



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NORTH ATLANTIC DIVISION
FORT HAMILTON MILITARY COMMUNITY
302 GENERAL LEE AVENUE
BROOKLYN NY 11252-6700

1

CENAD-PD-P

24 JUL 2020

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Norfolk District,
Fort Norfolk 803 Front Street, Norfolk, VA 23510-1011

SUBJECT: Request for Approval of the Atlantic Intracoastal Waterway Bridge
Replacement at Deep Creek, VA Post Authorization Change Report Review Plan

1. References:

a. Memorandum, CENAO-EX, dated 4 June 2020, Deep Creek Plan Transmittal Memo.

b. Memorandum, CELRH-PCXIN-NC, dated 7 May 2020, Deep Creek PACR RP PCXIN-RED Endorsement 2020May.

2. The Inland Navigation Planning Center of Expertise of the Great Lakes and Ohio River Division (LRD) is the lead office to execute the referenced Review Plan. The Review Plan does not include Independent External Peer Review, as it is not required.

3. The enclosed Review Plan is approved for execution and is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution require new written approval from the North Atlantic Division (NAD) Commander.

4. The point of contact is Mr. Larry Cocchieri, NAD Planning Program Manager at 347-370-4571 or Lawrence.J.Cocchieri@usace.army.mil.

Encl

A handwritten signature in black ink, appearing to read "TJ Tickner", is positioned above the printed name.

THOMAS J. TICKNER
Brigadier General, USA
Commanding



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

CENAO-EX

04 June 2020

MEMORANDUM FOR Planning Division (ATTN: CENAD-PP/Mr. Cocchieri), U.S. Army Engineer Division, North Atlantic, 302 General Lee Avenue, Brooklyn, New York 1252-6700

SUBJECT: Deep Creek Bridge Replacement at Chesapeake, VA Post Authorization Change Report - Submission of Review Plan

1. Enclosed for review and approval is the Review Plan for the subject study.
2. Please contact Jennifer Shunfenthal, Planning Team Lead, or Walt Trinkala, Project Manager, if you have any questions or require additional information.

1 Encls
Review Plan

KINSMAN.PATRIC
K.VANDYKE.1161
624639
PATRICK V. KINSMAN, P.E.
Colonel, U.S. Army
Commanding

Digitally signed by
KINSMAN.PATRICK.VANDYKE.
1161624639
Date: 2020.06.04 15:51:56
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DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHT STREET
HUNTINGTON, WEST VIRGINIA 25701-2035

REPLY TO
 ATTENTION OF

CELRH-PCXIN-NC

07 May 2020

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Norfolk District
 (CENAO-WR-PR) 803 Front Street, Norfolk, Virginia.

SUBJECT: Atlantic Intracoastal Waterway (AIWW) Bridge Replacement at Deep Creek
 Post Authorization Change Report Review Plan.

1. The National Planning Center of Expertise for Inland Navigation (PCXIN) has reviewed the draft Review Plan (RP) for the subject study and concurs that the RP complies with current peer review policy requirement contained in Engineer Circular 1165-2-217, entitled "Review Policy for Civil Works".
2. This RP was prepared by CENAO-WR-PR, reviewed by PCXIN, and all review comments have been satisfactorily resolved.
3. PCXIN endorses this RP to be approved by the Major Subordinate Command (MSC) Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander's approval memorandum, and a link to where the RP is posted on the District website.
4. Thank you for the opportunity to assist in preparation of this RP. Please coordinate all aspects of the required review efforts as defined in the RP. Please contact Beth Cade at 304.399-5848 should you have any questions or require additional information.

Encl

Patrick J.
 Donovan

PATRICK J. DONOVAN
 Chief
 PCX for Inland Navigation

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 J. Donovan
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REVIEW PLAN

**Atlantic Intracoastal Waterway (AIWW) Bridge Replacement at Deep Creek
Post Authorization Change Report**

Norfolk District

MSC Approval Date: Pending
Last Revision Date: May 4th, 2020



**US Army Corps
of Engineers®**

REVIEW PLAN

Atlantic Intracoastal Waterway (AIWW) Bridge Replacement at Deep Creek, Chesapeake, Virginia Limited Reevaluation Report

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS.....	1
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION.....	1
3. STUDY INFORMATION	1
4. DISTRICT QUALITY CONTROL (DQC)	4
5. AGENCY TECHNICAL REVIEW (ATR).....	4
6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).....	6
7. POLICY AND LEGAL COMPLIANCE REVIEW.....	7
8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION.....	7
9. MODEL CERTIFICATION AND APPROVAL.....	7
10. REVIEW SCHEDULES AND COSTS.....	8
11. PUBLIC PARTICIPATION	9
12. REVIEW PLAN APPROVAL AND UPDATES.....	9
13. REVIEW PLAN POINTS OF CONTACT	9
ATTACHMENT 1: TEAM ROSTERS.....	10
ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS.....	11
ATTACHMENT 3: REVIEW PLAN REVISIONS.....	12
ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS.....	13

1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the Atlantic Intracoastal Waterway (AIWW) Bridge Replacement at Deep Creek, Chesapeake, Virginia, Post Authorization Change Report (PACR).

- b. **References**

2. (1) Engineering Circular (EC) 1165-2-217, Review Policy for Civil Works, 20 February 2018

- (1) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (2) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (3) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (4) Review Plan for Atlantic Intracoastal Waterway Bridge Replacement at Deep Creek Project (Engineering and Design Phase), approved 7 Jun 2013
- (5) Director of Civil Works' Policy Memorandum CWPM 12-001, Methodology for Updating Benefit-to-Cost Ratios for Budget Development, 8 Mar 2012

- b. **Requirements.** This review plan was developed in accordance with EC 1165-2-217, 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 1165-2-217) and planning model certification/approval (per EC 1105-2-412).

3. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the Planning Center of Expertise for Inland Navigation and Risk-Informed Economics Division (PCXIN-RED).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules, and contingencies.

4. STUDY INFORMATION

- a. **Decision Document.** The decision document is the Atlantic Intracoastal Waterway (AIWW) Bridge Replacement at Deep Creek, Chesapeake, Virginia, Post Authorization Change Report (PACR). The purpose of this PACR is to document design refinements and cost increases that have occurred since project authorization. The PACR will be approved by the MSC and will not require congressional

authorization. Existing NEPA documentation completed for this study will be updated and submitted to the MSC with the PACR as a Record of Environmental Consideration.

The project was fully designed as of 2019, however, there were significant delays to the project schedule due to real estate acquisition. The AIWW Deep Creek Project has accrued approximately \$7.9 million in total between construction and real estate expenditures. In order to determine cost impacts of the delays, the project cost estimate was updated and recertified as of April 2020 at a fully funded cost of \$58,734,000, which exceeded project authorization. For this reason it was determined that the district needed to prepare a Post Authorization Change Report (PACR) to support an increase in the authorized cost of the project. Cost estimate increases were due to cost escalation due to delays in real estate acquisition, labor rate adjustments, vendor rate adjustments, relocation and condemnation costs and various cost changes over time regarding materials.

- b. Study/Project Description.** The project site is located at Deep Creek in the City of Chesapeake, Virginia. Section 1001 of WRDA 2007 authorized the AIWW Bridge Replacement at Deep Creek. The Chief of Engineer's Report for the project was approved by HQUSACE on March 3, 2003. The project affects both vehicle traffic and navigation traffic. The proposed new bridge will replace the existing bridge that carries George Washington Highway (U.S. Route 17) across the AIWW Dismal Swamp Canal (DSC). The project site location is shown in Figure 1. The current two-lane, 20 foot wide, single leaf bascule bridge opened for traffic in 1934. The existing bridge spans over the DSC and provides a 55 foot wide horizontal clearance with unobstructed overhead clearance across the DSC when it is fully open. The new bridge provides a vertical clearance when closed of feet above normal water (per USCG permit drawings), the old bridge is 4.5 feet (per original design drawings). The original bridge design capacity of 15 tons is well below the current American Association of the State Highway and Transportation Officials (AASHTO) design standard for a two-lane bridge. The minimum current design standard requires a 30 foot wide roadway and a design load of 36 tons for a two lane bridge.

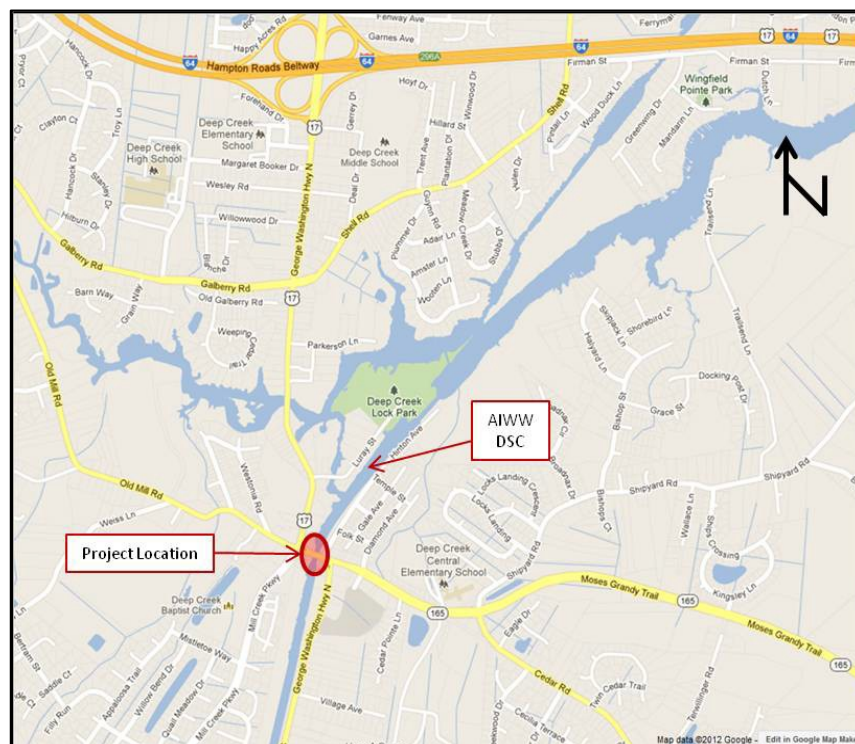


Figure 1. Deep Creek Bridge Replacement Project Location Map

The project scope includes the design and construction of the new Deep Creek Bridge and its associated roadways and intersections. The proposed bridge will replace the existing one to meet the current AASHTO design standards and address the inefficient operation conditions associated with narrow roadways: increasing traffic volumes and traffic delays. The new bascule bridge design includes 5 traffic lanes for a total road width of 66 feet and pedestrian sidewalks on both sides of the bridge. The 5 traffic lanes will be carried on two leafs; 3 westbound lanes on the north leaf and 2 eastbound lanes on the south leaf. The horizontal clearance between the fenders will be 60 feet for marine traffic when the bridge is in its open position. In the closed position, the minimum vertical clearance above the normal water elevation will be 4 feet. Other features of the project associated with the bridge and roadways include, but are not limited to, abutments, supporting piers, pile foundation, fender system, mechanical and electrical systems, and an operator's control house. The estimated cost for the project is \$48,468,000. The Chief of Engineers report recommended that the new bridge be constructed at 100% Federal expense. This recommendation is subject to the City of Chesapeake's taking ownership of the new bridge and assuming future operation, maintenance, repair, rehabilitation, and replacement costs.

c. Factors Affecting the Scope and Level of Review.

- Parts of the study will not likely be challenging. The PACR will only provide current project economics for the National Economic Development (NED) plan which was authorized in WRDA 2007. The PACR will also document reasons for cost increases since authorization, including, but not limited to, real estate, approach roadways, increase in materials cost (steel), additional PED work (field work, HTRW investigations, design work), and utility relocations. There are not institutional or social challenges expected to impact this study;
- There is very low risk associated with this project vs. other studies because a 100% design has already been completed and there are very few unknown risks/conditions at this point;
- The project will not be justified by life safety and the project does not involve significant threats to human life/safety assurance. While the new bridge will be safer than the existing bridge, the project is not justified by life safety benefits. All project benefits contributing to the NED plan are based on highway user traffic and navigation user traffic benefits. Should the project not perform according to project economics, human life will not be affected;
- There has not been a request by the Governor of Virginia 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. The project will improve existing vehicle and navigation traffic and is expected to be supported by the public and not be disputed;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project. The project will improve existing vehicle and navigation traffic and is expected to be supported by the public and not be disputed;
- The information in the decision document and project design will not 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 bridge replacement at Deep Creek is very similar to

another bridge replacement that was completed by the Norfolk District, at Great Bridge, in Chesapeake. The bridge design will not include any novel features; 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. The bridge replacement will be designed and constructed according to the current industry standards.

- d. In-Kind Contributions.** This study and project construction are 100% Federally funded per the Chief's Report (2007).

5. 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.

- a. Documentation of DQC.** DQC will be documented using DrChecks and a Technical Review Certification will be signed by the PDT and DQC reviewers. This documentation will be provided to the ATR team.
- b. Products to Undergo DQC.** The PACR and Record of Environmental Consideration underwent DQC.

6. 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 and the team has been coordinating with Walla Walla on the cost re-certification.

- a. Products to Undergo ATR.** The PACR and accompanying Record of Environmental Consideration will undergo ATR.
- b. Required ATR Team Expertise.** It is estimated that the ATR team should include 4-5 team members, as indicated in the table below.

ATR Team Members/Disciplines	Expertise Required
ATR Lead / Planning	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead can also serve as a reviewer for economics. The ATR lead should also have experience with inland navigation and/or bridge replacement projects.
Economics	The Economics reviewer should be a senior economist with experience in inland navigation and/or bridge replacement projects. The reviewer should be familiar with vehicle and navigation traffic benefits computation and the reevaluation of project economics.
Environmental & Cultural Resources	The environmental reviewer should be experienced in inland navigation and/or bridge replacement projects and also be able to review the cultural aspect of the NEPA documentation. This is a PACR so the NEPA will only be an update to the existing EA and therefore a separate cultural reviewer is not needed.
Real Estate	The real estate reviewer should be a senior real estate professional.
Cost Engineering	The Cost Engineering reviewer should have experience working with estimating complex and phased costing of multi-year civil construction projects. Should have direct experience working with navigation projects in a design or construction management capacity. The cost reviewer will be approved by the Cost MCX.

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 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 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR Lead 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, based on the review undertaken for the PACR. A sample Statement of Technical Review is included in Attachment 2.

7. 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 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.

- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), is managed outside the USACE and is 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.

a. Decision on IEPR. There was a Type II IEPR conducted on the technical design for Deep Creek.

b. Products to Undergo Type I IEPR. N/A

c. Required Type I IEPR Panel Expertise. N/A

d. Documentation of Type I IEPR. N/A

8. 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.

9. 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. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

The cost estimate used for the economic update in the PACR was reviewed and approved by the Cost Engineering DX at Walla Walla.

10. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives, and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The

selection and application of the model and the input and output data are still the responsibility of the users and are subject to DQC, ATR, and IEPR (if required).

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).

- a. Planning Models.** The following planning 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	Certification / Approval Status
Hampton Roads Regional Travel Demand Model	This Virginia Department of Transportation (VDOT) model will be used to assess vehicle traffic in the project area and forecast traffic in the future. The model was used in the economic analysis/update in this PACR.	Approved for Use Under CWPM 12-001
Study specific spreadsheet model	Spreadsheet used to calculate benefit cost ratio, average annual costs, and average annual benefits. The benefit portion of the spreadsheet incorporates AASHTO approved Opportunity Cost and Operating Cost Worksheets, along with other economic data inputs such as traffic counts, vehicle miles traveled, and vehicle hours traveled. The benefits estimated include both opportunity costs and operating costs related to bridge delays and rerouting of vehicles.	Awaiting Single Use Approval

- b. Engineering Models.** Engineering models were not used in the development of the PACR.

11. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** The schedule for the review and submittal of the PACR is below. The budget for ATR is \$25,000. This cost was based on the limited scope of the document and thus the need for fewer reviewers on the ATR team than would be required for a larger study such as a feasibility or GRR document.

Task	Duration*	Start	End
Agency Technical Review of Draft PACR	10 days	5/11/20	05/22/20
Revise Report for ATR Comments	5 days	05/25/20	05/29/20
ATR Backcheck	5 days	06/01/20	06/05/20
Submittal of Draft PACR to NAD	0 days	06/08/20	06/08/20
NAD Revisions	23 days	06/10/20	07/10/20

Submittal Director's Report to HQ	0 days	07/13/20	07/13/20
HQ Route/Review/Approve	20 days	07/14/20	08/10/20

*Number of business days within the start/end dates, does not include the two weeks of Christmas and New Years (12/21-1/1) or MLK Day (1/18)

b. Type I IEPR Schedule and Cost. N/A

c. Model Certification/Approval Schedule and Cost. The Hampton Roads Regional Travel Demand planning model used in the economic update included in the PACR is approved for use under CWPM 12-001, which is referenced in Section 1b of this review plan. The study specific spreadsheet model is pending approval for one-time use.

12. PUBLIC PARTICIPATION

State and Federal 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 any public and agency comments. The final report will be made available to the public upon completion and final approval.

13. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division (NAD) Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, 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. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

14. REVIEW PLAN POINTS OF CONTACT

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

- Jen Spencer, Economist, Norfolk District: 757-374-2970
- Chris Ricciardi: 347-370-4534, North Atlantic Division
- Beth Cade, Inland Navigation PCX: 304-399-5848

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team				
Name	Role	Phone	E-Mail	Credentials/Years Experience{YEARS NOT SHOWN}
USACE				
Walt Trinkala	Project Manager	757-201-7715	Walter.A.Trinkala@usace.army.mil	PM
Jenn Shunfenthal	Plan Formulation	(757) 201 - 7063	Jennifer.c.shunfenthal@usace.army.mil	Plan Formulation
Jen Spencer	Lead Economist	757-201-7102	Jennifer.A.Spencer@usace.army.mil	Regional Economist
Ethan Crouse	Economist		Ethan.E.Crouson@usace.army.mil	Regional Economist
Kathy Perdue	Environmental Specialist	757-201-7218	Katherine.S.Perdue@usace.army.mil	Biologist
Sarah Taylor	Design Team Lead/Civil Engineering Specialist	757-201-7478	Sarah.M.Taylor@usace.army.mil	Civil Engineer
Chuck Sanders	Structural Engineering Specialist	757-201-7705	Charles.E.Sanders@usace.army.mil	Structural Engineer
Sherry Jean	Cost Engineering Specialist	(757) 201-7823	Sherry.jean@usace.army.mil	Cost Engineer
Beth Babineau	Real Estate	757-201-7736	Elizabeth.M.Babineau@usace.army.mil	Real Estate Specialist
• ATR Team				
	ATR Lead / Planning			
	Economics			
	Environmental/ Cultural Resources			
	Cost Engineering			
	Real Estate			
• Vertical Team				
• PCX				
Beth Cade	Inland Nav PCX	304-399-5848	Beth.A.Cade@usace.army.mil	CEL RH-PX-NC

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 DrCheckssm.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

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

Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NER	National Ecosystem Restoration
ASA(CW)	Assistant Secretary of the Army for Civil Works	NEPA	National Environmental Policy Act
ATR	Agency Technical Review	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	OMB	Office of 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	PACR	Post Authorization Change Report
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MS	The District or MSC responsible for the preparation of the decision document	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
MSC	Major Subordinate Command	WRDA	Water Resources Development Act
NED	National Economic Development		