of a Federal project(s) to restore the riparian corridor of this portion of the Ohio River and the mouth of the Licking River while avoiding negative impacts to the existing flood risk management (FRM) infrastructure. Three to five miles of the riparian corridor would be restored, mostly in the cities of Ludlow, Covington, Newport and Bellevue. The improved riparian corridor would result in over 30 acres of habitat, at a cost of \$40,000 to \$60,000 per acre for a total cost of \$1,200,000 to \$1,800,000.
4. Authority for the study is contained in a resolution adopted 17 December 1987 by the Committee on Environment and Public Works of the U.S. Senate. The Resolution is quoted below:

"RESOLVED BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE, that the Board of Engineers for Rivers and Harbors created under Section 3 of 3 the Rivers and Harbors Act, approved June 12, 1902, be, and is hereby requested to review the reports of the Chief of Engineers on the Comprehensive Flood Control Plan for the Ohio and Lower Mississippi Rivers, published and Flood Control Committee Document Number 1, Seventy-fifth Congress, and other pertinent reports, with a view to determining the advisability

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SUBJECT: Review Plan for Northern Kentucky Commons GI Feasibility Study

of providing additional improvements for flood control and allied purposes in the Metropolitan region of Cincinnati, Ohio. Such plans should be harmonious components of comprehensive storm water management and flood control plans formulated by various local, state, and regional agencies.”

5. The Review Plan (RP) is the key to ensuring credibility and accountability for the Northern Kentucky Riverfront Commons GI Feasibility Study through the definition of scope and level of peer review for the decision document. Additionally, this RP is the basis for compliance with the Information Quality Act requirement to ensure and maximize the quality, objectivity, utility and integrity of information provided in this report to be disseminated by the agency.
6. The USACE LRD Review Management Organization (RMO) has reviewed the attached RP and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-209.
7. I concur with the recommendations of the RMO and approve the enclosed RP for the Northern Kentucky Riverfront Commons GI Feasibility Study.
8. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP should be removed.
9. If you have any questions or need additional information, please contact Adrienne Gordon, P.E., PMP, CELRD-PDS-R, at (513) 684-6055.

Encls

1. RMC Memo, dated 29 January 2013
2. Review Plan



ROBERT D. PETERSON  
Colonel, USA  
Acting Commander

# **DECISION DOCUMENT REVIEW PLAN**

## **Northern Kentucky Riverfront Commons GI Feasibility Study**

Louisville District

**MSC Approval Date: 21 Feb, 2013**



**US Army Corps  
of Engineers®**

**REVIEW PLAN**

**Northern Kentucky Riverfront Commons  
GI Feasibility Study**

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## 1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Northern Kentucky Riverfront Commons feasibility report.

### b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) Planning SMART Guide < <http://planning.usace.army.mil/toolbox/smart.cfm> >
- (6) Project Management Plan (PMP)
- (7) District Quality Management Plan

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).

## 2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the ECO-PCX.

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

## 3. STUDY INFORMATION

a. **Decision Document.** The type of decision document is a feasibility report, the purpose of which is to investigate the feasibility and the extent of Federal interest in ecosystem restoration in the study area. The level of approval for the document will be the last HQ Policy Review under the SMART planning process, ultimately culminating with a Chief of Engineers Report.

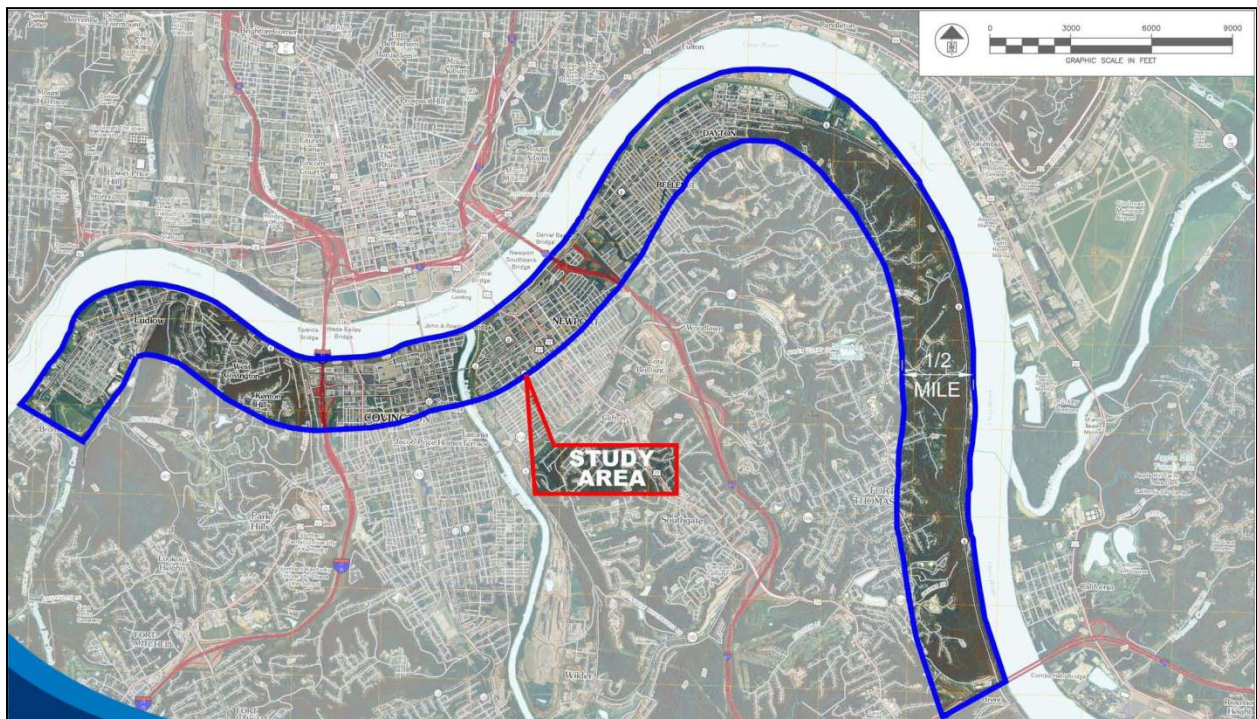
Authority for the study is contained in a resolution adopted 17 December 1987 by the Committee on Environment and Public Works of the U.S. Senate. The Resolution is quoted below:

“RESOLVED BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE, that the Board of Engineers for Rivers and Harbors created under Section 3 of

the Rivers and Harbors Act, approved June 12, 1902, be, and is hereby requested to review the reports of the Chief of Engineers on the Comprehensive Flood Control Plan for the Ohio and Lower Mississippi Rivers, published and Flood Control Committee Document Number 1, Seventy-fifth Congress, and other pertinent reports, with a view to determining the advisability of providing additional improvements for flood control and allied purposes in the Metropolitan region of Cincinnati, Ohio. Such plans should be harmonious components of comprehensive storm water management and flood control plans formulated by various local, state, and regional agencies.”

**b. Study/Project Description.**

The study area is located along the south shore of the Ohio River, including the confluence of the Licking River, from the eastern limit of the City of Fort Thomas, Kentucky (Ohio River mile 461.9), downstream to the western limit of the City of Ludlow, Kentucky (Ohio River mile 473.9). This is approximately a 12-mile corridor directly across the Ohio River from Cincinnati, Ohio. The general location of the study area is shown in Figure 1. The six cities in the study area, from upstream to downstream, are Ft. Thomas, Dayton, Bellevue, Newport, Covington, and Ludlow. The Licking River flows into the Ohio River at the boundary between Newport in Campbell County and Covington in Kenton County. The study area is located in the Fourth Congressional District of Kentucky.



The opportunity exists to plan, design and construct a Federal project(s) to restore the riparian corridor of this portion of the Ohio River and the mouth of the Licking River while avoiding negative impacts to the existing flood risk management (FRM) infrastructure previously described in the March 2007 reconnaissance report, which includes the Dayton, KY Local Flood Protection Project (LFPP); the Newport, KY LFPP; and the Covington, KY LFPP. The potential exists to restore, three (3) to five (5) miles of riparian corridor, mostly in the Cities of Ludlow, Covington, Newport, and Bellevue. The improved riparian corridor would result in over 30 acres of habitat, at a cost of \$40,000.00 to \$60,000.00 per acre

for a total cost of 1.2 to 1.8 million dollars. The amount of habitat and costs vary depending on the exact amount of land available and the amount of soil that must be reworked for the improvements.

Opportunities exist to restore bottomland forest, wetlands and/or aquatic beds along the margins of the Ohio and the Licking River, while also providing stabilization. At least 100 acres and as much as 150 acres of bottomland forest and wetlands could be restored in the vicinity of the confluence of the Ohio and Licking Rivers and the Cities of Dayton and Fort Thomas. Cost per acre would be similar to costs referenced above and would total 3.0 to 4.5 million dollars. Similar variables included for the riparian forest would be expected for wetlands and bottomland forest as well.

In concert with addressing the above, it is also intended that the study/project will address bank erosion and subsidence along the south shore of the Ohio River, including the confluence with the Licking River, from the eastern limit of the City of Fort Thomas, downstream to the western limit of the City of Ludlow, Kentucky. This bank erosion impacts the riparian corridor and threatens public infrastructure.

Dependent upon the location and type of project(s) determined to meet National Ecosystem Restoration (NER) requirements; it may be possible to provide access paths and associated educational opportunities in the study area.

Ultimately, values will be assigned to the habitats. However, the intrinsic value of the referenced riparian corridor, bottomland forest, and wetlands should be considered high because of the scarcity of these habitats within an urban environment. Further, US Fish and Wildlife Service has targeted the above habitats as Habitats of Special Concern within the Ohio River Basin and more specifically in the vicinity of the Licking River Basin. Finally, where it is compatible with ecosystem restoration and/or the existing FRM infrastructure, public access would provide other beneficial social effects.

**c. Factors Affecting the Scope and Level of Review.** This review plan will describe the anticipated review process and levels of review for study. This Review Plan is a standalone document to accompany the Project Management Plan. The DQC will be managed from within the district in accordance with the PMP and District Quality Management Plans. The ATR will be managed by the Review Management Organization (RMO); in this case the ECO-PCX. The ATR team members, identified by the RMO, will come from outside the home district and the ATR team lead will be selected from outside the MSC.

At this time it is not known whether IEPR should be anticipated. This decision will be made as the PMP revision is completed this spring (FY13).

**d. In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. In-kind contributions from the sponsor (Northern Kentucky Port Authority) will be limited, and are not yet specified. Peer review of in-kind contributions will be accomplished by having the sponsor provide documentation of in-kind services, followed by the applicable discipline providing estimates of the value of those contributions, and reconciling the documentation from the sponsor and that discipline.

#### **4. DISTRICT QUALITY CONTROL (DQC)**

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work

products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

- a. **Documentation of DQC.** DQC will be documented by signature sheets with senior-level checkers, Subject Matter Experts, and Supervisors, and will be provided to the ATR team at review.
- b. **Products to Undergo DQC.** The feasibility study materials will undergo DQC consistent with the District/MSD Quality Management plans.
- c. **Required DQC Expertise.** The required expertise needed to conduct DQC consistent with the District/MSD Quality Management plans is that reviewers should be qualified personnel that typically provide a quality check during the development process. The disciplines will be the same as for the ATR expertise identified below. Additionally, the District Ecosystem/Biology reviewer should be familiar with ecotypes of the Ohio River corridor, since an ATR reviewer from another district may not have this special local knowledge.

**5. AGENCY TECHNICAL REVIEW (ATR)**

Because this study is being conducted under SMART Planning, this study will be ATR'd according to the SMART Planning process, with the ATR lead determining when the full ATR team needs to be involved. However, even under SMART Planning, 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. The ATR team lead will be from outside the home MSC.

- a. **Products to Undergo ATR.** The feasibility study products (including NEPA and supporting documentation) will undergo ATR.
- b. **Required ATR Team Expertise.** The ATR Team is anticipated to consist of a team lead and additional team members with expertise in the areas outlined below. However, the PDT should make the ultimate assessment of what expertise is needed based on the PMP and the factors affecting the scope and level of review outlined in Section 3 of the review plan, and may suggest candidates. *Because the PDT is not yet fully assembled, and the PMP is not yet revised, the suggestions below may be revised once they are.* The appropriate RMO, in cooperation with the PDT, vertical team, and other appropriate centers of expertise, will determine the final make-up of the ATR team. The following table provides examples of the types of disciplines that might be included on the ATR team and some sample descriptions of the expertise required.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have substantial experience



	with National Ecosystem Restoration feasibility studies, both in conducting and in reviewing them. The lead should also be familiar with the SMART Planning processes, as this study is being conducted under SMART Planning. It will also be beneficial for the lead to have the necessary skills and experience to lead a virtual team through the ATR process. It is desirable for the ATR lead to also serve as a reviewer for a specific discipline (such as planning, biology, hydrology/hydraulics, etc). It is requested that Scott Miner be the ATR Lead if he is available. He has already been contacted regarding this study, and said he is willing dependent upon availability.
Planning	The Planning reviewer should be a senior water resources planner with knowledge of the ER 1105-2-100 Planning Guidance Notebook and applicable laws, regulation and policy, including experience conducting and reviewing NER studies, as well as with established knowledge of SMART Planning. If this team-member is not familiar with incremental cost analysis for NER studies, then another team-member must be.
Ecologist or Biologist with site design experience; or Landscape Architect or Bio-Engineer with ecology/biology experience	This professional should be familiar with ecosystem science in general and riverine ecosystems in specific. This includes familiarity with high functioning systems, as well as with the problems common to urban river environments. This professional should also be a senior designer with experience and understanding of site and design requirements for ecosystem restoration projects, including form and function of near-shore riverine aquatic environments, wetlands (for which the primary purpose is habitat), riparian zones, as well as working near (not on) levees & floodwalls, and in urban/suburban areas. S/he should also be experienced with ecosystem restoration best practices and NER studies.
Hydrology/Hydraulics	The hydrology and hydraulic engineering reviewer will be an expert in the field and have a thorough understanding of the relationship of H&H to ecosystem function, as well as experience with the HEC-RAS software.
Geotechnical	The geotechnical reviewer will have experience in the evaluation of riverine ecosystem restoration measures and bank stabilization that use bio-engineering techniques.
Economics	The economics reviewer will have considerable experience in economic cost/benefit analysis of NER studies. He/she will be well versed in the use of the related necessary software.
Real Estate	The real estate reviewer should be a senior real estate specialist with extensive knowledge of real property acquisition related to Civil Works projects and Planning documents.
Cost Engineering	The cost engineering reviewer will have extensive experience in creating and evaluating cost estimates, contingencies, and construction schedules.
Environmental and	The environmental and cultural resources reviewer will have an

Cultural Resources	extensive background in evaluating environmental quality and cultural and historic resource issues related to ecosystem restoration projects, including HTRW, and including experience with NEPA. This role may be covered by one of the previous team-members if one of them also happens to hold this expertise (biologist, planner, landscape architect are likely candidates).
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c. **Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the ATR 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, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

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

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

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

## **6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)**

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.
  - **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. Decision on IEPR.** Any project can have residual risks and public safety concerns that are significant. An initial decision on IEPR has not yet been made, but will be once the PMP revision is completed this spring. This decision will be made in concert with the PCX and LRD as the MSC and, if yes, the RP that is resubmitted to LRD for reapproval will indicate the requirement. Additionally, if it is required, it will be conducted according to EC 1165-2-214.
  - b. Products to Undergo Type I IEPR.** Undecided.
  - c. Required Type I IEPR Panel Expertise.** Undecided.

d. **Documentation of Type I IEPR.** Undecided.

## 7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

## 8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

## 9. MODEL CERTIFICATION AND 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. 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, ATR, and IEPR (if required).

a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document.

<b>Model Name and Version</b>	<b>Brief Description of the Model and How It Will Be Applied in the Study</b>	<b>Certification / Approval Status</b>
IWR Planning Suite ( Version 2.0.6.0)	The CE/ICA provides analysis for formulating and evaluating ecosystem restoration plans with incremental cost analysis methods. This program may be used to aid in identifying the	Certified

	most cost effective ecosystem restoration project.	
To be identified	HSI / HEP methods or tools may be used to determine potential of habitat conditions to support specific species and to quantitatively compare alternative management practices.	May require approval if determined will be used

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

<b>Software Name and Version</b>	<b>Brief Description of the Model and How It Will Be Applied in the Study</b>	<b>Approval Status</b>
Micro-Computer Aided Cost Estimating System (MCACES), Second Generation (MII), Version 4.1	MII provides an integrated costs estimating system that meets the USACE requirements for preparing cost estimates. MCACES may be used to produce estimates and may be reported by using Microsoft Excel.	Required per ETL 1110-2-573
HEC-RAS 4.0	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 may be used.	May require approval if determined will be used
HEC-HMS 3.3	The Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) program is designed to simulate the precipitation-runoff process for watershed systems. This program may be used.	May require approval if determined will be used
EXCEL software	This is the well known Microsoft proprietary spreadsheet program. The user can perform calculations by inputting equations in cells, and by referencing other cells, perform chains of analyses. This software may be used for many different purposes.	May require approval if determined will be used

All of these models are standard models used by USACE or standard off-the-shelf software (Excel). Therefore, it is not anticipated that these models will require approval.

## 10. REVIEW SCHEDULES AND COSTS

**a. ATR Schedule and Cost.** The ATR schedule will consist of a short time frame to allow review of study products. This review will take place in approximately three weeks with an additional two weeks to include district response to comments. The ATR Lead will determine the level of ATR team involvement needed for the review of the materials prepared for the Alternatives Milestone (sometimes referred to as the Scoping Milestone), and the Tentatively Selected Plan Milestone. There will be a review of the draft documents, followed by incorporation of ATR comment responses. Final documents will then be reviewed to finalize DrChecks and verify that comments have been sufficiently resolved. The entire review process should not take more than six weeks. The cost for each ATR effort is estimated to be less than \$8,750, including only ATR team time (District staff costs will be additional). The ATR schedule and budget include participation of the ATR Lead in milestone conferences to address the ATR process and any significant and/or unresolved ATR

concerns. The ATR schedule and budget also include responses to ATR comments by the District Project Delivery Team.

**Basic Study Schedule (Major Milestones as of December 2012)**

<b>Description</b>	<b>Scheduled Date</b>
PMP Revision complete	17 April 2013
Scoping Milestone (sometimes called Alternatives Milestone)	30 July 2013
Tentatively Selected Plan Milestone	30 Jan 2014
Agency Decision Milestone	28 July 2014
Final Report Milestone	28 Oct 2014
Chief's Report	28 Nov 2014

Dates assume continuous and optimal Federal and non-Federal Sponsor funding.

**b. Type I IEPR Schedule and Cost.** Not known to be applicable. It will be addressed in this living document once the study is further along.

**c. Model Certification/Approval Schedule and Cost.** Not applicable, since new planning models will not been used in the development of the study.

**11. PUBLIC PARTICIPATION**

Several public scoping meetings have already occurred, and the direction of the study has been refined based on what was learned. Additionally, the public will be given the opportunity to review the Draft Report during the NEPA process. These comments will be reviewed and addressed by the District, and if significant and relevant public comments are submitted, the comments will be provided to reviewers as well.

**12. REVIEW PLAN APPROVAL AND UPDATES**

The Great Lakes and Ohio River Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving District, MSC, and HQUSACE members) as to the appropriate scope and level of review. Like the PMP, the Review Plan is a living document and may change. The District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval will be documented in an attachment. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the Home District's webpage. The latest Review Plan should also be provided to the MSC.

### **13. 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: 502-315-7456
- ECO-PCX Operations Director: 309-794-5448
- Chief of Planning, CELRD: 513-684-3488

**ATTACHMENT 1: PDT TEAM ROSTER**

<b>PDT</b>			
<b>Area</b>	<b>Name</b>	<b>Office Symbol</b>	<b>Telephone</b>
Project Management, Planning, L.A.		PM-P-F	
Ecosystem Science & Restoration		LRC	
Hydrology/Hydraulics		ED-T-H	
Geotechnical		ED-T-G	
Economics		PM-P-F	
Real Estate		RE-C	
Cost Engineering		ED-M-C	
Environmental and Cultural Resources		PM-P-E	
GIS		ED-T-T	
CADD		ED-T-G	
Funding Support		PM-C	
P2 Schedules and Resourcing		PM-R&C	
Office of Counsel		OC	

**ATTACHMENT 2: ATR TEAM ROSTER**

<b>Agency Technical Review (ATR) Team</b>			
<b>Area</b>	<b>Name</b>	<b>Office Symbol</b>	<b>Telephone</b>
Agency Technical Review Team Lead		Sacramento	
Remainder as previously indicated			



**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>
Initial Review Plan		

#### ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>
ASA(CW)	Assistant Secretary of the Army for Civil Works
ATR	Agency Technical Review
CWRB	Civil Works Review Board
DQC	District Quality Control
DX	Directory of Expertise
EA	Environmental Assessment
EC	Engineer Circular
EIS	Environmental Impact Statement
E&C	Engineering and Construction
EO	Executive Order
ER	Engineering Regulation
HEC	Hydrologic Engineering Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
MSC	Major Subordinate Command / Division
NEPA	National Environmental Policy Act
NER	National Ecosystem Restoration
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
OSE	Other Social Effects
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PL	Public Law
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QMP	Quality Management Plan
RED	Regional Economic Development
RMC	Risk Management Center
RMO	Review Management Organization
RTS	Regional Technical Specialist
SAR	Safety Assurance Review
USACE	U.S. Army Corps of Engineers
WRDA	Water Resources Development Act