



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

16 MAR '17

CEMVD-PD-L

MEMORANDUM FOR Commander, Memphis District

SUBJECT: MVD Continuing Authorities Program (CAP) Section 205 Model Review Plan and MVD CAP Model Review Plan Checklist, Piney Creek, Brinkley, AR - Review Plan Approval

1. References:

a. Memorandum, CEMVM-PM-P, 9 January 2017, subject: MVD Continuing Authorities Program (CAP) Model Review Plan and Model Review Plan Checklist, Piney Creek, Brinkley, AR Section 205 Project, Memphis District (encl 1).

b. Memorandum, CEMVD-RB-T, 9 March 2017, subject: MVD Continuing Authorities Program (CAP) Model Review Plan and Model Review Plan Checklist, Piney Creek, Brinkley, AR Section 205 Project, Memphis District (encl 2).

c. EC 1165-2-214, Civil Works Review Policy, 15 December 2012.

2. The enclosed Review Plan (RP) (encl 3) is a combined decision document and implementation document review plan. It includes the MVD Review Plan Checklist for CAP and has been prepared in accordance with EC 1165-2-214. The Review Plan has been coordinated between the Business Technical Division and the Lower District Support Team.

3. I hereby approve this RP, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office. Non-substantive changes to this RP do not require further approval. The District should post the approved RP to its web site.

4. The MVD point of contact for this action is Sarah Palmer, CEMVD-PD-L, (601) 634-5910.

MICHAEL C. WEHR
Major General, USA
Commanding

3 Encls



Reply to
Attention of:

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAINSTREET B-202
MEMPHIS, TENNESSEE 38103-1894

- 9 JAN 2017

CEMVM-PM-P

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-MVM-DST/Ms. Sarah Palmer)

SUBJECT: MVD Continuing Authorities Program (CAP) Model Review Plan and Model Review Plan Checklist, Piney Creek, Brinkley, AR Section 205 Project, Memphis District

1. The Model Review Plan (RP) and Model Review Plan Checklist for the subject project are submitted for MVD review and approval. The Review Plan was developed in accordance with the MVD Model Review Plan Guidance for Section 205 projects.

2. The Memphis District point of contact for the project is Jackie Whitlock, CAP Program Manager. She can be reached at (901) 544-3832 or email to Jackie.S.Whitlock@usace.army.mil. The Study Manager is Sean Mickal. He can be reached at (504) 862-2319 or email to Sean.P.Mickal@usace.army.mil.

Encl

MICHAEL A. ELLICOTT
COL, EN
Commanding

Encl 1



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-RB-T

09 Mar 2017

MEMORANDUM FOR CEMVD-PD-L (Brian Chewning)

SUBJECT: MVD Continuing Authorities Program (CAP) Model Review Plan and Model Review Plan Checklist, Piney Creek, Brinkley, AR Section 205 Project, Memphis District

1. Reference memorandum, CEMVM-PM-M, subject as above.
2. RB-T has reviewed the subject review plan and all of our comments have been satisfactorily addressed. This office concurs with the recommendation for approval.
3. RB-T POC is Jennifer Chambers, 601-634-7162.


MICHAEL A. TURNER
Chief, Business Technical
Division

**REVIEW PLAN
USING THE MVD MODEL REVIEW PLAN
for
Continuing Authorities Program
Section 103 and 205 Projects, or Projects directed by Guidance to use CAP processes**

**Piney Creek, Brinkley, Arkansas
Section 205, Flood Damage Reduction Project**

Memphis District

MSC Approval Date: 16 March 2017

Last Revision Date: None



**US Army Corps
of Engineers ®**

**REVIEW PLAN
USING THE MVD MODEL REVIEW PLAN**

**Piney Creek, Brinkley, Arkansas
Section 205, Flood Damage Reduction Project**

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REVIEW PLAN
Piney Creek, Brinkley, Arkansas

1. Purpose and Requirements.

a. **Purpose.** This Review Plan defines the scope and level of peer review for the [Piney Creek, Brinkley, Arkansas, Section 205, Flood Damage Risk Reduction](#) project decision document developed under Section 205 of the Flood Control Act of 1948, as amended. [The review plan is part of the Project Management Plan with anticipated review products to include, but not be limited to, the MSC Decision Milestone Briefing \(MDM\) Submittal Package, Draft Feasibility Report and supporting technical appendices \(environmental assessment, cost estimate, real estate plan, engineering drawings, etc.\). Plans and Specifications, all design products, the DDR, etc. are also covered under this review plan.](#)

[Section 205 of the Flood Control Act of 1948, as amended, authorizes USACE to study, design and construct flood risk management projects. This is a Continuing Authorities Program \(CAP\) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Unlike the traditional Corps' civil works projects that are of wider scope and complexity, 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 MVD Model Review Plan for Section 103 or 205 Projects or Programs directed by guidance to follow CAP processes, which is applicable to projects that do not require an Environmental Impact Statement (EIS).

c. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 December 2012.
- (2) Director of Civil Works' Policy Memorandum #1, CECW-P, dated 19 January 2011.
- (3) EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2010.
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 September 2006.
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 January 2007.
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007.
- (7) Piney Creek Brinkley, AR Project Management Plan
- (8) Biddability, Constructability, Operability, Environmental and Sustainability Review (TBD)

2. Review Management Organization (RMO) Coordination.

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for Section 205 Projects directed by guidance is MVD. The MVD Commander will approve the review plan and MVD will manage the Agency Technical Review (ATR). If Type I Independent External Peer Review (IEPR) will be performed, MVD will coordinate the IEPR effort with the appropriate PCX, which will administer the Type I IEPR. The home

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

District will post the approved review plan on its public website. 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 and Implementation. The Piney Creek, Brinkley, Arkansas decision document will be prepared in accordance with ER 1105-2-100, Appendix F, Amendment #2. The approval level of the decision document (if policy compliant) is MVD. An Environmental Assessment (EA) will be prepared along with the decision document. Plans and Specifications (P&S) and the Design Documentation Report (DDR) will also be prepared for implementation of the project and will undergo ATR.

b. Study/Project Description. The area is generally a low, flat region within the Mississippi Alluvial delta region of eastern Arkansas. The region's economy is largely agrarian based. The City of Brinkley's eastern side both north of and south of U. S. Highway 70 suffers from flooding from Piney Creek that exhibits both flashy and long duration characteristics. Both within town and downstream of town, several channel constrictions exist that do not allow for flood waters to recede quickly. There is also a loss of historic channel carrying capacity due to sediment deposition and lack of channel maintenance. Based on a General Reevaluation report dated April 1972 for Big Creeks and its Tributaries, a much larger plan (in terms of channel cross section) for a ten-year level of flood risk reduction was considered for Piney Creek from mile 0 (where it enters Big Creek) upstream to mile 15.7 at Highway 238 in Brinkley. Based upon that historic information, the channel capacity is not deemed adequate. In addition to urban flooding damages to streets, homes, and other infrastructure (including an airport), there is noted crop damages from flooding in the late spring through the growing season in the rural area south of town. An additional challenge in the urban area is Lake Greenlee. Lake Greenlee is a manmade lake that the Arkansas Game and Fish Commission constructed in 1961 in the middle of the Piney Creek Floodplain which caused the splitting of Piney Creek to both the east and west side with ditches to pass water around the Lake. Both the eastern and western branches of Piney Creek flow back together again south of Lake Greenlee where they flow directly toward each other in the channel. Then the combined flow must make a 90 degree turn to the south and pass Highway 238 Bridge. This is a very inefficient crossing.

Agricultural flood risk reduction will likely be considered for the entire 15.7 miles of the drainage length. The potential solution considered by the project delivery team (PDT) includes in the area immediately around Brinkley and extending about 6 miles south of town. The potential solution includes channel enlargement and limited realignment in the 2.6 mile area in the vicinity of Lake Greenlee, and removal or realignment of several constrictions to flow further downstream. Elements of the potential solution include channel cleanout, channel enlargement or localized realignment, and removal or replacement of constricting crossings such as culverts and bridges. A Hydraulics and Hydrology Branch engineer considered a standard channel section with a forty foot bottom width and one on two side slopes to provide an approximate 20% annual chance of exceedance (5-year) level of risk reduction. Such a flood risk reduction solution would provide for significant rural (crop) flood damage reduction, and result in urban benefit to the southeastern portion of Brinkley. On average, this potential solution will include

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

about a three foot cut in the channel bed. This channel would be constructed around the eastern side of Lake Greenlee and generally run to the south and southeast along the existing Piney Creek. Channel realignments would occur at Highway 238. The removal or replacement of crossing constrictions include the removal of an unneeded local through road (that is very frequently overtopped with minor rain events, the installation of a new bridge at Highway 238 south of Lake Greenlee, and replacement of several tank car culverts in crop fields outside of town. The cost of the potential solution is approximately \$6.3 million. Additionally, while not included in this potential solution, channel realignment and constriction removal might be considered in a feasibility study at locations where the historic channel run was realigned to follow field edges.

The non-federal sponsor for this project is the Piney Drainage District.

c. Factors Affecting the Scope and level of Review. Due to the location and nature of the flooding there could be challenges anticipated with planning or implementation of this project. It is a flood risk and damage reduction project designed to reduce the frequency of flooding, reduce residual risks associating with flooding, and reduce flood damages. The project is located in a mostly rural area dominated by agricultural development and the small community of Brinkley, Arkansas. Due to the location of the project, risk of significant threat to human life and/or safety is not paramount, but does exist.

An EIS is not anticipated, as the project is not likely to have significant economic, environmental, or social effects to the nation or to have more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources. The project is not likely to have substantial adverse impacts on fish and wildlife species or their habitat and is not likely to have more than negligible adverse impacts on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation. An EA is expected to be sufficient for this project. No significant interagency interests are anticipated.

The Feasibility Report is not likely to contain influential scientific information or be a highly influential scientific assessment. It is not likely to be highly controversial; no public dispute is expected. Information in the decision document will not be based on novel methods.

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. It is expected in-kind products/analyses would be provided by the non-federal sponsor. However, the specific in-kind products/analyses to be provided by the non-federal sponsor have not been determined. When those items are determined, this RP will be updated accordingly.

4. District Quality Control (DQC).

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) and Implementation Documents (P&S and DDR) shall undergo DQC prior to ATR. The home district shall manage DQC in accordance with the MVD and district Quality

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

Management Plan. Non-PDT technical level personnel and /or senior leaders not directly involved in the preparation of the decision document for this project, will be assigned to carry out DQC. DQC will be conducted on the MDM draft decision document and supporting information (including but not limited to the engineering appendix, environmental assessment, real estate plan, cost estimates, and plan formulation methodology). DQC will also be conducted on the P&S and DDR. Each of these products will undergo review by Senior level staff within the appropriate technical division. DQC will be documented using DrChecks and the results will be provided to MVD and the ATR team.

5. Agency Technical Review (ATR)

One ATR is mandatory for all decision and implementation documents (including supporting data, analyses, environmental compliance documents, P&A, DDR etc.), however additional ATRs may be performed if deemed warranted. ATR will normally be performed on the MDM documentation and certified prior to the MDM. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel. The ATR team lead will be from outside the home MSC.

a. Products to Undergo ATR. ATR will be performed throughout the project in accordance with the District and MVD Quality Management Plans. Products to undergo ATR include: Feasibility Report, Design Documentation Report (DDR) and Plans and Specifications (P&S).

The first review will include the Feasibility Report, NEPA document, and all attendant appendices.

If funded and the Project Partnership Agreement (PPA) is signed with the non-Federal sponsor, the second review shall consist of P&S and DDR for construction of the project along with all supporting design documentation.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
<u>ATR Lead</u>	<u>The ATR lead should be a senior professional 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. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc). The ATR Lead MUST be from outside MVD.</u>
<u>Plan Formulation</u>	<u>The Planning reviewer should be a senior water resources planner with experience in Section 205, small flood risk management studies and project development and review.</u>

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<u>Economics</u>	<u>The Economic reviewer should be a senior economist with experience in Section 205, small flood risk management studies and project development and review.</u>
<u>Environmental & Cultural Resources</u>	<u>Team members should be familiar with the NEPA and HTRW process for similar studies and projects. Experience should include knowledge of small flood risk management studies, HTRW, Cultural Resources, and Ecosystem Restoration. The team member should be a subject matter expert on application and documentation of the NEPA process.</u>
<u>Hydrology & Hydraulic Engineering</u>	<u>The Hydrology/Hydraulics reviewer should be a senior engineer with experience in Section 205 project development, review, and familiar with HEC-FDA and potentially other H&H modeling.</u>
<u>Civil Engineering</u>	<u>The Civil Engineering reviewer should be a senior engineer with experience in Section 205 project development and review.</u>
<u>Cost Engineering</u>	<u>Cost DX Pre-Certified Professional with experience preparing cost estimates for small CAP Section 205 small flood risk management projects. Team member should be familiar with cost estimating for similar projects using MCACES or MII.</u>
<u>Real Estate</u>	<u>Team member should be experienced in Federal civil works real estate laws, policies and guidance as they pertain to Section 205 Projects. RE ATR reviewed will be a senior RE professional selected from the Nationally approved RE ATR list.</u>

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. Any editorial comments should be provided informally by email to the PDT.

6. Independent External Peer Review (IEPR).

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II

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Piney Creek, Brinkley, Arkansas

IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

For Section 103 and 205 decision documents prepared under the MVD 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 MVD Model 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:

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

- 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 MVD Commander. Additional factors the MVD Commander might consider include in deciding if an exclusion is appropriate include, but are not limited to: Hydrograph/period of flooding, warning time, depth of flooding, velocity of flooding, nature of area protected, and population protected.

A Type I IEPR will be conducted. However, due to the limited nature of scope inherent in a CAP project, the IEPR panel and review will be scaled accordingly.

Type II IEPR, Safety Assurance Review (SAR), is anticipated during the design and implementation phase based on the criteria for conducting Type II IEPR as described in Paragraph 2 of Appendix E of EC 1165-2-214, including:

- *if the Federal action is justified by life safety or 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.*

Type II IEPR is an extension (not a replacement) of the ATR (formerly Independent Technical Review) requirements outlined in ER 1110-1-12, Engineering and Design Quality Management (or a subsequent edition under development, EC 1165-2-214, Quality Management for Civil Works); however, the intent of the SAR is to complement the ATR and to avoid impacts to program schedules and cost. The SAR is a strategic level review and every effort should be made to avoid having the SAR duplicate the ATR.

b. Products to Undergo Type I IEPR. The decision document, environmental assessment, and additional decision support documentation (i.e., economic analysis, engineering, analysis, etc.) will undergo a Type I IEPR.

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c. Required Type I IEPR Panel Expertise.

IEPR Panel Members/Disciplines	Expertise Required
Plan Formulation	The Plan Formulation panel member should have experience in Section 205 and or small flood risk management studies and project development and review.
Economics	The Economic panel member should have experience in Section 205 and or small flood risk management studies and project development and review.
Environmental & Cultural Resources	The Environmental and Cultural panel members should be familiar with the NEPA and HTRW process for similar studies and projects. Experience should include knowledge of small flood risk management studies, HTRW, Cultural Resources, and Ecosystem Restoration. The panel member(s) should be a subject matter expert <i>on</i> application and documentation of the NEPA process.
Hydrology & Hydraulic Engineering	The Hydrology/Hydraulics panel member should have experience in Section 205 and or small flood risk management studies and project development and review; review, and familiar with HEC-FDA and potentially other H&H modeling.
Civil Engineering	The Civil Engineering panel member should have experience in Section 205 and or small flood risk management studies and project development and review.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.a. above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

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

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

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

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 MVD 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 at <https://kme.usace.army.mil/EC/cost/CostAttr/default.aspx>. 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.

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

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

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

	evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future without- and with-project plans along Piney Creek to aid in the selection of a recommended plan to manage flood risk.
MII	This is a cost estimating model that was developed by Building Systems Design Inc. The Army Corps of Engineers began using this model in 1989.
HEC-HMS and HEC-RAS	The Hydrologic Engineering Center’s standard Hydrologic and Hydraulic Models

10. Review Schedules and Costs.

- **DQC Schedule and Cost. 1 – 20 August 2018; \$15,000**
- **ATR Schedule and Cost. 1 – 24 September 2018; \$20,000**
- **Type I IEPR Schedule and Cost. 1 September – 23 Nov 2018; \$25,000**
- **Design and Implementation Reviews – Schedule TBD dependent on receipt of funds (reviews are non-concurrent)**
- **DQC Schedule and Cost. 3 weeks; \$25,000**
- **ATR Schedule and Cost. 4 weeks; \$30,000**
- **Type II IEPR (if required) Schedule and Cost; 4 weeks; \$30,000**

11. Public Participation.

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. The Feasibility Report and Environmental Assessment and draft Finding of No Significant Impact will be made available for public review and comment. Public meetings or hearings will be held if deemed necessary and appropriate.

12. Review Plan Approval and Updates.

The MVD Division Commander is responsible for approving this review plan and ensuring that use of the MVD 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 home district is responsible for keeping the review plan up to date. Minor changes to the review plan since the last MVD approval are documented in Attachment 2. Significant changes to the review plan (such as changes to the scope and/or level of review) should be reapproved by MVD following the process used for initially approving the plan. Significant changes may result in MVD determining that use of the MVD Model Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-214.

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

The latest version of the review plan, along with the MVD approval memorandum, will be posted on the home district's webpage.

13. Review Plan Points of Contact.

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

- *Sean Mickal, Planner, 504-862-2319, MVN*
- *Jackie Whitlock, Project Manager, 901-544-3832, MVM*
- *Sarah Palmer, CAP Program Manager, 601-634-5910, MVD*

Attachment 1: Team Rosters

REVIEW PLAN
Piney Creek, Brinkley, Arkansas

Attachment 2: MVD CAP Review Plan Checklist

Date:	1 March 2017
Originating District:	Memphis
Project/Study Title:	Piney Creek, Brinkley, Arkansas
P2# and AMSCO#:	
District POC:	Jackie Whitlock
MSC Reviewer:	
CAP Authority:	Section 205
Other Program Directed to follow CAP Processes:	

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 a Continuing Authorities Project? Or Other Program Directed to follow CAP Processes?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it include a table of contents?	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c. Is the purpose of the RP clearly stated?	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
d. Does it reference the Project Management Plan (PMP) of which the RP is a component?	d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
e. Does it succinctly describe the levels of review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR) if applicable for Sec 103 or Sec 205?	e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?	f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

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<p>g. Does it list the names and disciplines of the Project Delivery Team (PDT)?*</p> <p><i>*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.</i></p> <p>Comments:</p>	<p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>2. Is the RP detailed enough to assess the necessary level and focus of the reviews?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>3. Does the RP define the appropriate level of review for the project/study?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state that DQC will be managed by the home district in accordance with the MVD and district Quality Management Plans?</p> <p>b. Does it state that ATR will be managed by MVD?</p> <p>c. Does it state whether IEPR will be performed? For Sec 103 and Sec 205, see additional questions in 5. below.</p> <p>Comments:</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>4. Does the RP explain how ATR will be accomplished?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p> <p>c. Does it indicate that ATR team members will be from outside the home district?</p> <p>d. Does it indicate where the ATR team leader will be from?</p> <p>e. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p> <p>NA</p> <p><i>*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.</i></p> <p>Comments:</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>5. For Sec 103 and Sec 205 projects, does the RP explain how IEPR will be accomplished?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>
<p>a. Is an exclusion being requested, requiring CG approval?</p>	<p>a. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>

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<p>b. Does it provide a defensible rationale for the decision on IEPR?</p> <p>c. If IEPR is required, does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?</p> <p>d. If IEPR is required, does the RP indicate which PCX will manage the IEPR and whether any coordination with the PCX has occurred?</p> <p>Comments:</p>	<p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>6. Does the RP address review of sponsor in-kind contributions?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>7. Does the RP address how the review will be documented?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP address the requirement to document ATR and IEPR comments using Dr Checks?</p> <p>b. Does the RP explain how the IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?</p> <p>Comments:</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>
<p>8. Does the RP address Policy Compliance and Legal Review?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it provide a schedule for ATR including review of the Alternative Formulation Briefing (AFB) materials and final report?</p> <p>b. Does it present the timing and sequencing for IEPR?</p> <p>c. Does it include cost estimates for the reviews?</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>10. Does the RP indicate the study will address Safety Assurance factors? Factors to be considered include:</p> <ul style="list-style-type: none"> ● Where failure leads to significant threat to human life ● Novel methods\complexity\ precedent-setting models\policy changing conclusions 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p>

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<ul style="list-style-type: none"> ● Innovative materials or techniques ● Design lacks redundancy, resiliency of robustness ● Unique construction sequence or acquisition plans ● Reduced/overlapping design construction schedule 	
11. Does the RP address opportunities for public participation?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
12. 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 DX?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
13. Has the approval memorandum been prepared and does it accompany the RP?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Section II - Implementation Documents

Please fill out this checklist and submit with the draft Review Plan or subsequent Review Plan amendments when coordinating with the MSC. For DQC, the District is the RMO; for ATR and Type II IEPR, MVD is the RMO. Any evaluation boxes checked “No” indicate the RP possibly may not comply with MVD Model Review Plan and should be explained. Additional coordination and issue resolution may be required prior to MVD approval of the Review Plan.

REQUIREMENT	EVALUATION
1. Are the implementation documents/products described in the review or subsequent amendments?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. Does the RP contain documentation of risk-informed decisions on which levels of review are appropriate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it provide an overall review schedule that shows timing and sequence of all reviews? b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction? Milestones will be developed later and are funding constrained.	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4. Does the RP address engineering model review requirements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it list the models and data anticipated to be used in developing recommendations? b. Does the RP identify any areas of risk and uncertainty associated with the use of the proposed models?	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

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<p>c. Does it indicate the certification/approval status of those models and if review of any model(s) will be needed?</p> <p>d. If needed, does the RP propose the appropriate level of review for the model(s) and how it will be accomplished? NA</p>	<p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>5. Does the RP explain how and when there will be opportunities for the public to comment on the study or project to be reviewed?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>6. Does the RP address expected in-kind contributions to be provided by the sponsor? NA If expected in-kind contributions are to be provided by the sponsor, does the RP list the expected in-kind contributions to be provided by the sponsor?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>7. Does the RP explain how the reviews will be documented?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP address the requirement to document ATR comments using Dr Checks and Type II IEPR published comments and responses pertaining to the design and construction activities summarized in a report reviewed and approved by the MSC and posted on the home district website?</p> <p>b. Does the RP explain how the Type II IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the Type II IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district/MVD will disseminate the final Type II IEPR Review Report, USACE response, and all other materials related to the Type II IEPR on the internet?</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>8. Has the approval memorandum been prepared and does it accompany the RP?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

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Attachment 3: Review Plan Revisions

Revision Date	Description of Change	Page/Paragraph Number

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Attachment 4: Sample Statement of Technical Review for Decision and/or Implementation Documents

Completion of Agency Technical Review

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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 DrCheckssm.

SIGNATURE _____

Name
ATR Team Leader
Office Symbol/Company

_____ Date

SIGNATURE _____

Name
Project Manager (home district)
Office Symbol

_____ Date

SIGNATURE _____

Name
Architect Engineer Project Manager¹
Company, location

_____ Date

SIGNATURE _____

Name
Review Management Office Representative
Office Symbol

_____ Date

Certification of Agency Technical Review

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

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

SIGNATURE _____

Name
Chief, Engineering Division (home district)
Office Symbol

_____ Date

SIGNATURE _____

Name
Chief, Planning Division (home district)
Office Symbol

_____ Date

Approved for use: 5 April 2011

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¹ Only needed if some portion of the ATR was contracted.