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CORPS OF ENGINEERS, NORTHWESTERN DIVISION
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CENWD-ZA

16 MAR 2018

MEMORANDUM FOR Commander, Kansas City District (CENWK-PMP-F/Mrs. Megaro)

SUBJECT: Northwestern Division Review Plan Approval for the Grand River Basin, Missouri, General Investigations Feasibility Study

1. References:

- a. Engineer Circular (EC) 1165-2-214, Civil Works Review, 15 December 2012
- b. Memorandum, CEMVD-RDP, dated 17 January 2018, subject: Grand River Basin Feasibility Study, Missouri, Kansas City District; Ecosystem Restoration Planning Center of Expertise, Recommendation to Approve Review Plan
- c. EC 1105-2-412, Planning, Assuring Quality of Planning Models, 31 March 2011.
- d. Draft Review Plan (RP), Grand River Feasibility Study, Missouri, 17 January 2018.

2. Northwestern Division (NWD) staff reviewed and commented on Reference d. In response to NWD review comments, the District revised the draft RP. All comments are now closed, and it has been determined that the draft RP was prepared in accordance with References a. and c.

3. The Review Management Organization for this effort will be the Ecosystem Restoration Planning Center of Expertise (ECO-PCX). The ECO-PCX has reviewed the subject review plan, and recommended its approval in Reference b.

4. I hereby approve this RP, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require review by CENWD-PDD and approval by this office.

5. The RP should be posted to the internet and available for public comment.

6. The Point of Contact for this memorandum is Jeremy Weber, District Support Planner at (503) 808-3858, or Jeremy.J.Weber@usace.army.mil.

A handwritten signature in black ink, appearing to read "Scott A. Spellmon".

SCOTT A. SPELLMON
MG, USA
Commanding

REVIEW PLAN

For

Grand River Basin, Missouri
Ecosystem Restoration Feasibility Study

Kansas City District

MSC Approval Dates: TBD
Last Revision Date: 14 March 2018

REVIEW PLAN

*Grand River Basin, Missouri
Ecosystem Restoration Feasibility Study*

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1.0 PURPOSE AND REQUIREMENTS

- a. Purpose.** This plan defines the scope and levels of review for the Grand River Feasibility Study Report. The Review Plan is a standalone document that is an appendix to the Grand River Project Management Plan. The Grand River Project is a cost-shared project, authorized under by Senate Resolution.
- b. References**
- (1) Engineer Circular (EC) 1165-2- 214, Civil Works Review Policy, 15 December 2012.
 - (2) Engineer Regulation (ER) 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007
 - (3) ER 1110-2-12, Quality Management, 30 September 2006
 - (4) EC 1105-2-412 Assuring Quality of Planning Models, 31 March 2011
- c.** Planning SMART Guide located at the Planning Community Toolbox Website at: <http://planning.usace.army.mil/toolbox/smart.cfm?Section=1&Part=>

Requirements. This review plan was developed in accordance with EC 1105-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products. It provides a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation. 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 and planning model certification/approval.

2.0 REVIEW MANAGEMENT ORGANIZATION COORDINATION

The Review Management Organization (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 or the Risk Management Center, depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the Ecosystem Restoration (ECO-PCX). The ECO-PCX will coordinate with the Risk Management Center for required Safety Assurance Reviews. The RMO will coordinate with the Cost Engineering Mandatory Center of Expertise (MCX) to ensure that the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules, and contingencies.

3.0 STUDY INFORMATION

- a. Decision Document.** The purpose of the study is to identify and evaluate alternatives to improve the lower Grand River, MO ecosystem. The study will evaluate alternatives to obtain ecosystem lift. The technical studies to establish baseline conditions are complex and require substantial engineering analysis and application of judgment. The study will evaluate combinations of measures to form implementable alternatives. The combinations may include

measures for implementation by others, for cost shared implementation, and possibly for implementation by the Corps of Engineers. The project will produce an integrated Feasibility Report and National Environmental Policy Act (NEPA) document. The report will require MSC, HQUSACE, and Chief of Engineers approval. Congressional authorization will be needed to move forward to a cost-shared design and construction project.

- b. Study Description.** The study is being carried out under the U.S. Army Corps of Engineers' General Investigations (GI) Program.

Study Authority. The study was authorized in a Senate Resolution by the 108th Congress 2nd Session on 23 June 2004. The authorization stated: *That the Secretary of the Army is requested to review the report of the Chief of Engineers on the Grand River and Tributaries, Missouri and Iowa, published as House Document 241, 89th Congress, First Session, and other pertinent reports, to determine whether any modifications of the recommendations contained therein are advisable at the present time in the interest of flood damage reduction, municipal and industrial water supply, recreation, fish and wildlife conservation, or environmental restoration in the Grand River Basin, Iowa and Missouri.*

Non-Federal Sponsor. The Missouri Department of Conservation and the Missouri Department of Natural Resources are the study cost-share sponsors. The Missouri Department of Transportation is a contributing partner.

Study Purpose and Scope. The broad purpose is to identify a plan to achieve ecosystem restoration benefits within the Lower Grand River basin. More specifically the purpose includes reversing the trend of degradation of wetland, aquatic, and floodplain habitats within the areas of Pershing State Park, Fountain Grove Conservation Area, Yellow Creek Conservation Area, and surrounding public and private conservation areas.

The geographic scope of the study authorization includes the entire Grand River basin (Figure 1). The basin is in north-central Missouri and southern Iowa and includes three HUC-8 watersheds: the Upper Grand Watershed, the Thompson (also referred to as the middle), and the Lower Grand Watershed. The watershed drains approximately 7,900 square miles. The focus area for ecosystem benefits (Figure 2) was identified after discussions with the study sponsors and made in consideration of schedule and budget limitations. This area primarily falls within the Lower Grand River sub-basin and includes the area of the Grand River and Locust Creek confluence (Figure 3).



Figure 1: Grand River Basin

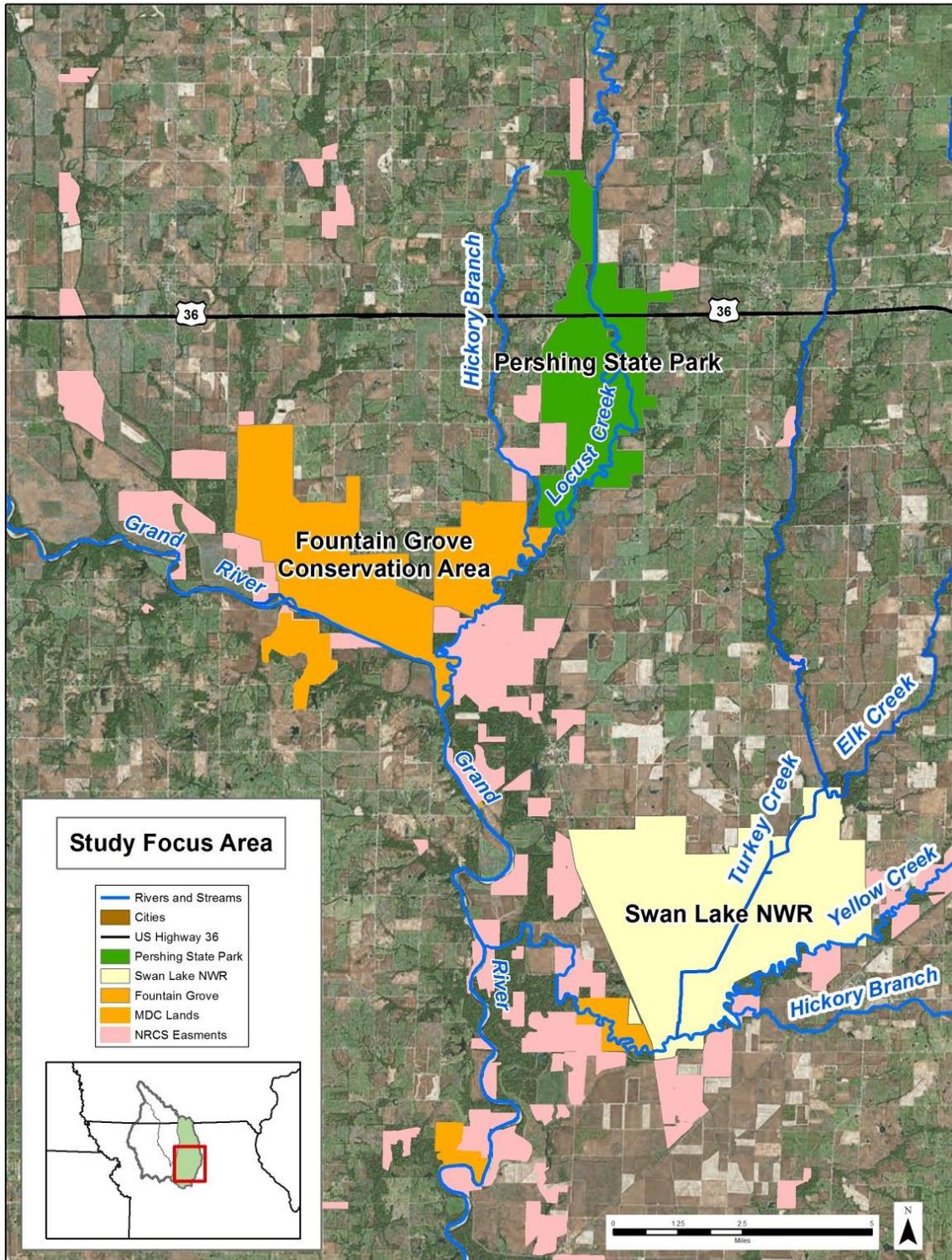


Figure 2: Lower Grand River Ecosystem Restoration Focus Area

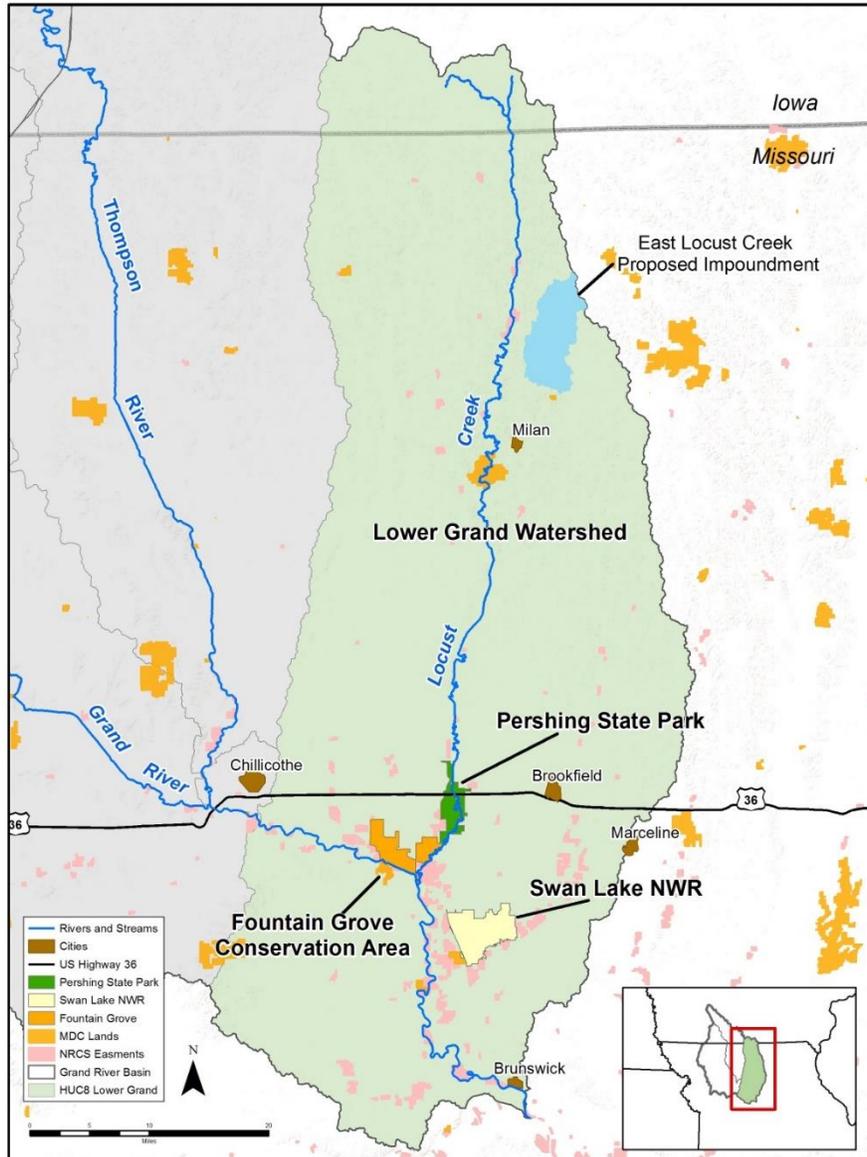


Figure 3: Lower Grand River Basin

Project Location/Congressional Location.

The Grand River basin falls within the 5th and 6th Missouri Congressional Districts. The majority of the basin, including all of the Lower Grand River sub-basin, falls within the 6th District.

c. **Factors Affecting the Scope and Level of Review.** This section points out significant elements of the project that will affect the review of the decision document.

- The hydraulics in the lower Grand River are complex.
- Influences that cause sedimentation in the system and resultant ecosystem losses are interdependent with other effects (i.e. flooding and impact to water quality).

- Modeling sediment transport is a state of the practice technology and could result in an over or underestimation of the river response to adjustments.
- Significant interagency interest is anticipated.
- The project poses challenges for interpretation of information/data, including the fact that sediment transport and deposition are important components of assessing and quantifying impacts.
- It is anticipated the study will receive favorable public support as evidenced by the number of state and federal agencies participating and supporting the study.
- An Environmental Impact Statement (EIS) is not anticipated at the outset of the study but there is risk that EIS would eventually be deemed necessary. An Environmental Assessment (EA) will be completed if an EIS is not required.

d. In-Kind Contributions. In-kind contributions will be credited for public communications, setting up meeting venues and maintaining information for a website and stakeholder contact list, preparing posters and other informational displays, and hosting meetings. In addition the sponsor is provided work-in-kind (WIK) credits for project coordination team costs. The scope of the remainder of WIK primarily includes the development of infrastructure inventories that can be used in screening or establishing baseline conditions. These WIK contributions are relatively straightforward and primarily involve information gathering and consolidation but not to involve highly detailed or final engineering or economic analysis. The engineering and economic analysis will be conducted by the Corps of Engineers project delivery team. WIK contributions will be reviewed by the PDT to verify the quality of the information for acceptance and crediting; the PDT will incorporate the information provided into the report documentation through the work of conducting the analysis and economic assessments using the inventory information as appropriate. The final Corps products that have WIK incorporated will be subject to DQC, ATR and IEPR.

e. Background Information/Reports. A full listing of historical documents is not provided herein. There is an exhaustive amount of research and study that has occurred in the Grand River Basin. The full list will be updated as these reports are utilized.

4.0 DISTRICT QUALITY CONTROL

The decision document (including supporting data, analyses, environmental compliance documents, etc.) will undergo DQC. The Kansas City District will manage the DQC. Documentation of DQC activities is required and will be conducted in Dr. Check's in accordance with the Quality Manual of the Kansas City District and Northwestern Division. Peer reviews will be conducted on all work products in accordance with the project Quality Management Plan and established quality management processes. A Dr. Check's record of key comments/concerns addressed within the DQC will be provided to the ATR team at each review.

5.0 AGENCY TECHNICAL REVIEW

a. General. ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the production of the project/product. The purpose of this review is to ensure that the product is consistent with established criteria,

guidance, procedures, and policy. The review will assess whether the analyses presented are technically correct and comply with USACE guidance, and that the document explains the analyses and the results in a reasonably clear manner for the public and decision makers. The ATR lead will be from outside the home MSC and the ATR team members will be from outside of the home district. ATR reviewers for each of the Planning disciplines (Plan Formulation, Environmental and Economics) will be ATR certified. The ATR lead and other applicable team members will participate in vertical team meetings (frequency to be determined). These meetings – generally referred to as In-Progress Reviews (IPRs) - will be conducted for development of or sharing key study information, making key study decisions and to address policy concerns as they are encountered during the study process.

b. Products for Review. The project delivery team will develop products requiring ATR. At a minimum these review products will include:

- (1) 1D Sediment Transport Model,
- (2) 2D H&H Model for Benefit Area
- (3) Documentation of initial screening,
- (4) Draft Feasibility Report (including National Environmental Policy Act documentation and technical appendixes).
- (5) Final Report (including NEPA documentation and technical appendixes).

c. Required ATR Team Expertise. The ATR team will be comprised of senior USACE personnel (Regional Technical Specialists, Subject Matter Experts, etc.), and may be supplemented by outside experts as appropriate. The disciplines represented on the ATR team will reflect the significant disciplines involved in the planning and engineering effort. The final ATR disciplines will be adjusted to be appropriate for the final product. ATR team may consist of team members from the following disciplines:

ATR Team Members/Disciplines	Expertise Required
ATR Lead – May be combined with Plan Formulation	The ATR lead should be a senior professional with expertise and experience in preparing Civil Works decision documents and conducting ATR. The lead should have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc.)
Plan Formulation	An experienced planner with a minimum of 10 years of experience in water resources planning and with a background of working with large GI studies and feasibility reports. The planner should be experienced in preparation and review of ecosystem restoration reports, alternatives development, and with planning policy and guidance for plan formulation and the SMART planning process.
Economics	Team member will have extensive experience with ecosystem restoration studies and cost effective incremental cost analysis procedures. Reviewer should have some experience with flood-risk economics and familiarity with evaluation procedures for recreation economics.
Hydraulic Engineering	A licensed professional engineer with a minimum of 10 years of experience in analysis of large complex river systems. Individual must have experience with Corps of Engineers hydraulic and sedimentation

	models (HEC-RAS). Individual must have experience with sediment transport and is strongly desired to have experience with head cutting and stream instability problems. Individual must have worked on at least two multi-objective and multi-stakeholder planning studies. An engineer with stream and wetland restoration experience is recommended. This is a critical discipline and may require more than one reviewer depending on the strength of the reviewer's experience.
Structural Engineering	A licensed professional engineer with a minimum of 10 years of experience in design, construction, and analysis of structures associated with civil works projects and ecosystem restoration.
Environmental/NEPA	Experienced natural resource specialist with a background in preparation of EAs and EIS for large GI projects. Strong background with environmental laws, policies, requirements and procedures. Experience will include regulatory and permitting processes. Background with habitat analysis and cultural resources.
Cost Engineering	Team member will be a cost estimator / review certified and assigned by the Cost MCX.
Civil Engineer	A registered professional engineer with at least 10 years of experience in analyzing civil works, utilities, civil site work and grading, and ecosystem restoration design. They should have experience with plan formulation for large multi-objective and multi-stakeholder planning studies.
Real Estate	Team member will be familiar with necessary components in a real estate plan involving multiple alternative measures. Experience with screening methods for projects covering large areas is ideal. The Reality Specialist who reviews the real estate plan should be a certified reviewer.
Climate Change	Engineer Construction Bulletin 2016-25 requires that review teams include a certified Climate Change reviewer. This team member will be certified by the Community of Practice.
Other disciplines/functions	The decision will be made by the District, Division and ECO-PCX regarding the need for other review disciplines as the scope is finalized. These may include but are not limited to Risk Analysis, Water Quality issues, Cultural Resources, Hazardous/Toxic Radioactive Waste.

Appropriate selection of the leader of the ATR team will be made to assure independence. The name of the ATR lead and list of the selected ATR team members and disciplines will be provided as an attachment to this review plan when available.

d. Documentation of ATR. Design Review and Checking System (DrChecks) 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 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 PDT 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 coordination, and lastly 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 1165-2-214, 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 are an integral part of the ATR documentation and shall also:

- 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 prepared by the ECO-PCX;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a copy of each reviewer's comments and the PDT's responses.

ATR may be certified when all ATR team concerns are either resolved or referred through the vertical team to HQUSACE 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 and final report. A sample Statement of Technical Review is included in Attachment 2.

6.0 INDEPENDENT EXTERNAL PEER REVIEW

- a. **General.** IEPR is conducted for decision documents if the covered subject matter meets certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside the USACE is warranted. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) and will address the adequacy and acceptability of the economic, engineering and environmental methods, models and analysis used. There are two types of IEPR reviews.
- **Type I IEPR.** An OEO manages Type I IEPR reviews on project studies. Type I IEPR panels shall evaluate whether the interpretations of analysis and conclusions based on analysis are reasonable. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data,

economic analysis, engineering analysis, 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. The Type I IEPR will cover the entire decision document and will address all underlying engineering, economic, and environmental work, not just one aspect of the study.

- **Type II IEPR.** Type II IEPR or Safety Assurance Reviews (SAR) are also managed by an OEO, 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 documentation prior to the initiation of physical construction and, until construction activities are completed. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health, safety, and welfare.
- b. Decision on IEPR.** A Type I IEPR will be conducted for the study. If a modification or replacement to an existing facility is selected in the preferred plan, a Type II SAR review would be conducted during the design and construction phase consistent with ER 1165-2-217. The project is not anticipated to have a threat to human life, no Governor has requested an IEPR, and the project thus far is not controversial. The study will produce an EA, but if it is determined that significant impacts may occur, the effort will be upgraded to an EIS. Currently project costs are too rough to determine if the selected alternative may exceed \$200M, however planning for a Type I IEPR will cover the project if this threshold is exceeded.
- c. Products for Review.** Draft Feasibility Study with integrated NEPA documentation.
- d. Required IEPR Panel Expertise.** Plan formulation, economics, H&H and environmental/NEPA are required. Additional expertise would include structure, cost or civil engineering and real estate.
- e. Documentation of IEPR.** Dr. Checks and an IEPR report prepared by the OEO and panel.

7.0 POLICY AND LEGAL COMPLIANCE REVIEW

Decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in the HQUSACE level 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 Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100, Planning Guidance Notebook. When policy and/or legal concerns arise during DQC or ATR that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. The home district Office of Counsel is responsible for the legal review of each decision document and signing a certification of legal sufficiency.

8.0 COST ENGINEERING REVIEW

The decision document will include feasibility level cost estimates. The MCX, in the Walla Walla District, will lead the cost engineering review and certification. The RMO is responsible for coordination with the MCX. The MCX will assist in determining the expertise needed on the ATR team and Type I IEPR team and in the development of the review charge(s). The MCX will also provide the Cost Engineering certification.

9.0 MODEL CERTIFICATION AND APPROVAL

- a. **General.** 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 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 or approved model does not constitute technical review of the planning product. The selection and application of the model and the input data and results are the responsibility of the users and is subject to DQC, ATR, and IEPR. Independent review is applicable to all models, not just planning models.

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 input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR.

- b. The planning models (including the certification/approval status of each model) and engineering models expected to be used in the development of the decision document are described below:
- c. **Planning Models.** The following planning models are anticipated to be used:

IWR Planning Suite version 2.0.6.1 - This certified model will be utilized to analyze alternative's cost effective incremental cost.

HEC-FDA version 1.4.2 is a certified software tool that may be utilized to assess flood damage impacts.

The need for a model to assess navigation benefits or damages is not anticipated.

- d. **Engineering Models.** Models to be used are categorized in the SET list as "CoP Preferred". A 1D sediment transport model will be developed using HEC-RAS software. The software is standard Corps of Engineers software. The model setup and calibration will require specialized

review due to the use of the sediment transport analysis component of the HEC-RAS system and the high degree of reliance on model results for study decisions. Additionally a 2D HEC-RAS with HMS inputs will be used to understand the dynamics of the hydrology in the focus area. Both of these models are standard Corps of Engineers software.

10.0 REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost

Key project milestones are anticipated to be completed as follows:

- CW261 Alternatives Milestone - 14 Aug 2017
- CW262 Tentatively Selected Plan - June 2018
- ATR & IEPR Kickoff - Q4 FY18
- XX999 ATR Draft Feasibility Report Complete – Q4 FY18
- CW263 Agency Decision Milestone – Q1 FY19
- ATR of Final Report – Q2 FY19
- CW160 Submit Final Report for MSC Approval – Q2 FY19
- CW270 Submit Chief's Report – Q4 FY19

At a minimum the ATR will conduct the following reviews:

Sediment Transport Model
2D H&H Model
Detailed Screening
Draft Feasibility Report
Final Feasibility Report

Interim products for discussion and informal review will be provided. These will include information pertaining to the methodologies being used in the study, baseline conditions analysis and future conditions analysis. It is anticipated that reviewers will be assigned for early involvement. Intermittent involvement by members of the ATR team will be requested before the Tentatively Selected Plan documentation is completed. This should help facilitate the review of the draft report and provide opportunity for the PDT to get feedback at key decision points in the study process. Details about the timing of the early involvement and ATR kickoff will be determined with the PDT and ATR lead.

In conjunction with the execution of ATR, the RMO will coordinate with the Cost Engineering MCX, located in Walla Walla District for determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of review charge(s). The MCX will provide the Cost Engineering MCX certification.

The estimated ATR and Cost MCX review is \$100,000.

- b. **IEPR Schedule and Cost.** IEPR is expected to occur concurrent with public review of the draft feasibility study/NEPA document in Q4 FY 18. The anticipated cost is \$300k fully federally funded and not cost-shared.
- c. **Model Certification/Approval Schedule and Cost.** The current plan is to use ecosystem models already certified or approved for use.

11.0 PUBLIC PARTICIPATION

The public will be able to comment on the feasibility study during the decision making process. Public scoping for development of problems, opportunities, and alternatives has been completed. A formal public comment period will be open when the draft report and environmental document is released.

12.0 REVIEW PLAN APPROVAL AND UPDATES

The Northwestern Division Commander has authority to approve this Review Plan. The Commander’s approval should reflect vertical team input (district, MSC, ECO-PCX, and HQUSACE) as to the appropriate scope and level of review for the decision document. The review plan is a living document and may change as the study progresses. The home district is responsible for keeping the plan up to date. Minor changes since the last MSC Commander approval will be documented in the attachment - Review Plan Revisions. Changes will be approved by following the process used for initially approving the plan. The MSC will review the decision on the level of review and any changes made in updates to the project. The latest version of the approved Review Plan, along with the Commander’s approval memorandum, will be posted on the District’s webpage located at <http://www.nwk.usace.army.mil/Missions/CivilWorks/CivilWorksProgramsandProjects/CivilWork sReviewPlans.aspx>.

13.0 REVIEW PLAN POINTS OF CONTACT

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

District Quality Control

Kansas City District..... Project Manager (816) 389 2348

Agency Technical Review

Agency Technical Review Lead (ATRL)..... [INSERT PHONE NUMBER]

Independent External Peer Review

Independent External Peer Review Lead..... [INSERT PHONE NUMBER]

ECO-PCX

NWD Account Manager..... (904) 232-2110

Vertical Team

The Vertical Team (VT) consists of members of the District leadership, the ECO-PCX, CENWD, and HQUSACE. The Vertical Team plays a key role in facilitating execution of the Feasibility study through participation in In-Progress Reviews (IPR) at key decision points in the study.

ATTACHMENT 2a: STATEMENT OF DISTRICT REVIEW FOR DECISION DOCUMENTS

COMPLETION OF DISTRICT QUALITY CONTROL

District Quality Control (DQC) Review has been completed for the <type of product> for <project name and location>. DQC was conducted as defined in the project Review Plan to comply with the requirements of EC 1165-2-214. During the DQC, 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. All comments resulting from the DQC have been resolved and closed in DrCheckssm.

SIGNATURE

Name

DQC Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

Date

CERTIFICATION OF DISTRICT QUALITY CONTROL

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 DQC of the project have been fully resolved.

SIGNATURE

Dave Mathews
Chief, Engineering Division
CENWK-ED

Date

SIGNATURE

Jennifer Switzer
Chief, Planning Branch
CENWK-PM-P

Date

ATTACHMENT 2b: STATEMENTS OF COMPLETION AND
CERTIFICATION OF AGENCY TECHNICAL REVIEW

COMPLETION OF AGENCY TECHNICAL REVIEW

The District has completed the Feasibility Study of Grand River Ecosystem Study, Missouri. Notice is hereby given that an agency technical review has been conducted as defined in the Review Plan to comply with the requirements of EC 1165-2-214. During the agency technical review, compliance with established policy principals and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions; methods, procedures, and material used in analysis; alternatives evaluated; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appeared to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments closed in DrChecks.

Agency Technical Review Team Leader

Date

Kaely Megaro
Project Manager
CENWK-PM-PF

Date

Bradley Foster
ECO PCX - NWD Account Manager
Review Management Office (RMO) Representative

Date

Gregory Miller
ECO-PCX
Operating Director

Date _____

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact, and resolution)

As noted above, all concerns resulting from the agency technical review have been fully resolved.

Dave Mathews
Chief, Engineering Division
CENWK-ED

Date

Jennifer Switzer
Chief, Planning Branch
CENWK-PM-P

Date

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page/Paragraph Number

ATTACHMENT 4: TERMS AND DEFINITIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
ATR	Agency Technical Review	NWK	Kansas City District
ATRL	Agency Technical Review Lead	NWD	Northwestern Division
ATRT	Agency Technical Review Team	NED	National Economic Development
DQC	District Quality Control/Quality Assurance	NER	National Ecosystem Restoration
EA	Environmental Assessment	OEO	Outside Eligible Organization
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	QA	Quality Assurance
ECO-PCX	National Ecosystem Restoration Planning Center of Expertise	QC	Quality Control
EO	Executive Order	RED	Regional Economic Development
ER	Engineer Regulation	RMC	Risk Management Center
GI	General Investigation	RMO	Review Management Organization
Home District/MSD	Kansas City District /Northwestern Division – organizations responsible for the preparation of the decision document	SAR	Safety Assurance Review
HQUSACE	Headquarters, U.S. Army Corps of Engineers	SMART	Planning process that is: Specific, Measurable, Attainable, Risk Informed, Timely
IEPR	Independent External Peer Review	USFWS	U.S. Fish and Wildlife Service
IPR	In Progress Review	USACE	U.S. Army Corps of Engineers
MCX	Mandatory Center of Expertise	WIK	Work-In-Kind
MSC	Major Subordinate Command -Northwestern Division is the MSC for the project		