REVIEW PLAN

Using the MVD Model Review Plan
for the
Upper Mississippi River Restoration and
Referencing the UMRR Programmatic Review Plan

Lower Pool 13
Clinton County, Iowa, and Carroll & Whiteside Counties, Illinois
River Miles 522.5-529.0

Rock Island District

MSC Approval Date: *20-DEC-19*
Last Revision Date: *26-OCT-22*

US Army Corps
of Engineers®
Rock Island District

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1. Purpose and Requirements

a. Purpose

This Review Plan defines the scope and level of peer review for the *Upper Mississippi River Restoration (UMRR) Lower Pool 13 Habitat Rehabilitation and Enhancement Project (HREP) Phase I, Clinton County, Iowa, Carroll and Whiteside Counties, Illinois – Mississippi River Pool 13, River Mile 522.5–529.0. Public Law 99-662 of the 1986 WRDA, as amended, authorizes the US Army Corps of Engineers (USACE) to study, design, and construct HREPs on the Upper Mississippi River System (UMRS) without specific Congressional authorization. This Review Plan is for the Lower Pool 13 Phase I Feasibility Report with Integrated Environmental Assessment. Products included for review are an environmental and cultural assessment; plan formulation; cost estimate; incremental cost analysis; hydraulic and hydrologic analysis; geotechnical analysis; and real estate plan. A separate Review Plan will be developed for implementation documents during the implementation phase.*

The UMRR study and construction authority is contained in the UMRR Programmatic Review Plan (UMRR PRP), Section IV.

b. Applicability

This review plan is based on the MVD Model Review Plan, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined by the mandatory Type I IEPR triggers contained in Engineer Regulation (ER) 1165-2-217, Civil Works Review Policy.

The applicability regarding the UMRR is contained in the EMP PRP, Section II.

c. References

- Reference materials are shown in the UMRR PRP
- *Lower Pool 13 Project Management Plan, approved 5 September 2019*
- ER 1165-2-217, Civil Works Review Policy

2. Review Management Organization (RMO) Coordination

RMO coordination will be in accordance with the UMRR PRP, Sections I, III, VI, and VIII. *The RMO for the Agency Technical Review (ATR) will be MVD in lieu of the Ecosystem Restoration Planning Center of Expertise (ECO-PCX). The ECO-PCX will continue to serve in its advisory role.*

3. Project Information

a. Decision Document

The *Lower Pool 13* decision document will be prepared in accordance with *Engineer Pamphlet*

(EP) 1105-2-58. The approval level of the decision document (if policy compliant) is MVD. An Environmental Assessment (EA) will be prepared along with the decision document.

b. Study/Project Description

The Lower Pool 13 Riverine and Floodplain Habitat Project is located in the southwest corner of Pool 13 of the Upper Mississippi River (UMR), between river miles (RM) 522.5-529.0 (Figure 1). The area consists of sloughs, flowing channels, and impounded water residing over historic flooded islands and remnant islands. The Project area is located in Carroll and Whiteside Counties, IL, and Clinton County, IA. The closest Mississippi River communities to the Project area are Clinton, Iowa and Thomson, Illinois. Project lands are federally-owned and managed through a Cooperative Agreement by U.S. Fish and Wildlife Service as part of the UMR National Wildlife and Fish Refuge, Savanna District.

Pre-impoundment, Pool 13 consisted of permanent and seasonal lakes, forested wetlands, bottomland forests, braided islands, wet meadows, and main channels and sloughs. Lock and Dam 13 began operation in the late 1930s. The implementation resulted in the inundation of several thousands of acres of floodplain in lower Pool 13. Connectivity of backwater and off channel areas within the Project area changed from seasonal discharge related events to year-round connectivity. The resulting constant inundation has contributed sedimentation and resuspension of sediments due to wave action. Forecasted future conditions anticipate continued sedimentation. Wave resuspension of sediments in the Project area will continue to affect the sustainability of aquatic vegetation due to influences of the Elk River, ambient turbidity levels, and wind fetch. Migratory water bird habitat will continue to be variable, primarily dependent on the stability levels of year-to-year aquatic plant production.

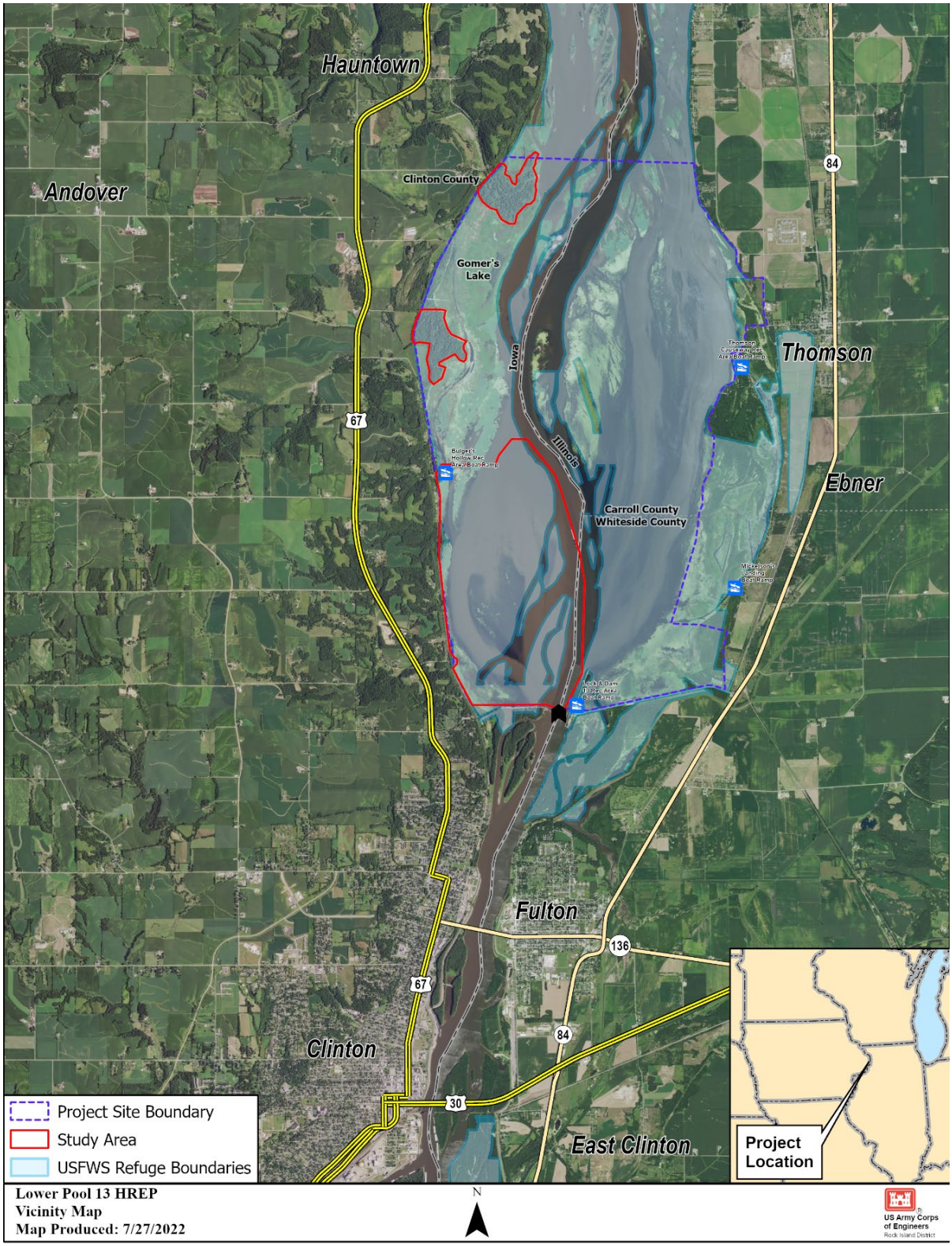

Figure 1. Lower Pool 13 HREP Project Vicinity

A variety of physical, chemical and biological stressors individually and cumulatively affect the quantity and quality of habitat for biota in the Project area. These stressors include, but are not limited to, degradation of islands, isolated wetlands, over wintering habitats, sand/mud bar habitats, migratory water bird habitats, and aquatic species (fishes and mussels) channel habitats; invasive species; altered sediment transport and deposition; wind-driven sediment resuspension; sedimentation in off-channel areas; sediment/nutrient loading from tributaries; lack of fluctuating water levels as a result of impoundment; long riprap sections of shoreline; river regulation affecting stage hydrograph; and high lateral hydraulic connectivity.

Connectivity is high in the Project area, with over 50 percent of the total river flow being conveyed outside of the main channel. With a pool width of over 4.5 miles, preliminary information suggests wind fetch within the Project area is high. Migratory bird habitat will continue to deteriorate over time as the Project area's island and land mass degradation progresses due to the subjection of higher current velocities and wave action; in addition, negatively affecting plant species composition and coverage. Impoundment of the pool and permanently higher water tables has affected the health of floodplain forest habitat on islands and adjacent floodplain areas. These higher water tables are adversely affecting floodplain forest composition and regeneration.

c. Factors Affecting the Scope and Level of Review

The factors affecting the scope and level of review are discussed in the UMRR PRP, Section V.

d. In-Kind Contributions

Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC) and ATR, similar to any products developed by USACE. No in-kind products are anticipated.

4. District Quality Control (DQC)

The DQC will be conducted in accordance with the UMRR PRP, Section III.A, *and in accordance with* ER 1165-2-217, Civil Works Review Policy. Comments will be documented in DrChecks℠. Sample District Quality Control approval documents are included as Attachment 4.

Required DQC Expertise

DQC Team Disciplines	Expertise Required
DQC Lead	A senior professional with extensive experience preparing Civil Works decision documents and conducting DQC. The lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	A senior water resources planner with experience in large river ecosystem restoration projects
Environmental Engineering	A senior Environmental Engineer with experience in large river ecosystem restoration projects
Environmental Resources	A senior Environmental Specialist with experience in large river ecosystem restoration projects, NEPA compliance, ecological modeling, and Certified Reviewer with IWR-Plan Experience
Hydraulic Engineering	A senior H&H Engineer with experience with 2-dimensional models; Senior Water Quality Specialist with experience in large river ecosystem restoration projects
Cost Engineering	A senior Cost Engineer with experience in large river ecosystem restoration projects
Real Estate	A senior Realty Specialist with experience in Federal lands and MOU's.
Geotechnical Engineering	A senior Geotechnical Engineer with experience in backwater dredging and berm/island construction
Cultural Resources	A senior Cultural Resource Specialist (this review may be combined under Environmental Resources)
Economist	A senior economist familiar with ecosystem output analyses and concepts, including demonstrated experience with CE/ICA analysis, RECONS, and the IWR Planning Suite.
HTRW	May not be needed depending on Recommended Plan; environmental engineer should be able to serve this role
Office of Counsel	An Assistant District Counsel member as determined by District Counsel
Program Management	Upper Mississippi River Restoration Regional Program Manager

5. Agency Technical Review (ATR)

The ATR will be conducted in accordance with the UMRR PRP, Section III.B and VI.C. To assure independence, the leader of the ATR team shall be from outside the home MSC. Comments will be documented in DrCheck℠.

Required ATR Team Expertise

ATR Team Disciplines	Expertise Required
ATR Team Lead	A senior professional with extensive experience in large river ecosystem projects, preparing Civil Works 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 may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	A senior water resources planner with experience in large river ecosystem restoration projects
Environmental Engineering	A senior Environmental Engineer with experience in large river ecosystem restoration projects
Environmental Resources	A senior Environmental Specialist with experience in large river ecosystem restoration projects, NEPA compliance, ecological modeling, and Certified Reviewer with IWR-Plan Experience
Hydraulic Engineering	A senior H&H Engineer with experience with 2-dimensional models; Senior Water Quality Specialist with experience in large river ecosystem restoration projects
Cost Engineering	Nominated by Cost MCX
Climate Change Engineer	A senior H&H Engineer with experience in-land climate change analysis
Real Estate	A senior Realty Specialist with experience in Federal lands and MOU's.
Geotechnical Engineering	A senior Geotechnical Engineer with experience in backwater dredging and berm/island construction
Cultural Resources	A senior Cultural Resource Specialist (this review may be combined under Environmental Resources)
HTRW	May not be needed depending on Recommended Plan; environmental engineer should be able to serve this role
Economist	A senior economist familiar with ecosystem output analyses and concepts, including demonstrated experience with CE/ICA analysis, RECONS, and the IWR Planning Suite.

6. Independent External Peer Review (IEPR)

A programmatic exclusion for the UMRR Program was approved 22 February 2012.

7. Policy and Legal Compliance Review

The Policy and Legal Compliance Reviews will be conducted in accordance with the UMRR PRP, Section III.D.

8. Cost Engineering Center of Expertise (MCX) Review

The MCX Review will be conducted in accordance with the UMRR PRP, Section VIII.D.

9. Model Certification and Approval

Approval of planning and engineering models used in UMRR projects will be in accordance with the UMRR PRP, Section III.E, and Section VII. *See Table 1.*

Table 1. Planning and Engineering Models That May Be Used in the Development of Lower Pool 13 Decision Document

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification/ Approval Status
IWR-Planning Suite II (Version 2.0.9)	The IWR-Planning Suite II was developed by the Institute of Water Resources as accounting software to compare habitat benefits among alternatives. This model will be used to determine best buy alternatives and incremental cost analysis of alternatives	Certified
Habitat Evaluation Procedures (HEP) – Habitat Suitability Index (HSI) Models	HEP is a species-habitat approach to assessing the quality of habitat for selected evaluation species serving as proxies for the considered habitat type. The habitat quality is documented with a HSI score on a scale of 0–1. This value is derived from an evaluation of key habitat components necessary for the reproduction, growth, and survival of the species supported by the habitat. HSI models being considered include: diving duck and floodplain forest.	Approved or certified for regional use within described geographic regions
RECONS (Version 2.0)	The USACE Regional Economic System (RECONS) is a USACE-certified regional economic model, designed to provide accurate and defensible estimates of regional economic impacts and contributions associated with USACE projects, programs, and infrastructure. Regional economic impacts and contributions are measured as economic output, jobs, income, and value added. Estimates are provided simultaneously for three levels of geographic impact area: local, state, and national.	Certified

Table 2: Engineering Models

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Approval Status
HEC-RAS Version 5.0.7	The HEC-RAS program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used to compute downstream water surface profiles associated with pool drawdown.	CoP Preferred
HEC-SSP Version 2.1.1	The HEC-SSP will be used to perform statistical analyses of hydrologic data to produce duration curves along the Mississippi River.	CoP Preferred
Micro-Computer Aided Cost Engineering System (MCACES) MII Version 3.0	MCACES is a cost estimation model. This model will be used to estimate costs for the HREP.	Certified
ADH 2DModel	The 2D shallow water equations in ADH are used to model open channel flow environments such as rivers, estuaries, reservoirs, and coastal regions. ADH in 2D calculates variables such as velocity, depth, and concentrations that describe their distribution in the horizontal plane.	CoP Preferred

10. Review Schedules and Costs

Table 3: Levels of Review

Product(s) To Undergo Review	Review Level	Start Date	End Date	Cost	Complete
Draft Feasibility Report & EA	DQC	06/1/22	08/26/22	$38,000	Yes
Draft Feasibility Report & EA	ATR	10/17/22	12/16/22	$56,000	No
Draft Feasibility Report & EA	Type I IEPR	N/A	N/A	N/A	No
Draft Feasibility Report & EA	Policy & Legal Review	11/7/22	12/9/22		No
Final Feasibility Report & EA	Targeted DQC[1]	2/13/23	3/24/23		No
Final Feasibility Report & EA	Targeted ATR[1]	3/31/23	4/28/23		No
Final Feasibility Report & EA	Policy & Legal Review	5/15/23	6/16/23		No

11. Public Participation

Public review will be in accordance with the UMRR PRP, Section VI.F. The public and interested parties will have the opportunity to review and comment on the report during the 30-day public review period. Additional opportunities for public participation will be made available throughout the planning process.

[1] The Final Feasibility Report and EA will undergo a targeted DQC and ATR focusing on significant changes to the analysis or TSP based on the results of concurrent review. The scope of this review is scalable.

12. Review Plan Approval and Updates

The Review Plan approval process will be in accordance with the UMRR PRP, Section VIII.B.

13. Review Plan Points of Contact

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

Marshall Plumley, Rock Island District UMRR Program Manager, [redacted] MVR Julie Millhollin, Rock Island District UMRR Project Manager, [redacted] MVR Marie Kopka St. Paul Plan Formulator, [redacted] RPEDN
LeeAnn Riggs, Rock Island District Support Team, [redacted] MVD

ATTACHMENT 1: Team Rosters

MSC POLICY AND LEGAL COMPLIANCE REVIEW TEAM

Name	Office	Position
Dr. Kelly Keefe	*PD-L*	*Chief, Planning Division & Ecosystem PCX*
Matt Mallard	*PD-P*	*Deputy, Planning*
Greg Miller	*PD-P*	*Operational Director, ECO-PCX*
Sean Mickal	*PD-P*	*Senior Environmental Planner*
Crorey Lawton	*PD-P*	*Planning Specialist*
James Briggs	*PD-R*	*Acquisition & Planning SME*
Brian Maestri	*PD-P*	*Senior Economist*
Jennifer Ryan	*PD-P*	*Archaeologist & Tribal Liaison*
Melissa Mullen	*RBT*	*Geotechnical Engineering*
Jennifer Chambers	*RBT*	*Structural Engineering*
Philip LaBarre	*RBT*	*Cost Engineering*
Brynn Morgan	*CECC-MVD*	*Office of Counsel*

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PROJECT DELIVERY TEAM

Name	Agency	Contact Information	Role
Sharonne Baylor	USFWS		Environmental Engineer
Ed Britton	USFWS		Refuge Manager
Sabrina Chandler	USFWS		Refuge Complex Manager
James Myster	USFWS		RHPO-Archeologist
Sara Schmuecker	USFWS		Fish & Wildlife Biologist
Nate Williams	USFWS		Wildlife Refuge Specialist
Stephen Winter	USFWS		Wildlife Biologist
Dave Bierman	IADNR		Team Leader
Scott Gritters	IADNR		Fisheries Biologist
Kirk Hansen	IADNR		Habitat Coordinator
Ryan Hupfeld	IADNR		Fish Research Biologist
Jeff Houser	USGS		Research Ecologist
Jennifer Sauer	USGS		Supervisory Biologist
Monique Savage	PD-F		Lead Planner
Marie Kopka	PD-F		Planner
Sarah Auvenshine	EC-TE		Cost Engineer
Elizabeth Bruns	EC-HQ		Water Quality
Charlie Bishop	EC-G		Geotechnical Engineer
Josue Laborde-Rivera	EC-G		Geotechnical Engineer
Steve Gustafson	EC-DN		HTRW Specialist
Karen Hagerty	PM-M		UMRR LTRM Manager
Vanessa Alberto	PD-C		Archaeologist
Tara Gambon	EC-DN		Engineering Tech

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Anton Stork	EC-HH	[redacted]	Hydrologist
Dillan Laaker	PD-P		Biologist
Lauren Mcneal	OD-MN		Forester
Kara Mitvalsky	EC-DN		Technical Lead/Engineer
Marshall Plumley	PM-M		Program Manager
Kaileigh Scott	EC-HH		Hydraulic Engineer
Julie Millhollin	PM-M		Project Manager
Danah Kleppe	EC-T		Geographer/EGIS
Lauren McNeal	EC-T		Geographer/EGIS
Ben Vandermyde	OD-MN		Forester
Grace Wieland	PDE-R		Economist
Pat Flynn	OC		Office of Counsel

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DISTRICT QUALITY CONTROL

Name	Position	Experience
Karla Sparks	Plan Formulation Section Chief	Karla has 10 years of professional expertise planning large river ecosystem restoration projects.
Janet Buchanan	Plan Formulator	Janet is a plan formulator with experience in plan formulation, including UMRR HREP studies and DQC review.
Andrew McClanahan	Civil/Environmental Eng. Section Chief	Andrew is a civil engineer with experience in design and construction of civil works projects.
Joseph Jordan	Environmental Compliance Section Chief	Joe has worked on UMRR ecosystem projects since 1991. He is a NEPA and ESA subject matter expert.
Nicole Manasco	Water Quality and Sedimentation Section Chief	Nicole is a senior Water Quality Specialist with over 20 years of combined biologist/hydrologist experience monitoring and evaluating potential effects of large river navigation and ecosystem restoration projects.
Félix Castro	Cost Engineer	Félix is a Cost Engineer with a Geotechnical background.
Troy Venner	Realty Specialist	Troy is a Realty Specialist with over 20 years in Acquisition and 3 years with USACE.
Matt Stewart	Geotechnical Branch Chief	Matt is a senior Geotechnical Engineer with experience in backwater dredging and berm/island construction
Matt Napolitano	Economist	Matt is a senior economist with over 20 years in Navigation and Ecosystem Restoration studies.
Lindsay Matthews	Hydraulic Engineer	Lindsay is a hydraulic engineer with 2 years of experience including wind/wave modeling.
Anton Stork	Hydraulic Engineer	Anton is a hydraulic engineer with multiple years of experience in H&H and working on 2D hydraulic models, flood inundation mapping, streambank protection, and habitat rehabilitation projects.
Marshall Plumley	Regional Program Manager	Marshall has extensive experience in Corps planning and serves as the Upper Mississippi River Restoration Regional Program Manager

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AGENCY TECHNICAL REVIEW

Name	Position	Qualifications
Charles Hall	ATR Team Lead/ Environmental Resources	Charles (Chip) W. Hall has worked for the Corps for 21 years. He has been a Regional Technical Specialist for Environmental Analysis and Compliance for the Great Lakes and Ohio River Division (LRD) for 10 years. He is an Account Manager to the North Atlantic Division for the Ecosystem Planning Center of Expertise. Mr. Hall has a Bachelor of Science degree from the University of Tennessee, Knoxville in Wildlife and Fisheries Science. As a biologist, he has worked on many different types of projects including Section 14, 205, and 206 Continuing Authorities (CAP), General Investigations, Operations, Dam Safety Modifications (Wolf Creek Dam Seepage Rehab and Center Hill Dam Seepage Rehab), Hydropower Rehab Projects, and special Authorities such as Section 202 Flood Risk Management and HREPs. He has served assignments in both the LRD with the District Support Project Managers and at Corps HQ on the LRD Regional Integration Team coordinating reviews and other tasks. Mr. Hall has performed ATR spanning all Division regions, including serving as ATR Team Lead for numerous projects including all CAP authorities, numerous Environmental Infrastructure authorities, as well as General Investigations, Dam Safety and Hydropower Rehabilitations, and many other unique authorities. He currently serves as a board representative for the Engineering and Design Center's Ecosystem Restoration Area Review Group. Mr. Hall is certified for ATR in Environmental Compliance and Ecosystem Restoration.
Tom Herbert	Plan Formulation	Tom Herbert, Plan Formulation Chief, Nashville District. Tom has served as the planning lead and project manager on a variety of efforts across multiple business lines in a 10 year career with the US Army Corps of Engineers. Mr. Herbert's expertise includes: planning and coordination of projects; project administration for studies, designs, and reports through all stages of investigations, engineering, and construction; for flood risk management, hydroelectric power development, streambank stabilization, aquatic ecosystem restoration, and recreation. Mr. Herbert serves as the primary point of contact for sponsors ensuring they are informed on project activities, develops relationships with District, Division,

		and Headquarters stakeholders, and enhances partnerships and coalitions with other federal, state, and local agencies and government departments. He has performed quality control and technical reviews on numerous projects including Section 14, 205, 531, 729 and general investigation authorities. He is certified for ATR in Plan Formulation.
Frank Mills	Civil /Design/HTRW	Frank Mills, Civil Engineers, Nashville District, since 2013 has mentored, trained, supervised, and reviewed design efforts of junior engineers in addition to duties as a Civil Design Engineer. He has developed plans and specifications for drainage, roadway repair and restoration, channel construction, environmental protection and restoration, park/recreation facilities, and utility construction. He has led major site restoration efforts for four LRD Mega Projects to include Wolf Creek Dam Rehabilitation, Center Hill Dam Rehabilitation, Kentucky and Chick Lock replacements. He is an expert in grading plan development using Bentley products, utility relocations and drainage development. He has prepared plans and specifications, survey requests, bid quantities, cost estimates, determined right-of-way, and conducted technical reviews for civil works construction projects throughout the Memphis and Nashville Districts and within MVD and LRD to include levee design/construction and improvement, channel construction and improvement, utility construction, site drainage and general earthwork, roadway design and other civil works projects. Mr. Mills has a bachelor's degree in civil engineering from the United States Military Academy, West Point, NY and a master's in civil engineering from the University of Tennessee, Knoxville. He is a Registered Professional Engineer in Tennessee since 2011.
William Bolte	Cost Engineering	William Bolte, Cost MXC ATR Coordinator, Walla Walla District. Mr. Bolte is the Civil Works Cost ATR Coordinator at the Cost Engineering Center of Expertise, Walla Walla District. He is a cost engineer with over15 years of experience in military, HTRW and civil works projects including flood risk management and navigation improvement projects. Since 2011, Mr. Bolte has served as the assistant and now lead Cost ATR Coordinator for the MCX performing ATRs on various civil works projects throughout the nation. On average Mr. Bolte has been involved with forty or more ATR reviews per year, ranging from $5M or less CAP projects to multi-billion programmatic updates.

		Mr. Bolte earned a bachelor's degree in Civil Engineering and master's degree in Structural Engineering the Missouri University of Science and Technology, Rolla. He is a licensed Professional Engineer in the state of Washington and is registered with the Corps of Engineers as a Certified Cost Engineer. Mr. Bolte has served many lead roles in both developing and reviewing budgets for Department of Energy and Corps projects.
Craig Homesley	Real Estate	Craig Homesley, Chief, Civil Projects Support Branch, Real Estate Division, Baltimore District, was raised in the Kansas City, Missouri area, and holds a BS degree in Forest Management from the University of Missouri. After working several years for the Colorado State Forest Service and then the Missouri Department of Conservation, he began his current career with the Corps of Engineers in Baltimore in 1983. Since then, Craig has gained experience in all aspects of Corps real estate including disposal of excess land, timber, and dredged material; granting of all forms of utility and access right-of-way easements; office leasing; solicitation and management of recreational concession leases; land acquisition, and cost-share studies and Real Estate Plans.
Michael Robinette	Geotechnical Engineering	Michael D. Robinette, P.E., is a Registered Professional Civil Engineer in the State of West Virginia. He has over 32 years of geotechnical engineering experience with the US Army Corps of Engineers. Mike has a bachelor's degree in Civil Engineering from the West Virginia Institute of Technology and a Master of Science degree in Civil Engineering with geotechnical emphasis from the Virginia Polytechnic Institute and State University. He was the Chief of the Soils Engineering Section for 9 years from 2003-2012 before the district reorganized and he now serves as a Senior Geotechnical Engineer in the regional Dam Safety Production Center and national Dam Safety MCX. He has been involved in a multitude of LRD navigation, dam and levee safety risk assessments, and various other flood damage reduction projects. Mike currently serves as the Quality Manager for Dams at the RMC where he is involved with ATR and internal QCC review teams including staffing, ATR Certification and Issue Evaluation Study Review Plan reviews, and various other duties as assigned.
Jennifer Guffey	Cultural Resources	Jennifer Guffey served 9 years in the Kentucky Army Guard National Guard in the 223rd Military Police Company while earning a Bachelor of Arts from the

		University of Louisville in Anthropology. Jenifer began her career with the USACE Louisville District in the Planning Branch as a student archaeologist trainee in 2009. In 2012, Jennifer received her Master of Arts in Anthropology from the University of Louisville and transitioned to a full-time employee for USACE. Jennifer has worked with USACE for 13 years. Jennifer has served as the subject matter expert regarding cultural resources for numerous Civil Works undertakings including Section 14, Section 205, and Section 206 projects under the CAP, General Investigations, Johnson County Section 202 Flood Risk Management project, lock and dam disposals such as the Green River Lock and Dams Nos. 3–6 and Barren River Lock and Dam 1. Jennifer has also authored several Memorandum of Agreements and Programmatic Agreements for mitigation measures under the National Historic Preservation Act (NHPA) for projects involving USACE. Jennifer has maintained an ATR subject matter expert in cultural resources since 2016. Jennifer also assists Operations Division, Real Estate Division, and Military Environmental Support Section at USACE. Jennifer also serves as the Tribal Liaison for USACE and works with over 50 Indian Nations on projects ranging from consultation under Section 106 of the NHPA, CAP projects, issues regarding Locks and Dams and Reservoirs managed by USACE, and numerous Formerly Used Defense Sites projects. Jennifer has also consulted on multiple Native American Graves Protection and Repatriation Act cases for USACE.
Hanz Moritz	Hydraulic Engineering/Climate Preparedness and Resilience CoP Reviewer	Hans R Moritz, Civil/Hydraulic Engineer, Portland District. Mr. Moritz's recent working experience related to Agency Technical Review focuses on his collaborative activities within the USACE for the past 15 years, where he has worked as a hydraulic engineer at the Portland & Chicago Districts. His general review experience includes design and operation of coastal/maritime/riverine infrastructure, management of water-borne sediment, application of risk/reliability techniques to optimize navigation and flood-risk reduction projects, and evaluation of climate change vulnerability and resilience for water resource projects. Recent project contributions include Columbia River Treaty 2014/24 Review, Jordan Cove energy Project, Millennium Bulk Terminal, Port of Kalama Maintenance Dredging, Climate Change Assessment for Columbia Levee System, Woodland Island Restoration, Major

		Rehabilitation Evaluation for Mouth of the Columbia River, and USACE Asset Management framework for coastal navigation infrastructure. Mr. Moritz is a registered civil engineer in Oregon, is a member of the USACE Committee for Tidal Hydraulics, and is subject matter expert for Regional Sediment Management, Coastal Hydraulic Design, and Climate Preparedness and Resilience. Mr. Moritz has participated on more than 20 ATR actions.
Norman Lewis	Economics	Mr. Lewis is a Regional Economist with the Regional Planning and Environmental Center in the Southwestern Division and offices in the Fort Worth District. He has worked in Civil Works Water Resource Planning with the Corps for 16 years and has served as the PDT economist as well as planner on Flood Risk Management studies, Coastal Storm Risk Management, Ecosystem Restoration Studies and Water Reallocation Studies. He has recently worked on three water reallocation studies, a coastal storm risk management study, three ecosystem restoration studies, a flood risk management GI study and several CAP flood risk management studies. Mr. Lewis earned a Bachelor of Science in Economics and a Master of Business Administration, both from Midwestern State University, and the Risk Management graduate certificate from the Notre Dame of Maryland University. Mr. Lewis is certified for ATR review for FRM, Ecosystem Restoration and Water Supply Studies.

ATTACHMENT 2: Review Plan Revisions

Revision Date	Description of Change	Page Number
20 DEC 2019	Original RP Approved	
26 OCT 2022	Revisions: Study phases, models used, additional reviews per 2021 CW Review Policy requirements, PDT/DQC/Policy/ATR review team members	1-4, 6-9, Attachment 1-2

ATTACHMENT 3: Upper Mississippi River Restoration Review Plan Checklist

MVD EMP Review Plan Checklist

Date:	
Originating District:	MVR
Project/Study Title:	UMRR – Lower Pool 13 HREP Feasibility Study
P2# and AMSCO#:	469162
District POC:	Jason Appel
PCX Reviewer:	

Please fill out this checklist and submit with the draft Review Plan when coordinating with the MSC. Any evaluation boxes checked "No" may indicate the project may not be able to use the MVD Model Review Plan. Further explanation may be needed or a project specific review plan may be required. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan. Checklist may be limited to Section I or Section II or Both, depending on content of Review Plan (or subsequent amendments).

Section I - Decision Documents

REQUIREMENT	EVALUATION
1. Is the Review Plan (RP) for an UMRR Project?	Yes ☒ No
a. Does it include a cover page identifying it as following the Model RP and listing the project/study title, originating district or office, and date of the plan?	a. Yes ☒ No
b. Does it include a table of contents?	b. Yes ☒ No
c. Is the purpose of the RP clearly stated?	c. Yes ☒ No
d. Does it reference the Project Management Plan of which the RP is a component?	d. Yes ☒ No
e. Does it succinctly describe the levels of review: DQC and ATR?	e. Yes ☒ No
f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?	f. Yes ☒ No
g. Does it list the names and disciplines of the PDT?* ** Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.* **Comments:**	g. Yes ☒ No

2. Is the RP detailed enough to assess the necessary level and focus of the reviews?	Yes ☒ No
3. Does the RP define the appropriate level of review for the project/study?	Yes ☒ No
a. Does it state that DQC will be managed by the home district in accordance with the MVD and district Quality Management Plans? b. Does it state that ATR will be managed by MVD? **Comments:**	a. Yes ☒ No b. Yes ☒ No
4. Does the RP explain how ATR will be accomplished?	Yes ☒ No
a. Does it identify the anticipated number of reviewers? b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? c. Does it indicate that ATR team members will be from outside the home district? d. Does it indicate where the ATR team leader will be from? e. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?* ** Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.* **Comments:**	a. Yes ☒ No b. Yes ☒ No c. Yes ☒ No d. Yes No ☒ e. Yes No ☒
5. Does the RP address review of sponsor in-kind contributions?	Yes ☒ No
6. Does the RP address how the review will be documented?	Yes ☒ No
a. Does the RP address the requirement to document ATR comments using DrChecks[SM]? **Comments:**	a. Yes ☒ No
7. Does the RP address Policy Compliance and Legal Review?	Yes ☒ No
8. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?	Yes ☒ No
a. Does it provide a schedule for ATR including review of the AFB materials and final report? b. Does it include cost estimates for the reviews?	a. Yes ☒ No b. Yes ☒ No

9. Does the RP indicate the study will address Safety Assurance Factors? Factors to be considered include: • Where failure leads to significant threat to human life • Novel methods\complexity\precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction schedule	☐ Yes ☐ No ☐ n/a ☒ ☐ **Comments:**
10. Does the RP address opportunities for public participation?	Yes ☒ No ☐
11. Does the RP indicate ATR of cost estimates will be conducted by pre-certified district cost personnel who will coordinate with the Walla Walla Cost Directory of Expertise Review?	Yes ☒ No ☐
12. Has the approval memorandum been prepared and does it accompany the RP?	Yes ☒ No ☐

ATTACHMENT 4: District Quality Control Approval

STATEMENT OF DISTRICT REVIEW FOR DECISION DOCUMENTS COMPLETION OF DISTRICT QUALITY CONTROL

District Quality Control (DQC) 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-*217*. 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. The Project Delivery Team conducted a complete reading of the report and appendices to ensure coherence and consistency through the document. All comments resulting from the DQC have been resolved and closed in DrChecks[SM].

SIGNATURE _____ _____
Name Date
DQC Team Leader
Office Symbol

SIGNATURE _____
Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____
Name Date
Lead Planner
Office Symbol

Review Plan
Lower Pool 13
Clinton County, Iowa, and Carroll & Whiteside Counties, Illinois
River Miles 522.5-529.0

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 _____ _____

Name Date
Chief, Regional Planning and
Environment Division
Office Symbol

ATTACHMENT 5: Agency Technical Review Approval

COMPLETION OF AGENCY TECHNICAL REVIEW

The ATR has been completed for the *<product type & short description of item>* 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-*217*. 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 USACE policy. The ATR also assessed the DQC documentation and made the determination that the employed DQC activities appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[SM].

*SIGNATURE*_____ _____
[Name] Date
ATR Team Leader
[Office Symbol or Name of AE Firm]

*SIGNATURE*_____ _____
[Name] Date
Project Manager (Home District) [Office Symbol]

*SIGNATURE*_____ _____
[Name] Date
Architect Engineer Project Manager [2]
[Company, Location]

*SIGNATURE*_____ _____
[Name] Date
Review Management Office Representative [Office Symbol]

[2] Needed only if some portion of the ATR was contracted

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:
[Describe the major technical concerns and their resolution and specifically list any agreed-upon deferrals to be completed in the next phase of work.]

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

SIGNATURE _____ _____
Name Date
Chief, Engineering Division (Home District)
Office Symbol

SIGNATURE _____ _____
Name Date
Chief, Planning Division (Home District)
Office Symbol

Add appropriate additional signatures (Operations, Construction, AE principal for ATR solely conducted by AE, etc.) and/or modify to accommodate local organizational structure.