

**DECISION DOCUMENT REVIEW PLAN  
USING THE PROGRAMMATIC REVIEW PLAN MODEL**  
for  
Continuing Authorities Program  
Section 14, 107, 111, 204, 206, 208 and 1135 Projects

*Project Name and Location*  
Section <*14, 107, 111, 204, 206, 208 or 1135*> Project

*Home District*

**MSC Approval Date:** October 31, 2012

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**US Army Corps  
of Engineers** ®

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## 1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the <ENTER project name and location>, Section <ENTER 14, 107, 111, 204, 206, 208 or 1135> project decision document.

<ENTER the appropriate CAP Authority description from the list below: >

<Section 14 of the Flood Control Act of 1946, as amended, authorizes the US Army Corps of Engineers (USACE) to study, design and construct emergency streambank and shoreline works to protect public services including (but not limited to) streets, bridges, schools, water and sewer lines, National Register sites, and churches from damage or loss by natural erosion. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The 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.>

< Section 107 of River and Harbor Act of 1960, as amended, authorizes the Corps to study, adopt, construct and maintain navigation projects. This is a Continuing Authorities Program 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 delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization. >

<Section 111 of the Rivers and Harbors Act of 1968, as amended, authorizes the US Army Corps of Engineers (USACE) to investigate, study, plan and implement measures (structural or nonstructural) to prevent or mitigate damage to shorelines attributable to Federal navigation projects. The Continuing Authorities Program (CAP) 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. >

<Section 204 of the Water Resources Development Act of 1992, Public Law 102-580, provides the authority to carry out projects to reduce storm damage to property, to protect, restore and create aquatic and ecologically related habitats, including wetlands, and to transport and place suitable sediment, in connection with dredging for construction, operation, or maintenance by the Secretary of an authorized Federal water resources project. 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. >

<Section 206 of the Water Resources Development Act of 1996, Public Law 104-305, authorizes the Secretary of the Army to carry out a program of aquatic ecosystem restoration with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological

*diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. This authority also allows for dam removal. 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. >*

*<Section 208 of the Flood Control Act 1954, as amended, authorizes the US Army Corps of Engineers (USACE) to study, adopt and construct in-stream clearing and snagging projects in the interest of flood risk management. 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.>*

*<Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, provides the authority to modify existing Corps projects to restore the environment and construct new projects to restore areas degraded by Corps projects with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. 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.

**b. Applicability.** This review plan is based on the model Programmatic Review Plan for Section 14, 107, 111, 204, 206, 208 and 1135 project decision documents, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in ER 1165-2-209 Civil Works Review Policy. A Section 14, 107, 111, 204, 206, 208 and 1135 project does not require IEPR if ALL of the following specific criteria are met:

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (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.

If any of the above criteria are not met, the model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate Planning Center of Expertise (PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-209.

Applicability of the model Programmatic Review Plan for a specific project is determined by the home MSC. If the MSC determines that the model plan is applicable for a specific study, the MSC Commander may approve the plan (including exclusion from IEPR) without additional coordination with a PCX or Headquarters, USACE. The initial decision as to the applicability of the model plan should be made no later than the Federal Interest Determination (FID) milestone (as defined in Appendix F of ER 1105-2-100, F-10.e.1) during the feasibility phase of the project. A review plan for the project will subsequently be developed and approved prior to execution of the Feasibility Cost Sharing Agreement (FCSA) for the study. In addition, per EC 1165-2-209, the home district and MSC should assess at the Alternatives Formulation Briefing (AFB) whether the initial decision on Type I IEPR is still valid based on new information. If the decision on Type I IEPR has changed, the District and MSC should begin coordination with the appropriate PCX immediately.

This programmatic review plan may be used to cover implementation products. The following the format of the model programmatic review plan, the project review plan may be modified to incorporate information for the review of the design and implementation phases of the project.

**c. References**

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) Director of Civil Works' Policy Memorandum #1, Jan 19, 2011
- (3) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2010
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

- d. Requirements.** This programmatic review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance

(DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and ensuring that planning models and analysis are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports (per EC 1105-2-412).

## 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 [<ENTER 14, 107, 111, 204, 206, 208 or 1135>](#) decision documents is the home MSC. The MSC will coordinate and approve the review plan and manage the ATR. The home 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 [<ENTER the appropriate PCX: \(ECO-PCX\), \(PCX-CSDR\), \(FRM-PCX\), or \(SBH-PSCX\)>](#) to keep the PCX apprised of requirements and review schedules.

## 3. STUDY INFORMATION

a. **Decision Document.** The [<ENTER project name and location>](#) decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The approval level of the decision document (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.

b. **Study/Project Description.** [<DESCRIBE the basic background information on the study/project to provide an overview for the PDT, RMO, review teams, and public. At minimum, briefly describe the study area, the types of measures/alternatives to be considered in the study, the estimated cost \(or range of cost\) for a potentially recommended plan, and the non-Federal sponsor\(s\). Also identify the status of any existing or anticipated policy waiver requests \(pursued per paragraph F-10.f.\(4\) of ER 1105-2-100, Appendix F\)>](#)

[<For Section 107 studies, also Include information regarding the status of the Section 107 Fact Sheet prepared for approval by HQUSACE in consultation with the OASA \(CW\) during the fully Federal funded portion of the feasibility phase of the study.>](#)

c. **Factors Affecting the Scope and Level of Review.** [<DISCUSS the factors supporting the use of the Model Programmatic Review Plan to determine the appropriate scope and level of review for the study. The discussion must be detailed enough to assess the applicability of the Model Programmatic Review Plan and the types of expertise represented on the various review teams. At minimum, the discussion should address:](#)

- [If parts of the study will likely be challenging \(with some discussion as to why or why not and, if so, in what ways – consider technical, institutional, and social challenges, etc.\); and](#)
- [A preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be \(e.g., what are the uncertainties and how might they affect the success of the project\);](#)

[The discussion should also support the determination that:](#)

- The project does not involve a significant threat to human life/safety assurance (with some discussion as to why not);
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project (with some discussion as to why not);
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project (with some discussion as to why not);
- 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 (with some discussion as to why not); and
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule (with some discussion as to why not).>

**d. In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. <DESCRIBE the expected in-kind products/analyses to be provided by the sponsor, or indicate that no in-kind products are anticipated.>

#### **4. DISTRICT QUALITY CONTROL (DQC)**

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

<DESCRIBE how DQC will be documented and what DQC documentation will be provided to the ATR team.>

#### **5. AGENCY TECHNICAL REVIEW (ATR)**

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the 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 and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC. <As indicated in the Director of Civil Works' Policy Memorandum #1, Jan 19, 2011, "the ATR lead is to be outside the home MSC unless the CAP review plan justifies an exception and is explicitly approved by the MSC Commander">

- a. **Products to Undergo ATR.** ATR will be performed throughout the study in accordance with the District and MSC Quality Management Plans. The ATR shall be documented and discussed at the Alternative Formulation Briefing (AFB) milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include <DESCRIBE the products/analyses to undergo ATR.>
- b. **Required ATR Team Expertise.** <PROVIDE an estimate of the number of ATR team members and briefly describe the types of expertise that should be represented on the ATR team (not just a list of disciplines). The expertise represented on the ATR team should reflect the significant expertise involved in the work effort and will generally mirror the expertise on the PDT. The PDT should make the initial assessment of what expertise is needed based on the PMP and the factors affecting the scope and level of review outlined in Section 3 of the review plan and may suggest candidates. The RMO, in cooperation with the PDT and vertical team, will determine the final make-up of the ATR team. For Section 14, 107 and 208 Projects, at a minimum, Plan Formulation, NEPA Compliance, Engineering/Hydraulics and Hydrology, Real Estate, Economics and Cost Estimating will be represented on the ATR Teams. For Section 204 Projects, at a minimum, Plan Formulation, Biology/NEPA/Ecosystem Output Evaluation, Engineering/Hydraulics and Hydrology, Real Estate, Economics(CE/ICA), Operations/Dredging and Cost Estimating will be represented on the ATR Teams. For Section 206 and 1135 Projects, at a minimum, Plan Formulation, Biology/NEPA/Ecosystem Output Evaluation, Engineering/Hydraulics and Hydrology, Real Estate, Economics(CE/ICA) and Cost Estimating will be represented on the ATR Teams. The ATR Team Leader role can be assigned to any of the ATR team members. An ATR Team member may serve multiple roles if the scope of the study and the level of effort warrant. The ATR Team Leader should use the “ATR Lead Checklist” and “ATR Charge Template” developed by the National Planning Centers of Expertise as resources when conducting the review. The following table provides examples of the types of disciplines that might be included on the ATR team and some sample descriptions of the expertise required. Pick from the listed disciplines and/or add additional disciplines as needed and provide a short description of the expertise required for each discipline. The names, organizations, contact information, credentials, and years of experience of the ATR members should be included in Attachment 1 once the ATR team is established.>

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing Section <u>&lt;14&gt; &lt;111&gt; &lt;107&gt; &lt;111&gt; &lt;204&gt; &lt;206&gt; &lt;208&gt; &lt;1135&gt;</u> 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 <u>&lt;either the home district’s MSC or the home district&gt;</u> .
Planning	The Planning reviewer should be a senior water resources planner with experience in <u>&lt;DESCRIBE the specific experience/credentials required for the reviewer.&gt;</u>
Economics	
Environmental Resources	



Cultural Resources	
Hydrology	
Hydraulic Engineering	<u><i>Example Description: The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of &lt;inert specific requirements based on study objectives and proposed measures – for example, knowledge of open channel dynamics, enclosed channel systems, application of detention/retention basins, application of levees and flood walls, non-structural solutions involving flood warning systems and flood proofing, etc and/or computer modeling techniques that will be used such as HEC-RAS, FLO-2D, UNET, TABS, etc&gt;.</i></u>
Coastal Engineering	
Geotechnical Engineering	
Civil Engineering	
Structural Engineering	
Electrical/Mechanical Engineering	
Cost Engineering	<u><i>Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for....add the specific experience required (e.g., Harbors, levee projects, etc.)</i></u>
Construction/Operations	
Real Estate	
Hazardous, Toxic and Radioactive Waste (HTRW)	
<u><i>Pick from the above disciplines (delete any disciplines that are not applicable) and add other disciplines as appropriate...</i></u>	<u><i>Add the expertise required for each discipline based on the specific needs of the study...</i></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. 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.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical 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:

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

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

## **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 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type I IEPR is not 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 14, 107, 111, 204, 206, 208 and 1135 decision documents prepared under the model Programmatic Review Plan, Type II IEPR is not anticipated to be required in the design and implementation phase, but this will need to be verified and documented in the review plan prepared for the design and implementation phase of the project.

- a. Decision on IEPR.** Based on the information and analysis provided in the preceding paragraphs of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis. If any of the criteria outlined in paragraph 1(b) are not met, this model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate PCX and approved by the home MSC in accordance with EC 1165-2-209.
- b. Products to Undergo Type I IEPR.** Not applicable.
- c. Required Type I IEPR Panel Expertise.** Not Applicable.
- d. Documentation of Type I IEPR.** Not Applicable.

## **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 home MSC 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**

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. For decision documents prepared under the model Programmatic Review Plan, Regional cost

personnel that are pre-certified by the DX will conduct the cost engineering ATR. The DX will provide the Cost Engineering DX certification. The RMO will coordinate with the Cost Engineering DX on the selection of the cost engineering ATR team member.

## 9. MODEL CERTIFICATION AND APPROVAL

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

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

- a. Planning Models.** The following planning models are anticipated to be used in the development of the decision document: <LIST the planning models (including version number as appropriate) to be used, briefly describe each model and how it will be applied ON THIS STUDY, and indicate the certification/approval status of each model. Planning models could include, but are not limited to: economic damage models (e.g., HEC-FDA, Beach FX, IMPLAN), environmental models for habitat evaluation or mitigation planning (e.g., IWR Plan, HEP HSI models, HGM), transportation or navigation models, and homegrown or spreadsheet models (e.g., excel spreadsheets, @Risk, etc; see EC 1105-2-412 for more information about what constitutes a planning model). Below are some examples of the type of information that might be included in this section (Note: Lesser known models, including local/regional models, will need a more complete description than widely used, nationally recognized models).

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
<u>Example: HEC-FDA 1.2.4 (Flood Damage Analysis)</u>	<u>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 will be used to evaluate and compare the future without- and with-project plans along the Wild River near River City to aid in the selection of a recommended plan to manage flood risk.</u>	<u>Certified</u>

<a href="#"><u>Example: Study specific spreadsheet model</u></a>	<a href="#"><u>Add model description and how it will be applied...</u></a>	<a href="#"><u>Add certification / approval status</u></a>
<a href="#"><u>Example: Mitigation model</u></a>	<a href="#"><u>Add model description and how it will be applied...</u></a>	<a href="#"><u>Add certification / approval status</u></a>

- b. Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document: [List the engineering models \(including version number as appropriate\) to be used, briefly describe each model and how it will be applied ON THIS STUDY, and indicate the approval status of each model. \(Note that the approval status of many engineering models can be found on the Hydraulics, Hydrology, and Coastal Engineering CoP SharePoint site at <https://kme.usace.army.mil/CoPs/EANDC/HHC/default.aspx> under shared documents/SET Software Lists.\) Engineering models could include, but are not limited to: hydrologic, hydraulic, geotechnical, civil, structural, cost engineering and similar models. Below is an example of the type of information that might be included in this section \(Note: Lesser known models will need a more complete description than widely used, nationally recognized models\).](#)

<b>Model Name and Version</b>	<b>Brief Description of the Model and How It Will Be Applied in the Study</b>	<b>Approval Status</b>
<a href="#"><u>Example: HEC-RAS 4.0 (River Analysis System)</u></a>	<a href="#"><u>The Hydrologic Engineering Center’s River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the Wild River and its tributaries. [For a particular study the model could be used for unsteady flow analysis or both steady and unsteady flow analysis. The review plan should indicate how the model will be used for a particular study.]</u></a>	<a href="#"><u>HH&amp;C CoP Preferred Model</u></a>

## 10. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** [<IDENTIFY the estimated schedule for ATR and provide an estimated cost for the ATR effort. Coordination with the RMO may be needed to complete this section. The ATR schedule and budget should include participation of the ATR Lead in the AFB milestone conference to address the ATR process and any significant and/or unresolved ATR concerns.](#)
- b. Type I IEPR Schedule and Cost.** Not applicable.
- c. Model Review Schedule and Cost.** For decision documents prepared under the model Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, review of the model for use will be accomplished through the ATR process. The ATR team should apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a

specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

## **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. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. [<DESCRIBE how and when there will be opportunities for public comment on the development of the decision document and how the final decision document and associated review reports will be made available to the public>.](#)

## **12. REVIEW PLAN APPROVAL AND UPDATES**

The home MSC Commander is responsible for approving this review plan and ensuring that use of the Model Programmatic 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 MSC Commander approval are documented in Attachment 3. Significant changes to the review plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. Significant changes may result in the MSC Commander determining that use of the Model Programmatic Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-209 and Director of Civil Works' Policy Memorandum #1. The latest version of the review plan, along with the Commanders' 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:

- [Add title and phone number for the point of contact\(s\) at the home District](#)
- [Add title and phone number for the point of contact\(s\) at the home MSC](#)

**ATTACHMENT 1: TEAM ROSTERS.** Include contact information for the PDT, ATR team, and MSC. The credential and years of experience for the ATR team should be included when it is available.

**ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION 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 DrChecks<sup>sm</sup>.

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Name  
ATR Team Leader  
Office Symbol/Company

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Name  
Project Manager (home district)  
Office Symbol

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Name  
Architect Engineer Project Manager<sup>1</sup>  
Company, location

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Name  
Review Management Office Representative  
Office Symbol

**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 \_\_\_\_\_ Date \_\_\_\_\_  
Name  
Chief, Engineering Division (home district)  
Office Symbol

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Name  
Chief, Planning Division (home district)  
Office Symbol

<sup>1</sup> Only needed if some portion of the ATR was contracted



**ATTACHMENT 3: REVIEW PLAN REVISIONS**

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

**ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS**

<b><u>Term</u></b>	<b><u>Definition</u></b>	<b><u>Term</u></b>	<b><u>Definition</u></b>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	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	Ecosystem Restoration	PL	Public Law
FDR	Flood Damage Reduction	QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
FSM	Feasibility Scoping Meeting	RED	Regional Economic Development
GRR	General Reevaluation Report	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act