



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
PO BOX 2870
PORTLAND OR 97208-2870

CENWD-PDD

15 OCT 2015

MEMORANDUM FOR Commander, Kansas City District (CENWK-PM-PF)

SUBJECT: Review Plan (RP) Approval for Shunganunga Creek, City of Topeka, Kansas, Section 205 Project

1. Reference EC 1165-2-214, Civil Works Review, 15 December 2012.
2. The enclosed RP for the Shunganunga Creek, City of Topeka, Kansas, Section 205 Project has been prepared in accordance with the reference guidance.
3. The RP follows the NWD Model Review Plan for Continuing Authorities Program (CAP) Section 103, 205 and projects directed by guidance to use CAP procedures.
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. Please contact Mr. Jeremy Weber, at 503-808-3858, if you have further questions regarding this matter.

SCOTT A. SPELLMON
BG, USA
Commanding

Encl

CF:
CENWK-PM-PF, Lynn

**Shunganunga Creek
City of Topeka, Kansas**

**Feasibility Report and Environmental Assessment
Review Plan**

Continuing Authorities Program
Section 205 of the Flood Control Act of 1948

Northwestern Division
Kansas City District

P2 Project Number: 399591

Original: 11 SEP 2015
MSC Approval Date: 15 OCT 2015



**US Army Corps
of Engineers** ®

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REVIEW PLAN

**Shunganunga Creek Feasibility Report and Environmental Assessment
Topeka, Kansas**

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REVIEW PLAN

Shunganunga Creek Feasibility Report and Environmental Assessment Topeka, Kansas

1. PURPOSE AND REQUIREMENTS

- a. **Purpose and Authority.** This Review Plan defines the scope and level of peer review for the Shunganunga Creek Feasibility Report and Environmental Assessment, Topeka, Kansas.

Section 205 of the Flood Control Act of 1948, as amended, authorizes USACE to study, design and construct flood risk management projects. 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 Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F Amendment #2.

- b. **Applicability.** This review plan is based on the Northwestern Division (NWD) Model Review Plan for Section 103, 205, and authorities directed by guidance to follow CAP procedures, which is applicable to projects that do not require an EIS.

c. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy (Expired)
- (2) EC 1105-2-412, Assuring Quality of Planning Model (Expired)
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 21 July 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

2. 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 Section 205 is the Northwestern Division (NWD). NWD will coordinate and approve the review plan and manage the Agency Technical Review (ATR). Kansas City District will post the approved review plan on its public website and provide the appropriate NWD District Support Planner with the link. A copy of the approved review plan (and any updates) will be provided to the FRM-PCX to keep the PCX apprised of requirements and review schedules.

3. PROJECT INFORMATION

- a. **Decision Document.** The Shunganunga Creek Feasibility Report and Environmental Assessment will be prepared in accordance with ER 1105-2-100, Appendix F Amendment #2. The approval level of the decision document is NWD. An Integrated report will be prepared.
- b. **Study/Project Description.** Shunganunga Creek is a small right bank tributary of the Kansas River, located in Shawnee County, Kansas. The Shunganunga Creek watershed is approximately 72 square miles. Major tributaries of Shunganunga Creek are the South Branch Shunganunga Creek, Butcher Creek, Deer Creek, and Stinson Creek. The watershed contains five major dams, Shawnee, Sherwood and Vaquero Lake Dams and the Burnett and South Branch dry detention dams. The area of flooding concern is the Shunganunga and South Branch Shunganunga stream reaches including associated drainage basins specifically from the Wanamaker Road bridge to the Gage Boulevard bridge and east to the confluence with the South Branch Shunganunga and then on to Washburn Avenue.
- c. **Alternatives Descriptions.** Structural flood mitigation measures reduce flood hazard by keeping the floodwaters away from people and damageable property. Several residential neighborhoods along Shunganunga Creek have experienced flood damages in past events and have been included in the FEMA 100-year Floodplain based on updates to the Flood Insurance Rate Maps. Initial investigation has indicated a Federal Interest in the evaluation of structural levees to provide flood risk management to these areas. Combinations of appropriate engineering measures including earthen levees, underseepage control features, drainage features, and utility and property relocations, will be formulated and evaluated to optimize the project location and dimensions.

In addition, non-structural measures will be considered to determine if a non-structural alternative could be formulated. The non-structural measures to be considered include: structure acquisition and demolition/relocation, structure elevation, flood proofing, localized flood consequence reduction measures, flood warning and emergency preparedness systems, and floodplain regulation. If an implementable fully non-structural alternative does not emerge, these actions will be evaluated for potential combination with a structural alternative and may also be identified for potential future action in a Floodplain Management Plan to be prepared by the project sponsor.

- d. **In-Kind Contributions.** There are no in-kind work elements expected for this study and therefore no in-kind work approvals or reviews to be conducted.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC prior to ATR. The Kansas City district shall manage DQC in accordance with the project Quality Management Plan. The DQC process shall include peer reviews by reviewers outside the PDT from each discipline and interdisciplinary reviews of all significant products by the complete PDT. A roster of the DQC peer reviewers is included in Attachment 1.

It is suggested that DQC review comments employ the same four part comment structure required for ATR (See Section 5.c) It is also suggested that DQC comments be documented in the DR Checks system.

The DQC process will result in preparation of a DQC Summary Report, summarizing the comments and highlighting the significant issues of review concern and their resolution. The DQC Summary Report will be provided to the ATR team at the time of their Draft Report review.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). ATR is overseen by NWD and is conducted by a qualified team from outside the Kansas City district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel. The ATR team lead must be from outside of NWD.

- a. Required ATR Team Expertise.** The ATR review team requires experienced reviewers in the appropriate disciplines. The project is not overly complex from a planning standpoint. All ATR team members shall be approved and certified to perform ATR according to the requirements established by the applicable Community of Practice or Center of Expertise. All ATR members in engineering disciplines shall have a Professional Engineer license.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing Section 205 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 is preferred to be from outside of NWD.
Planning/Plan Formulation – <i>may be performed by ATR Lead.</i>	The Planning reviewer should be a senior water resources planner with experience in plan formulation for small flood risk management projects and be familiar with continuing authorities guidance and processes.
Economics	Economics reviewer should have extensive experience with socioeconomic studies for flood risk management studies and a thorough understanding of HEC-FDA and HEC-FIA.
Environmental Resources	Team member will be familiar with environmental laws, policies, requirements and procedures, habitat assessment, and the potential impacts typical of flood risk management features on the natural environment.
Hydrology and Hydraulic Engineering	Team member will need extensive H&H experience (15 years or more) and must be considered an expert in both hydrology and hydraulics. The reviewer must be familiar with watershed hydrology modeling, discharge-frequency evaluation, and the geometry and layout of urban levee systems. This team member must have experience in the application, evaluation, and modeling of both structural and nonstructural flood risk management measures including levee systems, flood warning systems and flood proofing; and must have experience in both computer modeling using HEC-RAS and the necessary H&H contributions to HEC-FDA risk and uncertainty evaluation.
Geotechnical Engineering	Team member will have extensive experience in urban levee

	design and performance evaluation. Experience with slope stability and underseepage analyses is essential. Familiarity with common slope stability and underseepage programs is recommended. This is a critical ATR team member, and should have a minimum of 15 years experience.
Civil Engineering	Team member will have experience in utility relocations, positive closure requirements, and internal drainage for levee construction.
Cost Estimating	Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for small flood risk management projects.
Real Estate	The reviewer for real estate shall be an experienced real property reviewer with at least 10 years of similar experience including knowledge in Federal Property Acquisition Regulations, requirements for qualification of Lands, Easements, Rights-of-Ways, Relocations and Disposal areas for crediting cost sharing and experienced with complex acquisitions and relocations. The reviewer must be familiar with USACE regulations and standards.

- b. Charge Document.** The district will prepare the charge document which clearly identifies the review requirements. This document must be completed prior to requesting an ATR team.

- c. Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:
 - 1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
 - 2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not 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.

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

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

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

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

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

For Section 103 and 205 decision documents prepared under the NWD Model Review Plan, Type I IEPR may or may not be required.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the

adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

For Section 103 and 205 decision documents prepared under the model National Programmatic Review Plan, Type II IEPR may or may not be anticipated to be required in the design and implementation phase. The decision on whether Type II IEPR is required will be verified and documented in the review plan prepared for the design and implementation phase of the project.

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

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

Further, if Type I IEPR will not be performed:

- Risks of non-performance and residual flooding must be fully disclosed in the decision document and in a public forum prior to final approval of the decision document;
- The non-Federal sponsor must develop a Floodplain Management Plan, including a risk management plan and flood response plan (and evacuation plan if appropriate for the conditions), during the Feasibility phase; and
- The non-Federal sponsor must explicitly acknowledge the risks and responsibilities in writing in a letter or other document (such as the Floodplain Management Plan) submitted to the Corps of Engineers along with the final decision document.

The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the NWD Commander. Additional factors the NWD Commander might consider in deciding if an exclusion is appropriate include, but are not limited to: Hydrograph / period of

flooding, warning time, depth of flooding, velocity of flooding, nature of area protected, and population protected.

The type I IEPR will be conducted for this project.

Type II IEPR is not anticipated during the design and implementation phase based on the criteria for conducting Type II IEPR described in Paragraph 2 of Appendix E of EC 1165-2-209. Documentation for the waiver to this requirement will be presented upon completion of the engineering analysis and will address each of the following criteria:

- if the Federal action is justified by life safety or
- if failure of the project would pose a significant threat to human life;
- if the project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices;
- if the project design requires redundancy, resiliency, and/or robustness; and/or
- if the project has unique construction sequencing or a reduced or overlapping design construction schedule.

b. Products to Undergo Type I IEPR. The Draft Feasibility Report and Environmental Assessment will be submitted for Type I IEPR.

c. Required Type I IEPR Panel Expertise. The IEPR panel will need to include five individuals representing expertise in Civil Works planning, river biology/ecology/ NEPA, hydrologic/hydraulic engineering, geotechnical/structural engineering, and civil engineering/construction.

IEPR Panel Members/Disciplines	Expertise Required
Civil Works Planner	The Civil Works planning panel member should have experience and credentials in flood risk management problem identification and solution development for small river watersheds and the associated urban areas. This same panel member will need some experience in economic analysis for NED evaluations under Federal Principles and Guidelines. Some familiarity with Corps of Engineers ER 1105-2-100, Planning Guidance Notebook is beneficial.
River Biology/Ecology and NEPA Compliance Expert	The environmental expert panel member should have environmental regulatory expertise in NEPA, CWA, FWCA, and ESA. The environmental panel member should be familiar with mid-western U.S. river ecology and the changes in river function and processes resulting from the implementation of flood risk management measures.
Hydrologic and Hydraulic Engineering	The hydrologic and hydraulic engineering panel member should be familiar with small basin hydrology modeling, discharge-frequency evaluation, and the geometry and layout of urban levee systems. Experience in the evaluation of residual and induced damages resulting from implementing flood risk management measures is beneficial.
Geotechnical/Structural Engineering	The geotechnical/structural engineering panel member should have extensive experience in geotechnical evaluation of flood risk management structures including static and dynamic slope stability evaluation, and the evaluation of the seepage through earthen foundations of urban levees.

IEPR Panel Members/Disciplines	Expertise Required
Civil Engineering and Construction	The civil/construction engineering panel member should have extensive experience in the design and construction of earthen structures normally used in flood risk management applications. Ability to review for constructability issues of civil works structures within urban areas is beneficial.

- a. **d. Documentation of Type I IEPR.** The IEPR panel comments will be compiled and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in the ATR Section above. A final Review Report will accompany the publication of the final decision document and shall:
 - Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
 - Include the charge to the reviewers;
 - Describe the nature of their review and their findings and conclusions; and
 - Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

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

7. POLICY AND LEGAL COMPLIANCE REVIEW

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

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

For CAP projects, ATR of the costs may be conducted by pre-certified district cost personnel within the region or by the Walla Walla Cost DX. The pre-certified list of cost personnel has been established and is maintained by the Cost DX. The cost ATR member will coordinate with the Cost DX for execution of cost ATR and cost certification. The Cost DX will be responsible for final cost certification and may be delegated at the discretion of the Cost DX.

9. MODEL CERTIFICATION AND APPROVAL

Approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. ATR will be used to ensure that models and analyses 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.

a. EC 1105-2-412. This EC does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

b. Planning and Engineering Models. The following models are 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	
HEC-FDA 1.2.4 (Flood Damage Analysis)	The Hydrologic Engineering Center’s Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program has been used to evaluate and compare the future without- and with-project plans aid in the selection of a recommended plan to manage flood risk.	Approved
HEC-HMS (Version 3.3)	The HEC-HMS model was used to simulate the existing conditions run-off hydrographs resulting from rainfalls corresponding to the 1-, 2-, 5-, 10-, 25-, 50-, 100-, 250- and 500-year return periods.	Approved
HEC-RAS (Version 4.0)	Hydraulic modeling was developed using HEC-RAS 4.0 steady state option. The model was used to develop water surface profiles for the 1-, 2-, 5-, 10-, 25-, 50-, 100-, 250-, and 500 – year storm events. Model parameters were developed using ArcGIS, HEC-GeoRAS in conjunction with GIS data; and, where applicable, manual input.	Approved
HEC-FIA	The HEC-FIA (Flood Impact Analysis) software package analyzes the consequences from a flood event. It calculates damages to structures and contents, losses to agriculture, and estimates the potential for life loss. HEC-FIA can also assist Corps Planning studies by looking at single events deterministically to support the OSE account with Life Loss and population at risk, or through helping to determine the impacts to agriculture for typical events for the study region.	Approved

MCACES/MII for Cost Estimating - Current Version	Corps required software system for cost estimating.	Approved
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10. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** It is anticipated that completion of the ATR for the Final Report, Draft Report, and intermediate analyses, including the District responses to ATR comments, will cost approximately \$100K.
- b. **Type I IEPR Schedule and Cost.** It is anticipated that the IEPR contract will be approximately \$100K.

11. PUBLIC PARTICIPATION

A public meeting will be held early in the plan formulation process. State and Federal resource agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The City will present results of the study process to the City Council for the City of Topeka once the integrated report is completed. Upon completion of the ATR, the draft integrated report will be shared and the public will be afforded an opportunity to review and comment.

12. REVIEW PLAN APPROVAL AND UPDATES

The NWD Commander is responsible for approving this review plan and ensuring that use of the NWD Model Review Plan 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 Kansas City District is responsible for keeping the review plan up to date. Minor changes to the review plan since the last approval are documented in Attachment 3.

13. REVIEW PLAN POINTS OF CONTACT

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

- Eric Lynn, Project Manager/Planner, eric.s.lynn@usace.army.mil, 816 389 3258
- John Grothaus, Chief, Plan Formulation Section, john.j.grothaus@usace.army.mil, 816-389-3110
- Jeremy Weber, NWD Planner, Jeremy.j.weber@usace.army.mil, 503-808-3858

ATTACHMENT 1: TEAM ROSTERS**PRODUCT DELIVERY TEAM (PDT)**

Discipline	Name	Office Symbol/Agency	Telephone Number
Project Manager/Planner	Eric Lynn	CENWK-PM-PF	816-389-3258
Technical Lead	Jim Mehnert	CENWK-ED-GD	816-389-3538
Economics	Drew Minert	CENWK-PM-PF	816-389-3418
Hydrology & Hydraulics	Ben Johnson	CENWK-ED-HH	816-389-2254
Civil Design	Ron Jansen	CENWK-ED-GC	816-389-3610
Geotechnical	Wyatt Jenkins	CENWK-ED-GD	816-389-3380
Structural	Eddie Fernandez	CENWK-ED-DS	816-389-3237
Geology	Jennifer Wood	CENWK-ED-GG	816-389-3686
Cost Estimating	Kyle Haake	CENWK-ED-DC	816-389-2220
Environmental Resources	Chris Name	CENWK-PM-PR	816-389-3829
Cultural Resources	Tim Meade	CENWK-PM-PR	816-389-3138
Real Estate	Meredith Harmon	CENWK-RE-C	816-389-3557
GIS	John Atkinson	CENWK-ED-S	816-389-3678

DISTRICT QUALITY CONTROL (DQC) PEER REVIEW TEAM

Discipline	Name	Office Symbol/Agency	Telephone Number
Plan Formulation	John Grothaus	PM-PF	816-389-3110
Economics	E. Allen Holland	PM-PF	816-389-3105
Hydrology and Hydraulics	Chance Bitner	ED-HH	816-389-3482
Civil Design	Hank Mildenerger	ED-GC	816-389-3673
Geotechnical	Glen Bellew	ED-GD	816-389-3553
Structural	TBD	ED-DS	816-389-
Geology	Kathy Older	ED-GG	816-389-3683
Cost Estimating	Pat Miramontez	ED-DC	816-389-3322
Environmental/Cultural Resources	David Hoover	PM-PR	816-389-3497
Real Estate	TBD	RE	816-389-

ATR TEAM

Discipline	Name	Office Symbol/Agency	Telephone Number
ATR Lead & Planning	Katie Opsahl	MVP PD-F	651-290-5259
Environmental Resources	Elliott Stefanik	MVP PD-P	651-290-5260
Civil Engineering	Greg Fischer	MVP EC-D	651-2901-5464
Geotechnical	Neil Schwanz	MVP EC-G	651-290-5653
Hydrology & Hydraulic Engineering	David Williams	SWT EC-H	918-669-7091
Real Estate	Karen Vance	MVK RE-E	504-862-1349
Cost Estimating	Jim Neubauer	NWW	509-527-7332
Economics	Jeff McGrath	MVP PD-E	651-290-5840
Risk Analysis	Brian Maestri	MVN-PDE-FRC	504-862-1915

ATTACHMENT 2: STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Shunganunga Creek, Topeka, KS Section 205 Feasibility Study and Environmental Assessment. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-209. 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™.

<i>TBD</i> ATR Team Leader	Date
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<i>Eric S. Lynn</i> Project Manager CENWK	Date
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<i>Jeremy Weber</i> Review Management Office Representative CENWD	Date
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CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

<i>John J. Grothaus</i> Continuing Authorities Program Manager CENWK-PM-P	Date
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<i>Jennifer L. Switzer</i> Chief, Planning Branch CENWK-PM-P	Date
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ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NER	National Ecosystem Restoration
ASA(CW)	Assistant Secretary of the Army for Civil Works	NEPA	National Environmental Policy Act
ATR	Agency Technical Review	NHPA	National Historic Preservation Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
CWA	Clean Water Act	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement, and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Engineer Regulation	PL	Public Law
FDR	Flood Damage Reduction	POH	U.S. Army Corps of Engineers, Honolulu District
FEMA	Federal Emergency Management Agency	POD	U.S. Army Corps of Engineers, Pacific Ocean Division
FRM	Flood Risk Management	QMP	Quality Management Plan
FSM	Feasibility Scoping Meeting	QA	Quality Assurance
GRR	General Reevaluation Report	QC	Quality Control
HEP	Habitat Equivalency Protocol	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
IWR	Institute of Water Resources	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
NED	National Economic Development	WRDA	Water Resources Development Act