

DECISION DOCUMENT REVIEW PLAN

Fairfield Ditch Fort Wayne, Indiana Section 205
DETAILED PROJECT REPORT/ENVIRONMENTAL ASSESSMENT

Detroit District

MSC Approval Date: 27 February 2014
Last Revision Date: *None*



**US Army Corps
of Engineers ®**

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Fairfield Ditch, Fort Wayne, Indiana Detailed Project Report and Environmental assessment.

b. 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 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) Project Management Plan, Fairfield Ditch, Fort Wayne, Indiana, Detailed Project Report September 2008
- (6) ER 1105-2-100, "Planning Guidance Notebook," Appendix F, Continuing Authorities Program, Amendment #2, 31 January 2007.

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 CAP decision documents is typically either a Major Subordinate Command (MSC) or, under appropriate agreements with the MSC, a Planning Center of Expertise (PCX). The Great Lakes and Ohio River Division (LRD) is the MSC for this project. In accordance with EC 1165-2-214, LRD and the Flood Risk Management Planning Center of Expertise (FRM-PCX) have agreed that the FRM-PCX will serve as RMO for the decision document.

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

The District project manager in cooperation with the MSC will coordinate the Type I IEPR with the FRM-PCX, which will be responsible for administering the Type I IEPR. The Detroit District will post the approved Review Plan on its public website and provide a copy of the approved Review Plan (and any updates) to the FRM-PCX to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. **Decision Document.** The Fairfield Ditch, Fort Wayne, Indiana Flood Risk Management Project is the title for this work. The decision document shall be the *Fairfield Ditch, Fort Wayne, Indiana Section 205 Flood Damage Reduction Detailed Project Report and Environmental Assessment*.
- b. **Study/Project Description.** The City of Fort Wayne is located at the headwaters of the Maumee River, which is formed by the confluence of the St. Marys and St. Joseph Rivers. This Section 205 study will focus on the Fairfield Ditch, which drains into the St. Marys River, and which was overwhelmed by a 100-year flood event in 2003.

Fairfield Ditch is a deep ditch, which flows into the St. Marys River and is shouldered on both sides by residential communities. The ditch is the catchment for the area drainage watershed. On occasions, during heavy storm events, the St. Marys River begins to backflow into the Fairfield Ditch where it meets storm water runoff from the ditch. When this occurs, the adjacent low-lying residential areas become flooded. The proposed plan is to construct either a steel sheet pile wall or gabion baskets at 2 locations to tie into the 100-year flood elevation. The first location is along a 1,700-foot stretch of the ditch extending upstream from Cleelum Drive. The second location is a 700-foot stretch of the ditch approximately equally centered between Broadripple Drive and Bradbury Avenue. In addition, a backwater control structure (pumping station) at Bluffton Road is proposed to restrict the backing up of the St. Marys River into Fairfield Ditch. This study will be a single purpose project, flood risk management.

The following alternatives will be considered;

Alternative 1 – No Action

Alternative 2 – Levees/retaining wall

Alternative 3 - Widen existing ditch and re-grade slopes, rip rap

Alternative 4 - Detention basins

Alternative 5 – Barrier dam, diversion dam and detention ponds with pump stations

Alternative 6 – Floodplain Management

Alternative 7 – Channel realignment

The non-Federal Sponsor (NFS) is the City of Fort Wayne, Floodplain Management Department.

c. Factors Affecting the Scope and Level of Review.

• Challenges:

- 1) The channel is deep but very narrow. Thus there is a rapid increase in flood elevations.
- 2) Residential properties are very close to the channel.
- 3) NFS would like to minimize the impact to the trees in the community.
- 4) Limited availability of real estate for flood water retention.
- 5) Policy prohibits the transfer of impact.

• Risks:

- 1) Catastrophic failure could result in the loss of life or significant property damage
- 2) Proper O&M will not be maintained by the NFS

- **Significant economic, environmental, social effects:**

- 1) The City of Fort Wayne places a high value on its trees.
- 2) The purchase of some homes and not others could be controversial.
- 3) The demolition of homes may be controversial to home owners.
- 4) Project will have an aesthetic effect on the residential community.
- 5) Surrounding trees could be habitat for the Indiana Bat

- **Significant interagency interests:**

There is not expected to be any significant interagency interests in the project. Project coordination and permitting are expected to be routine.

- **Human Safety:**

The City of Fort Wayne has and implements a robust flood warning system. Preliminary hydraulic analysis indicates that flooding in the Fairfield Ditch is the result of backwater from the St. Marys River. The nature of backwater flooding is that it is slow in developing and allows significant lead time to warn or evacuate residents from the impacted area. The combination of the type of flooding and the existing flooding warning system make the threat to human safety relatively low.

The non-performance of any of the considered alternative would not result in a greater chance for loss of life than existing conditions. The NFS plans to raise a bridge within the area of impact prior to the implementation of the Federal project, this may allow the alternative consisting of levees and flood walls to be constructed at a lower elevation further reducing the amount of water “stored” within the project area and thus reducing the chance for loss of life related to the levee/floodwall alternative. Other alternatives involve the removal of homes thus immediately reducing the chance for loss of life or property.

- **Controversial Issues:**

- 1) As stated above, it is most likely that a number of homes will be identified to be demolished as a result of the study, which will impact home owners.

Assessment of District Chief of Engineering Concerning Life and Safety – The Detroit District Chief of Technical Services Division (a.k.a. Chief of Engineering) has assessed the potential life and safety issues relative to any potential FRM project in Fort Wayne, IN and has concluded that a Type I IEPR, with consideration of Safety Assurance Review (SAR), is appropriate during the Planning stages of this study. Type II IEPR and SAR are expected to be conducted during the design and implementation phase of the project. However, a definitive risk-informed decision on whether to conduct these reviews will be made prior to the initiation of the design and implementation phase.

d. In-Kind Contributions. In-Kind work will be a part of the DPR development and the following tasks will be completed by the non-Federal sponsor (City of Fort Wayne):

- JAA00 Survey and Mapping
- JAB00 Hydrology and Hydraulics Studies
- JAC00 Geotechnical Studies
- JAD00 Design Analysis
- JBA10 Structure Inventory Survey
- JCA00 Real Estate Plan

JDF00 HTRW Studies/Report
JDG00 Cultural Resource Studies/Report
JD100 State Construction-in-a-Floodway Permit
JIA00 Meetings (Notice, Preparation, Attendance, Minutes)
JJA00 Feasibility Study Management
JJB00 Screening of Formulated Plans
JJB00 ITR – Draft Feasibility Report
JPA00 Programs and Project Management Documents
JPB00 Quality Control
JPC00 Quality Assurance
JPE00 Legal Review/ Involvement
JPF00 Study Coordination Team Participation (Art III, FCSA)
JPG00 Record Maintenance and Audits (Art VI, FCSA)
JAIO0 Resolution of IEPR comments

The total estimated cost for the above items is \$579,200.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the regional Quality Management System and local District work instructions.

- a. Documentation of DQC.** District Quality Control (DQC). DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander. Detailed procedures for DQC execution are provided in the regional Quality Management System, local District work instructions, and the project Quality Control Plan.
- b. Products to Undergo DQC.** Draft Detailed Project Report (including all appendices) and Environmental Assessment and Final Detailed Project Report (including all appendices) and Environmental Assessment

The draft DPR and EA will be subjected to a “page-turner” exercise. During the page-turner exercise the PDT compares their respective appendix page-by-page with the main report for consistency. The same is done between the EA and main report of the DPR. Once the “page-turner” exercise is complete the report is reviewed by resource providers and District management. All comments and changes are captured via “track changes”. The Final or “post-public-review” version of the DPR/EA package will be reviewed by the PDT if the public comments

warrant such action. Resources managers and District management will review the Final report, the Colonel will sign the FONSI and the DPR/EA package will be submitted to LRD for approval.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC. Selection of qualified ATR team members and lead will be delegated by the MSC to the District. The District will work collaboratively with the FRM PCX to select the appropriate ATR team.

a. Products to Undergo ATR.

ATR should be performed for the Draft Detail Project Report (DPR) and Environmental Assessment (EA). ATR of the Final version of the DPR/EA will be conducted if public comments warrant such action. Additional ATR of key technical and interim products, MSC-specific milestone documentation, and In-Progress Review (IPR) documentation should occur depending on the study needs and the requirements of MSC/District Quality Management Plans. Supporting Analysis and Documents provided as work in-kind will also be subject to Agency Technical Review as well as anything used for the AFB meeting.

b. Required ATR Team Expertise.

Discipline	Recommended Qualifications for ATR
Planner (Regional Technical Specialist)	The team member shall have extensive knowledge of Planning processes, with special emphasis on Flood Risk Management studies.
Environmental Scientist	The team member should 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.
Economist	The team member should have the ability to utilize, and evaluate results from, most recent version of the Corps HEC-FDA (Hydrologic Engineering Center, Flood Damage Reduction Analysis) program. In addition, the economist must have an understanding of Hydrologic data adequate to recognize sufficiency and appropriate utilization in alternative evaluation. It requires an understanding of economic related requirements as depicted in EM 1110-2-1619 and ER1105-2-101. It requires knowledge of Corps accepted benefits and costs

	utilized in flood damage reduction analysis. An ability to implement and assess risk evaluation methodology. An ability to evaluate coordination between hydrologic engineering and economics on determination of the study configuration and merging of data toward formulation and evaluation of the potential flood risk management plans.
Hydrology and Hydraulic Engineer or Economist – Risk Reviewer	The risk analysis reviewer will be experienced with performing and presenting risk analyses in accordance with ER 1105-2-101 and other related guidance, including familiarity with how information from the various disciplines involved in the analysis interact and affect the results.
Civil Design Engineer	Team member will be an expert in the art and science of flood risk management projects such as design of channels, detention ponds and drainage structures. Should also be a licensed professional engineer.
Geotechnical Engineer	The team member should have an extensive experience in geotechnical evaluation of flood risk management structures such as static and dynamic slope stability evaluation, evaluation of the seepage through earthen embankments and under seepage through the foundation of the flood risk management structures, including dam and levee embankments, floodwalls, closure structures and other pertinent features, and in settlement evaluation of the structure.
Hydrology and Hydraulic Engineer	Hydrology & Hydraulics: Team member will be an expert in the field of hydrology & hydraulics and have a thorough understanding of open channel dynamics, application of detention/retention basins, flood routing, and watershed hydrology and a working knowledge of HEC-RAS and HEC-HMS.
Real Estate Specialist	The Real Estate Specialist should have extensive experience standard real estate agreements, easement determination, relocation and determination of LERRDS .
Cost Engineer	Cost Engineer: Team member shall be familiar with estimates for civil works (water retention, flood control, etc.), structural work (bridges, overpass, etc.) and environmental clean-up. The Cost Engineer will be required to perform some quantity checks. Be familiar with the USACE estimating software MII in reviewing cost estimate.

c. Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;

- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

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

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

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

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

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

It is the policy of USACE that Section 205 project decision documents should undergo Type I IEPR unless ALL of the following criteria are met:

- Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life;
- Life safety consequences and risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an EIS;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the MSC Commander. Additional factors the MSC Commander might consider include in deciding if an exclusion is appropriate include, but are not limited to: Hydrograph /period of flooding, warning time, depth of flooding, velocity of flooding, nature of area protected, and population protected.

Decision on IEPR - The PDT for the Fairfield Ditch, Fort Wayne, Indiana project has determined, consistent with Section 2034 of the Water Resources Development Act of 2007, and implementing guidance contained in EC 1165-2-214, that a Type I IEPR is warranted for the decision document to be completed for the study (Feasibility Report and Environmental Assessment). This study has met one of the threshold criteria requiring a Type I IEPR as described above (note: meeting any one threshold criteria mandates conducting a Type I IEPR).

b. Products to Undergo Type I IEPR. Type I IEPR will be conducted on the Detailed Project Report (DPR) and Environmental Assessment (EA).

c. Required Type I IEPR Panel Expertise.

IEPR Panel Members/Disciplines	Expertise Required
Flood Damage Reduction Plan Formulation Team Lead	Panel member will be experienced with the civil works process, watershed level projections current flood damage reduction planning and policy guidance, and have experience in water resources planning for multipurpose projects, specifically integrating measures for flood risk management, ecosystem restoration, recreation, watersheds, and planning in a collaborative environment.
Environmental Planning and Analysis	Panel member will be experienced in the NEPA process and analysis, and have a biological or environmental background that is familiar with the project area and ecosystem restoration.
Economic Analysis	Panel member will be experienced in civil works and related flood risk reduction projects and have a thorough understanding of HEC-FDA.
Hydraulics and Hydrology	Panel member will be an expert in the field of hydrology & hydraulics and have a thorough understanding of open channel dynamics, enclosed channel systems, application of detention/retention basins, application of levees and flood walls, non-structural solutions involving flood warning systems and flood proofing, etc and/or computer modeling techniques that include expertise in HEC-RAS 4.0, HEC-HMS, and HEC-GeoHMS.
Civil Engineering; Project Design and Costs	Panel member will be experienced in design and construction of both structural and non-structural flood risk management measures. In addition the Team member will be familiar cost estimating for similar civil works projects using MCACES.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and

environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- 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; 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.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

7. POLICY AND LEGAL COMPLIANCE REVIEW

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

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

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

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:

Model Name	Model Type	Requirement	Proponent	PCX	Status
HEC-FDA	Economics	Corporate Certification	HEC/IWR	FRM-PCX	1.2.5 Certified
IWR-Plan	Planning Formulation	Corporate Certification	IWR	ECO-PCX	Certified

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

Model Name	Model Type	Requirement	Proponent	PCX	Status
HEC-RAS	Hydraulic/Hydrologic	Corporate Certification	HEC/IWR	FRM-PCX	Certified
HEC-HMS	Hydrologic	Corporate Certification	HEC/IWR	FRM-PCX	Ongoing
MII Cost Engineering	Cost	Corporate Certification	Cost	Costs-MCX	Certified

10. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost*.**

Description	Costs	Scheduled Completion Date
DRAFT DPR & EA		June 2014
FINAL DPR & EA		October 2014

*This table reflects the minimum number of products that would be subject to ATR. The Detroit District will revise this Review Plan to include additional products, review costs and schedule modifications as warranted by the study development process.

- b. **Type I IEPR Schedule and Cost.**

Description	Costs	Scheduled Completion Date
Final DPR & EA		January 2015

c. Model Certification/Approval Schedule and Cost.

All models expected to be used during the feasibility phase of the study are corporately certified or corporately accepted as the standard model for the respective application.

11. PUBLIC PARTICIPATION

After ATR of the draft report and Environmental Assessment (EA) and concurrent with Type I IEPR, the documents will be distributed for public comment. In accordance with NEPA, the EA will be made available for a 30 day public comment period. During the public comment period, if the public comments are sent to the Corps by email, then the Corps will respond by email. If the public comments are sent to the Corps by letter, then the Corps will respond by letter. When the comment period is complete the comments will be forwarded to the IEPR and ATR team leads electronically. During the public review period a public meeting will be held to address concerns of the project.

12. REVIEW PLAN APPROVAL AND UPDATES

The Great Lakes and Ohio River Division (LRD) Commander is responsible for approving this Review Plan. The Commander’s approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders’ approval memorandum, should be posted on the Home District’s webpage. The latest Review Plan should also be provided to the RMO and home 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:

POC	Title	Office Phone Number
	Project Manager	
	Planner	
	Division Liaison	
	FRM-PCX Manager	

ATTACHMENT 1: TEAM ROSTERS

Discipline	Name	Office/Agency
Project Manager		CELRE-PM-C
Lead Planner		CELRE-PL-P
Environmental Analysis		CELRE-PL-E
Environmental Analysis, Archeologist		CELRE-PL-E
Environmental Analysis		CELRE-PL-E
Economic Analysis		CELRE-PL-P
Real Estate		CELRE-RE
Real Estate		CELRE-RE
Civil Design Analysis		CERLE-ED-G
Geotechnical Analysis		CERLE-ED-G
Hydrology and Hydraulic Engineering		CELRE-HH-E
Cost Engineering		CELRE-ED-C
Contracting		CELRE-CT
Public Affairs Officer		CELRE-PA
Office of Counsel		CELRE-OC

Table 2 – Agency Technical Review Team

Discipline	Name	Office/Agency
Planner (Regional Technical Specialist)	ATR Lead	CENAE-EP
Environmental Analysis		CENAP-PL
Economic Analysis		CELRC-PM-PL
Real Estate		CESAS-RE
Civil Design Analysis		CELRB-TD
Hydrology and Hydraulic Engineering		CENAE-EP
Cost Engineering		CENWW-COST-MCX
Geotechnical Engineer		CESAS-EN
Cost MCX		CENWW-COST-MCX

Table 3 – Planning Centers of Expertise Team

Discipline	Name	Office
Lakes and Rivers Division		
FRM-PCX		CELRH

Table 5 – Independent External Peer Review Team

Discipline	Name	Office
Flood Damage Reduction Plan Form	TBD	TBD
Environmental scientist	TBD	TBD
Economist	TBD	TBD
Civil Design Engineer	TBD	TBD
Hydrology and Hydraulic Engineer	TBD	TBD

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

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

SIGNATURE
Name
ATR Team Leader
Office Symbol/Company _____ Date _____

SIGNATURE
Name
Project Manager
Office Symbol _____ Date _____

SIGNATURE
Name
Architect Engineer Project Manager¹
Company, location _____ Date _____

SIGNATURE
Name
Review Management Office Representative
Office Symbol _____ Date _____

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE
Name
Chief, Engineering Division
Office Symbol _____ Date _____

SIGNATURE
Name
Chief, Planning Division
Office Symbol _____ Date _____

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
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
EA	Environmental Assessment	OEO	Outside Eligible Organization
EC	Engineer Circular	OSE	Other Social Effects
EIS	Environmental Impact Statement	PCX	Planning Center of Expertise
EO	Executive Order	PDT	Project Delivery Team
ER	Ecosystem Restoration	PAC	Post Authorization Change
FDR	Flood Damage Reduction	PMP	Project Management Plan
FEMA	Federal Emergency Management Agency	PL	Public Law
FRM	Flood Risk Management	QMP	Quality Management Plan
FSM	Feasibility Scoping Meeting	QA	Quality Assurance
GRR	General Reevaluation Report	QC	Quality Control
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
LRR	Limited Reevaluation Report	SAR	Safety Assurance Review
MCX	Mandatory Center of Expertise	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act