



**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER  
CORPS OF ENGINEERS  
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CELRD-PD-G

10 April 2017

MEMORANDUM FOR Commander, US Army Corps of Engineers, Louisville District,  
(CELRD-PM /Keith A. Keeney), PO Box 59, Louisville, KY 40201-0059

SUBJECT: Approval Memorandum for Avon, Hendricks County, Indiana, Section 14, Decision Document Review Plan

1. References:

- a. Memorandum, CELRL-PMC-PL, Subject: same, 30 MAR 2017.
- b. Revised Review Plan, Avon, Hendricks County, Indiana, Section 14, Decision Document Review Plan updated 03 APR 2017.
- c. Engineer Circular, (EC) 1165-2-214 "Civil Works Review," 15 DEC 2012.

2. LRD has conducted a quality assurance and policy compliance review of the referenced review plan and concurs with the recommendation of the Louisville District Commander, contained therein.

3. I have reviewed the District recommendation and concur with your findings. This review plan is approved as submitted. Request this review plan be posted to the District website, with the names of all individuals removed.

4. The Point of Contact for this action is Mr. Philip Tilly (LRD Louisville District Support Team), 513-684-3025, [philip.r.tilly@usace.army.mil](mailto:philip.r.tilly@usace.army.mil); and or Mr. Keith A. Keeney (Louisville District), 502-315-6871, [Keith.A.Keeney@usace.army.mil](mailto:Keith.A.Keeney@usace.army.mil).

**BUILDING STRONG and Taking Care of People!**

Encl

R. MARK TOY  
Brigadier General, USA  
Commanding

Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization Project

## **DECISION DOCUMENT REVIEW PLAN**

Avon, Hendricks County, Indiana

Continuing Authority Program Section 14 Streambank Stabilization Project

United States Army Engineer District, Louisville

LRD Commander Approval Date: \_\_\_\_\_, 2017



**US Army Corps  
of Engineers** ®

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## I. PURPOSE AND REQUIREMENTS

### A. Purpose

This Review Plan defines the scope and level of peer review for the Avon, Hendricks County, Indiana, Section 14 streambank stabilization project decision document.

Section 14 of the Flood Control Act of 1946, as amended, authorizes the US Army Corps of Engineers (USACE) to study, design and construct emergency streambank and shoreline works to protect public services including (but not limited to) streets, bridges, schools, water and sewer lines, National Register sites, and churches from damage or loss by natural erosion. It is a Continuing Authorities Program (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.

## Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization Project

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 Louisville 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 United States Army Corps of Engineers, Louisville District and subsequently reviewed and approved by the LRD Commander. If 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 Louisville 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 Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization project, this review plan shall be updated and revised for the Implementation Phase by the Louisville 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.
- (7) MSC and District Quality Management System (QMS) Procedures
- (8) PMP for study; and
- (9) Any other relevant quality control/quality assurance guidance

#### **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 Section 14 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 Louisville 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 the Great Lakes and Ohio River Division will serve as the RMO for the Feasibility Phase of the Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization project.

### **III. STUDY INFORMATION**

#### **A. Decision Document**

The Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization project decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The preferred decision document format is contained in the Detailed Project Report (DPR) template in the LRD CAP Program Management Plan/Standard Operating Procedures, which integrates the environmental documentation required under NEPA and other relevant environmental statutes into the project decision document. The purpose of a DPR is to document the basis for a recommendation to invest Federal and non-Federal

resources to address a local water resource problem or opportunity of significance to the Nation. The approval level of the decision document is the LRD Commander.

### **B. Study/Project Description.**

The project scope of work includes the design of bank stabilization for slope failures west of South County Road 625 East along the White Lick Creek in Avon, Indiana. Specifically, the project is located within the Washington Township Park and adjacent to the "Haunted Bridge of Avon", an active double track railroad bridge. The principal cause of the erosion is the scouring of the bank due to the high velocities that concentrate along the left bank of the river during high flow conditions. With limited information it is not possible to estimate the rate of erosion; however, based on statements made by the local sponsor the rate of erosion has increased significantly in the last year.

In addition to the No Action Alternative, three preliminary alternatives and the relocation of South County Road 625 East will be evaluated. These alternatives are riprap protection, a gabion basket wall, or redi rock. Currently, there are no existing or anticipated policy waiver requests, pursuant to paragraph F-10.f.(4) of ER 1105-2-100, Appendix F, for the project.

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

This project does not include any impoundments, floodwalls, or levees. From a life safety perspective, there is minimum risk. Placement of stone is not challenging, from a design perspective. The threat to human life is not significant.

### **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 in-kind services anticipated as part of the cost share are limited to participation in Project Delivery Team (PDT) meetings.

## **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 Louisville District shall manage DQC. Documentation of DQC activities is required and should be in accordance with the District and LRD QMS procedures. Attachment 1 lists the DQC team members according to each significant area of expertise needed to accomplish the feasibility study objectives.

### **A. Products to Undergo DQC.**

DQC will be performed on interim reports and milestone documentation (i.e. Recommended Alternatives, Draft Feasibility Report, Final Feasibility Report) prior to ATR.

**B. Required DQC Expertise.**

Senior-level non-PDT members and/or supervisory staff will conduct DQC. The technical disciplines represented on the DQC team will mirror that of the project delivery team. DQC will be managed by the project manager or lead planner.

**C. 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. District Quality Control documentation will also include review comments, responses and associated resolutions.

**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 Louisville District that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside LRD. At a minimum, the name of the ATR lead will be provided at the time of initial decision document review plan submission. Remaining ATR team members will be selected and identified in a revised review plan (Attachment 1) once the study funds are obtained.

**A. Products to Undergo ATR.**

ATR will be performed throughout the study in accordance with the regional QMS as found in Qualtrax. The ATR shall be documented and discussed at the MDM milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include (1) Detailed Project Report and appendices; (2) Cost estimates; (3) Environmental analysis and (4) Cultural resources documentation.

**B. Required ATR Team Expertise.**

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

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ATR Team Members/Disciplines	Expertise Required
ATR Lead/Plan Formulation	The ATR lead should be a senior professional preferably with experience in preparing Section 14 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 the planning reviewer. The ATR Lead should be a senior water resources planner who possesses knowledge with the NEPA process and whom also has extensive experience with formulation of CAP projects (preferably Section 14 projects).
Cost Engineering	Team member will be experienced in design and construction of streambank protection projects and certified by the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX). In addition the team member will be familiar cost estimating for similar civil works projects using MCACES.
Civil Engineering	The engineering reviewer will be an expert in the field of civil design engineering and have a thorough understanding of the level of analysis required for Section 14 projects.
NEPA Compliance	The NEPA Compliance reviewer will be an expert in the field of environmental compliance (specifically with NEPA, the Endangered Species Act, and the Clean Water Act) with certification as an ATR by the Planning Community of Practice.
Cultural Resources	The cultural resources reviewer will be an expert in the field of cultural resources compliance (specifically Section 106 of the National Historic Preservation Act) with certification as an ATR by the Planning Community of Practice.

**C. Documentation of ATR.**

DrChecks<sup>SM</sup> 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:

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- (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<sup>SM</sup> 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<sup>SM</sup> 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 Avon, Section 14 streambank stabilization project decision document.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), considers the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public

health safety and welfare, and in some cases may include decision document reviews during the Feasibility Phase. Type II IEPR is managed outside the USACE and is conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule.

The risk informed decision on whether Type I and/or II IEPR will be required is documented below.

**A. Decision on IEPR.**

EC 1165-2-214 exempts CAP Section 14 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 for the Avon, Section 14 streambank stabilization project is low.

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

## IX. MODEL CERTIFICATION AND APPROVAL

The approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC Commanders are responsible for assuring models for all planning activities are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Therefore, the use of a certified/approved planning model is highly recommended and should be used whenever appropriate. Planning models are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The selection and application of the model and the input and output data is the responsibility of the users and is subject to DQC and ATR.

The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

### A. Planning Models.

No planning models are anticipated to be used in the development of the decision document.

### B. Engineering Models.

The following engineering model is 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
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MCACES	Microcomputer-Aided Cost Estimation System; Used to generate detailed cost estimates for each alternatives.	Approved
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**X. REVIEW SCHEDULES AND COSTS**

**A. ATR Schedule and Cost.**

Item to Undergo ATR	Schedule	Estimated Cost (by PDT)
Draft DPR and Appendices	15 days for review of 75% DPR, 15 days for response to ATR comments and ATR certification.	\$12,000

**B. Type I IEPR Schedule and Cost.**

Not-Applicable.

**C. Model Review Schedule and Cost.**

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

**XI. PUBLIC PARTICIPATION**

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. The integrated DPR and environmental document will be posted for 30 day public comment period.

There will be opportunities for public review and comment during the NEPA process. Several agency coordination meetings are also anticipated.

## 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 Louisville 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 Louisville 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:

- [REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]

**ATTACHMENT 1: TEAM ROSTERS.**

<b>Project Delivery Team*</b>				
<b>Name</b>	<b>Role</b>	<b>Office</b>	<b>Telephone</b>	<b>Email</b>
[REDACTED]	Project Manager/Plan Formulator	CELRL-PMC-PL	[REDACTED]	[REDACTED]
[REDACTED]	Environmental Resources	CELRL-PMC-PL	[REDACTED]	[REDACTED]
[REDACTED]	Cultural Resources	CELRL-PMC-PL	[REDACTED]	[REDACTED]
[REDACTED]	PE / H&H	CELRL-ED-T-H	[REDACTED]	[REDACTED]
[REDACTED]	PE/Civil Engineering	CELRL-ED-T-C	[REDACTED]	[REDACTED]
[REDACTED]	Geotechnical Engineering	CELRL-ED-T-G	[REDACTED]	[REDACTED]
[REDACTED]	Civil Engineering	CELRL-ED-T-C	[REDACTED]	[REDACTED]
[REDACTED]	Cost Engineering	CELRL-ED-M-C	[REDACTED]	[REDACTED]
[REDACTED]	Real Estate Specialist	CELRL-RE-C	[REDACTED]	[REDACTED]
[REDACTED]	Legal Counsel	CELRL-OC	[REDACTED]	[REDACTED]
[REDACTED]	Public Affairs	CELRL-PA	[REDACTED]	[REDACTED]

\*Team member name subject to change based on availability.

Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization Project

**District Quality Control Team\***

Name	Role	Office	Telephone	Email
To be determined	Senior Plan Formulator	CELRL-PMC-PL	n/a	n/a
To be determined	NEPA Compliance	CELRL-PMC-PL	n/a	n/a
To be determined	Civil Engineering	CELRL-ED-T-C	n/a	<u>n/a</u>
To be determined	Cultural Resources	CELRL-PMC-PL	n/a	<u>n/a</u>
To be determined	Cost Estimating	CELRL-ED-M-C	n/a	n/a

\*Team member name subject to change based on availability.

**Agency Technical Review Team\***

Name	Role	Office	Telephone	Email
[REDACTED]	ATR Lead/Planner	[REDACTED]	[REDACTED]	[REDACTED]
To be determined	NEPA Compliance	n/a	n/a	n/a
To be determined	Civil Engineering	n/a	n/a	<u>n/a</u>
To be determined	Cultural Resources	n/a	n/a	<u>n/a</u>

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To be determined	Cost Estimating	COST- MCX	n/a	n/a
*Team member name subject to change based on availability.				

## ATTACHMENT 2: STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

### COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the integrated feasibility report for the Avon, Section 14 Streambank Stabilization project in Hendricks County, Indiana. 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<sup>SM</sup>.

\_\_\_\_\_

[Redacted Signature]

\_\_\_\_\_

Date

### CERTIFICATION OF AGENCY TECHNICAL REVIEW

Avon, Hendricks County, Indiana, Section 14 Streambank Stabilization Project

Significant concerns and the explanation of the resolution are as follows: to stabilize the streambank along South County Road 625 East and White Lick Creek in Avon, Hendricks County, Indiana from advancing natural erosion through the placement of rip-rap rock, gabion baskets, or redi rock.

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[Redacted]  
Chief, Engineering Division, Louisville District  
CELRL-ED

\_\_\_\_\_  
Date

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[Redacted]  
Chief, Civil Works Planning, Programs, and Project  
Management Branch, Louisville District  
CELRL-PMC

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Date

**ATTACHMENT 3: REVIEW PLAN REVISIONS LOG**

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

## ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
ASA(CW)	Assistant Secretary of the Army for Civil Works	NED	National Economic Development
ATR	Agency Technical Review	NER	National Ecosystem Restoration
CAP	Continuing Authorities Program	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office 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
HQSACE	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