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CEPOD-PDC

APR 13 2017

MEMORANDUM FOR Commander, Alaska Engineer District (CEPOA-PM-C-PL/George Kalli), P.O. Box 6898 JBER, AK 99506-0898

SUBJECT: Approval of the Review Plan for the Unalaska (Dutch Harbor) Channels, Unalaska, Alaska, Integrated Feasibility Report and Environmental Assessment

1. References:

- a. Engineering Circular 1165-2-214, Civil Works Review, 15 Dec 2012.
 - b. Review Plan for the Unalaska (Dutch Harbor) Channels, Unalaska, Alaska, Integrated Feasibility Report and Environmental Assessment, Alaska District, U.S. Army Corps of Engineers. (Encl)
2. This memorandum constitutes approval of the Review Plan for the Unalaska (Dutch Harbor) Channels Feasibility Report, Alaska District, U.S. Army Corps of Engineers, which does not include a Type I Independent External Peer Review.
3. The approved Review Plan is subject to change as circumstances require, consistent with project development under the Project Management Business Process. Subsequent significant revisions to this Review Plan or its execution require my written approval.
4. For further information or clarification about the review process, please contact the Deep Draft Navigation Planning Center of Expertise in the Mobile District, U.S. Army Corps of Engineers, at 251-694-3842.
5. POC is Mr. Russell Iwamura, Senior Economist, Civil Works Integration Division, at 808-835-4625 or email Russell.K.Iwamura@usace.army.mil.

A handwritten signature in black ink, appearing to be "P. Andrysiak", is located below the text of item 5.

Encl

PETER B. ANDRYSIK, P.E.
Brigadier General, USA
Commanding

REVIEW PLAN

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Integrated Feasibility Report and Environmental Assessment

Alaska District

31 March 2017

MSC Approval Date: 13 April 2017
Last Revision Date: None



**US Army Corps
of Engineers ®**

REVIEW PLAN

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Integrated Feasibility Report and Environmental Assessment

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Unalaska (Dutch Harbor) Channels, Unalaska, Alaska integrated feasibility report and environmental assessment.

b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012.
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011.
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006.
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007.
- (5) Unalaska (Dutch Harbor) Channels Feasibility Study Project Management Plan, Dec 2016.
- (6) Alaska District (POA) Quality Management Plan, CEPOA-QMP-001, Jan 2010.
- (7) Pacific Ocean Division (POD) Quality Management Plan, Nov 2014.
- (8) Project Management Business Process (PMBP) Reference 8023G and ER 11-1-321, Change 1.

c. Requirements. This Review Plan was developed in accordance with EC 1165-2-214, 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 1165-2-214) and planning model certification/approval (per EC 1105-2-412). Additionally, surveys of affected parties or populace require review and approval (per EC 1165-2-503).

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 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 Deep Draft Navigation PCX (DDNPCX) in Mobile, Alabama.

The RMO will coordinate with the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

a. Authority. This feasibility study is being conducted under authority granted by Section 204 of the Flood Control Act of 1948 which states in part: "The Secretary of the Army is hereby authorized and directed to cause preliminary examinations and surveys for flood controls and allied purposes...to be made under the direction of the Chief of Engineers, in drainage areas of the United States and Territorial possessions, which include the following named localities:... Harbors and Rivers in Alaska, with a view to determining the advisability of improvements in the interest of navigation, flood control, hydroelectric power, and related water uses."

b. Decision Document. The decision document for this study will be an integrated feasibility report and National Environmental Policy Act (NEPA) document. The primary objectives for the study are to determine the feasibility and Federal interest of constructing navigation improvements that would increase the efficiency of navigation at Unalaska. Report approval will be at HQUSACE and result in a Chief of Engineers Report that will be provided to Congress with a request for construction authorization.

At this time, the District assumes an Environmental Assessment will be prepared with the feasibility report. If an Environmental Impact Statement (EIS) is required, the Alaska District will update this Review Plan accordingly.

c. Study/Project Description. The City of Unalaska is located in the Aleutian Islands some 800 air miles from Anchorage (Figure 1). Dutch Harbor is a port facility located on Amaknak Island within the city (Figure 2). The Port of Dutch Harbor is the only deep draft, year-round ice-free port from Unimak Pass west to Adak and north to the Bering Straits. Dutch Harbor has been the number one U.S. commercial fishing port in terms of quantity of catch every year since 1997¹. The Port is an Alaska Department

¹ <https://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/other-specialized-programs/total-commercial-fishery-landings-at-major-u-s-ports-summarized-by-year-and-ranked-by-dollar-value/index>

of Environmental Conservation designated Potential Place of Refuge providing protection and repair for disabled and distressed vessels.

As of 2015, Unalaska had a population of 4,605. For more than 30 years, Unalaska's economy has been based on commercial fishing, seafood processing, fleet services, and marine transportation. It has the western-most container terminal in the United States and provides ground and warehouse storage and transshipment opportunities for the thousands of vessels that fish in the region or pass through while in transit between North America and Asia. Subsistence activities are important to the Native Alaskan Unangan community, and to many long-term non-Native residents as well.

The non-Federal sponsor for this single purpose deep draft navigation improvements study is the City of Unalaska, Alaska.

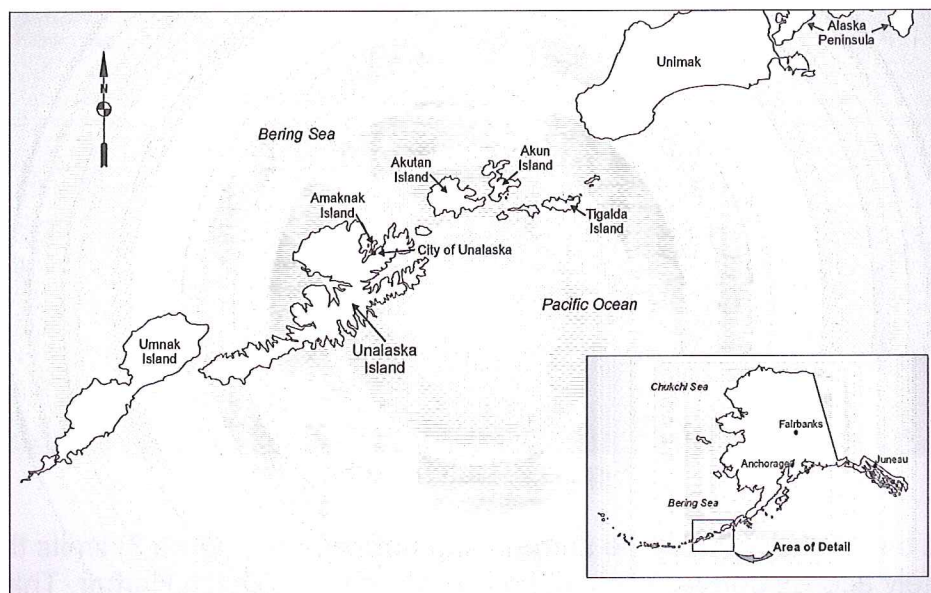
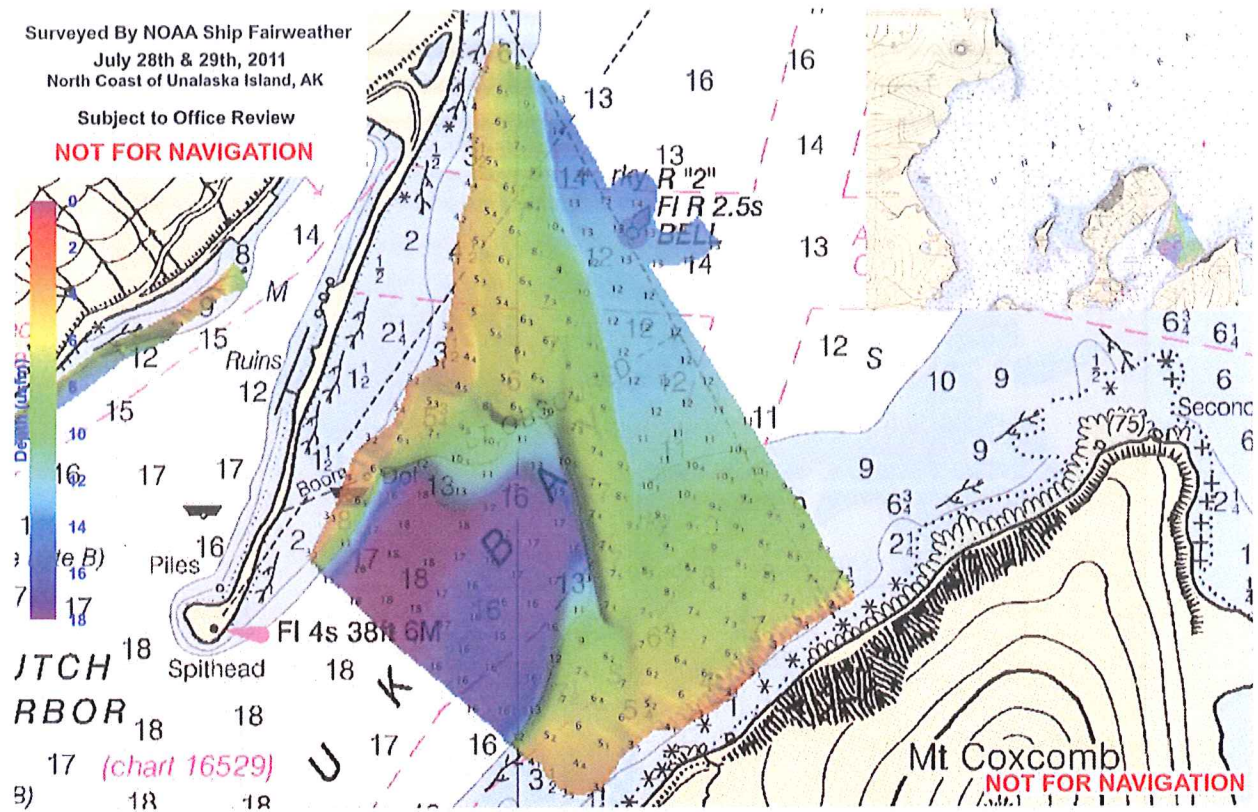


Figure 1. Vicinity Map, Unalaska, Alaska



Figure 2. Dutch Harbor

Currently, a bar shallower than the surrounding bathymetry (Figure 3) limits the vessels that can safely access port facilities and areas of refuge in Dutch Harbor. This limits the potential for economic development and can create inefficient and unsafe conditions during the delivery of fuel, durable goods, and exports. The objectives of this study are to decrease transportation inefficiencies experienced in Dutch Harbor and to increase access and safety for vessels utilizing its facilities and refuge. General Navigation Features (GNF) may include a dredged channel through the bar.



There are currently two Federal navigation projects in Unalaska, Iliuliuk Channel and Unalaska Harbor (locally referred to as Carl E. Moses Boat Harbor). Both these projects are located in other areas of Unalaska than the proposed project area for this project (Figures 4 – 5).

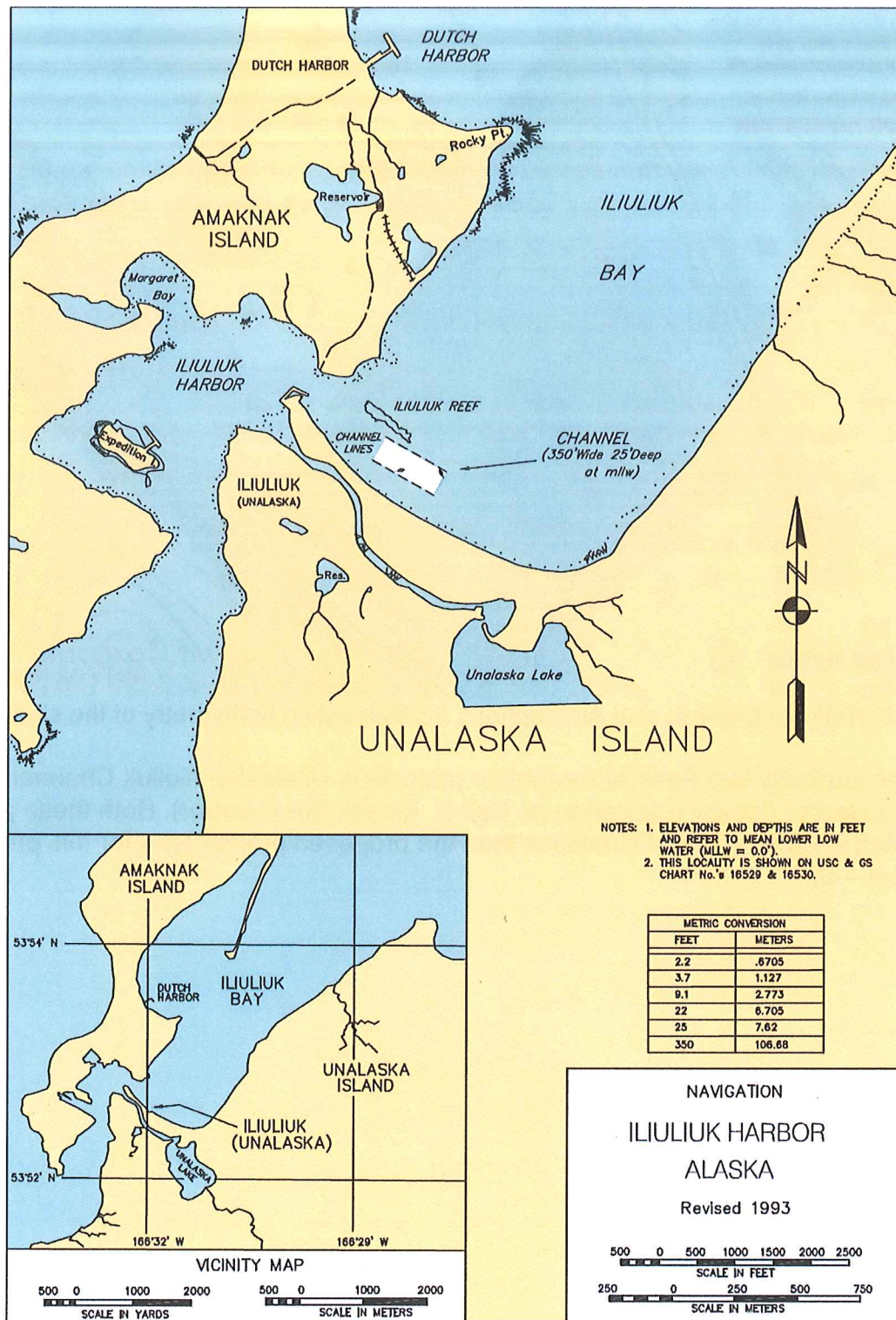


Figure 4. Iliuliuk Channel

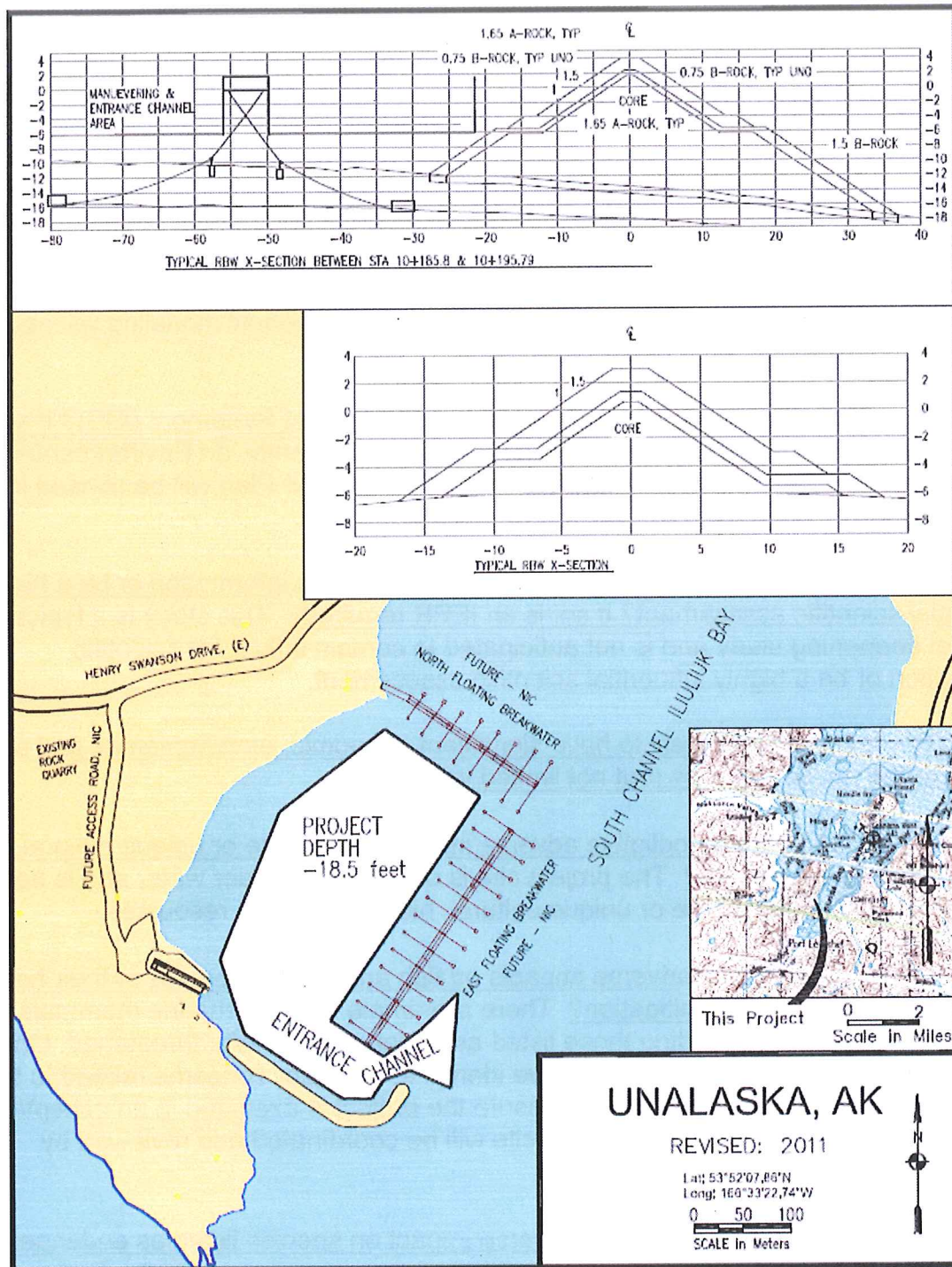


Figure 5. Unalaska (Carl E. Moses) Boat Harbor

d. Factors Affecting the Scope and Level of Review. This section discusses factors affecting the risk informed decisions on the appropriate scope and level of review.

(1) Which parts of the study are likely to be challenging? Challenging aspects of this study include determining if there are any unexploded ordnances (UXOs) and

other marine debris within the project area. Another potential challenge is addressing public concerns about dredging impacts on beach erosion. Unscheduled delays in data collection, mobilization, and/or completion of project milestones as a result of inclement weather are entirely possible at this project location.

(2) Where are project risks likely to occur and what might the magnitude of those risks be? Project risks include encountering UXOs and marine debris, mischaracterization of dredged material, and increased erosion in Unalaska. Geophysical investigations will be utilized to minimize the risk of encountering unexpected UXOs, marine debris, and material types. Numerical modeling will be utilized to address concerns related to erosion.

(3) Will the project require an Environmental Impact Statement (EIS)? If so, is Independent External Peer Review (IEPR) required? Currently, an Environmental Assessment (EA) is anticipated to be sufficient. This Review Plan will be revised if an EIS is required.

(4) Is the study likely to contain influential scientific information or be a highly influential scientific assessment? If so, is an IEPR required? This study is a typical channel deepening study and is not anticipated to contain influential scientific information or be a highly influential scientific assessment.

(5) Is the project likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):

- More than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources? The project site is over 40 feet under water and is not anticipated to contain scarce or unique cultural, historic, or tribal resources.

- Substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation? There are ample fish and marine mammals that transit the study area, including those listed as endangered and/or threatened. Ongoing coordination with resource agencies have identified no major concerns related to these species. Coordination will continue to ensure the project is executed in an acceptable manner. Likewise, any dredge disposal site will be coordinated and reviewed by relevant agencies.

- More than negligible adverse impact 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? Threatened and endangered species are documented to occur within the envisioned project footprint. In an effort to ensure that impacts upon such species will be minimized, conservation measures shall be enacted that are considerate of both the temporal and spatial aspects of each species' individual physiological, biological, and ecological requirements. The Corps has already been coordinating with regulatory agencies and does not anticipate a more than negligible adverse impact on species listed as threatened or endangered.

(6) Is the study likely to have significant interagency interest? National Marine Fisheries Service (habitat and protected resources divisions), U.S. Fish & Wildlife Service, and Alaska Department of Environmental Conservation have been actively engaged in the early planning stages of this project and will eventually participate in Corps' ecological data collection efforts. Agency interest is expected to be typical of that experienced with any harbor improvement project in Alaska.

(7) Will the project likely have significant threat to human life (safety assurance)? Dredging will have no significant threat to human safety, rather it will improve human safety by providing increased access to refuge areas and medical facilities onshore. UXOs are only known to be in the vicinity, not in the actual planned excavation area. If UXOs are identified within the project area, suitable mitigation measures, including the no action alternative, will be considered to minimize any potential threats to human safety. Any potential threats from UXOs are expected to only be to survey and construction personnel working in the immediate area and not to the general public (i.e., the focus of a Safety Assurance Review (SAR)). The assessment of the project posing no significant threat to human safety has been concurred by the Risk Management Center² and the POA Chief of Engineering³.

(8) Is the estimated cost likely to be greater than \$200 million requiring an IEPR? No, the initial range of magnitude cost estimate is \$30 million.

(9) Is the project likely to be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project? Public concern has been expressed regarding the potential for dredging to result in increased shoreline erosion. This concern will be addressed with numerical modeling. Mitigation measures may be warranted, but are not expected. No other controversial issues are anticipated at this time. From an environmental resources perspective, this project is not anticipated to be highly controversial.

(10) Will information be based upon novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? This project is anticipated to utilize standard methods and models.

(11) Is there is a request by the Governor of an affected state for a peer review by independent experts? There is no request by a Governor for a peer review by independent experts and none is expected.

(12) Is the project design anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule? No redundancy, resiliency, and/or robustness, unique

² Email dated 4 Jan 17 from John Clarkson, Senior Reviewer, Risk Management Center

³ Email dated 13 Jan 17 from Jim Jeffords, Chief, Engineering Division, Alaska District

construction sequencing, or a reduced or overlapping design construction schedule is anticipated for this project. However, construction windows may be abridged and work areas may be subject to delays because of conservation measures derived to minimize impacts to threatened and endangered species.

e. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR (if applicable) reviews. In-kind products and analyses provided by the non-Federal sponsor must be integral to the study as defined by ER 1165-2-208, In-Kind Contribution Credit Provisions of Section 221 of the Flood Control Act of 1970, as amended. However, at this time it is uncertain if in-kind products/analyses will be identified for this study.

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). POA will manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of POA and POD.

a. Documentation of DQC. Review comments, evaluations (responses to comments), and response/action taken (for each comment) from the DQC of the Feasibility Study will be maintained in ProjNet (DrChecks) or some comparable tool. The DQC Lead will prepare a study report checklist confirming that all the required elements of the report/document are complete, consistent, and technically sufficient to support the findings and recommendations. DQC comment/response reports will be provided to the ATR team prior to initiation of ATR of the Draft and Final Reports.

b. Required DQC Expertise. The POA DQC process requires that the DQC team be composed of appropriate personnel, including technical chiefs and persons not directly associated with the Project Delivery Team (PDT) in the detailed preparation of the document. The team will include the following chiefs: Planning, Environmental, Geotechnical, and Hydraulics & Hydrology. DQC members should include, as a minimum, the following members: plan formulator (with expertise in water resources and experience with dredging), realty specialist (with experience in civil works studies, particularly in regards to navigational servitude), cost engineer (with expertise in estimating costs for dredging projects), geotechnical specialist, hydraulic design engineer, economist (with expertise in navigation data gathering and analysis) and an environmental specialist (with expertise in NEPA compliance and evaluation of impacts on marine life and resources).

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 POA 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 will be identified by the DDNPCX; POA/POD will not nominate candidates for the ATR team. The ATR team lead will be from outside POD.

a. Products to Undergo ATR. ATR will be performed on the Draft and Final Integrated Feasibility Report and Environmental Assessment.

b. Required ATR Team Expertise. Members of the ATR team will reflect expertise of PDT members. It is anticipated that the ATR team will consist of 5-8 persons, (depending upon actual availability of specific persons at the time of the review and how the Cost Engineering MCX handles the cost engineering review). One reviewer can serve on the ATR team to cover more than one discipline, provided they have the appropriate expertise in their background and are certified by that Community of Practice (CoP) or Sub-CoP. The ATR team members' expertise required for this study is provided below.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	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 may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc.).
Planning	The Planning reviewer should be a senior water resources planner with extensive experience in the Corps planning process and be knowledgeable of current Corps policies and guidance. Experience with navigation projects is required.
Economics	The economics reviewer should be experienced in economic evaluation of civil works navigation projects. Familiarity with HarborSym is required.
Environmental Resources	The environmental reviewer should be experienced in marine ecosystems, the influence of dredging on aquatic plant and animal species and the NEPA process and analysis procedures. The reviewer should also be experienced in cultural and tribal aspects of Corps projects.

Hydraulic (Coastal) Engineering	The hydraulic engineering reviewer will be an expert in the field of coastal hydraulics and have a thorough understanding of analyses of winds, waves, currents, dredging, and navigation channel design. Experience with the Steady State Spectral Wave (STWave), Advanced Circulation (ADCIRC), FUNWAVE, Ship Simulation, and SBeach models are required. A registered professional engineer is recommended.
Geotechnical Engineering	The geotechnical engineering reviewer will be experienced in geotechnical investigation methods of submerged surfaces to identify material compositions and the identification of marine debris and unexploded ordnances. A registered professional engineer is recommended.
Cost Engineering	The cost engineering reviewer will be familiar with cost estimating using the Microcomputer Aided Cost Engineering System (MCACES) model and preparation of an MII Cost Estimate. The reviewer will be Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. Coordination with the Cost Engineering MCX will be required for their approval of the selected cost engineering reviewer and to obtain Cost Engineering MCX certification of the cost estimate.
Real Estate	The real estate reviewer will be experienced in Federal civil works real estate law, policy, and guidance, development of Real Estate Plans for civil works studies, particularly in regards to application of navigational servitude.

Once identified, the ATR team members for this study will be included in Attachment 1.

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 POA, DDNPCX, POD, 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 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, based on work reviewed to date for the draft report and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, 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), 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.

a. Decision on IEPR. At this point in the study, it appears that Type I IEPR on the decision document will not be required because none of the triggers discussed in Section 3d are anticipated to be met. A risk-informed decision requesting exclusion from Type I IEPR will be prepared and coordinated with the DDNPCX and POD for endorsement to HQUSACE prior to the Tentatively Selected Plan milestone meeting.

Type II IEPR is not considered appropriate for the study/project. The risk informed decision regarding Type II IEPR was based upon the proposed project not meeting the criteria for conducting Type II IEPR described in Paragraph 2 of Appendix E of EC 1165-2-214 as follows:

- The Federal action is not justified by life safety and failure of the project will not pose a significant threat to human life;

- The project does not involve the use of innovative materials or techniques where the engineering is based on novel methods, it does not present complex challenges for interpretations, does not contain precedent-setting methods or models, and does not present conclusions that are likely to change prevailing practices;

- The project design does not require redundancy, resiliency, or robustness; and

- The project does not have unique construction sequencing or a reduced or overlapping design construction schedule.

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 are 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 POD 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. CIVIL WORKS COST ENGINEERING AND AGENCY TECHNICAL REVIEW MANDATORY CENTER OF EXPERTISE REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering MCX, located in the Walla Walla District. The MCX 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 MCX will also provide the Cost Engineering certification. The RMO is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

a. Planning Models. 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 is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

In accordance with EC 1105-2-412 Paragraph 5.c., models that are single-use or study-specific require approval that the model is a technically and theoretically sound and functional tool that can be applied during the planning process by knowledgeable and trained staff for purposes consistent with the model's purpose and limitations. For this project, the Planner will coordinate with the DDNPCX in determining the appropriate level of review for model approval. A single-use spreadsheet model may be utilized to quantify Regional Economic Development (RED), Environmental Quality (EQ), and Other Social Effects (OSE) benefits. This Review Plan section will be updated based upon the results of that coordination.

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	Approval Status
HarborSym	HarborSym is a discrete event Monte-Carlo simulation model designed to facilitate economic analyses of proposed navigation improvement projects in coastal harbors. The model captures fleet and loading changes, incorporates calculations for both within harbor costs and costs associated with ocean voyages.	DDNPCX certified model

b. Engineering Models. 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 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).

The following engineering 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	Approval Status
Micro-computer Aided	The MCACES/MII construction cost estimating software, developed by Building Systems Design	Cost Engineering

Cost Engineering System (MCACES) 2nd Generation (MII)	Inc., is a tool used by cost engineers to develop and prepare all Civil Works cost estimates. Using the features in this system, cost estimates are prepared uniformly allowing cost engineering throughout USACE to function as one virtual cost engineering team.	MCX Required Model
STWAVE	STWAVE (STeady-state spectral WAVE) is a nearshore spectral wave model developed by the U.S. Army Engineer Research and Development Center (ERDC), Coastal and Hydraulics Laboratory (CHL). It will be used to simulate nearshore wave propagation and transformation including refraction, shoaling, breaking, and wind-wave generation.	Coastal Community of Practice (CoP) Preferred Model
Dutch Harbor Ship Simulation Model	Modeling technology on the ERDC Ship/Tow Simulator accurately portrays currents, wind and wave conditions, shallow water effects, bank forces, ship handling, ship to ship interaction, fender forces, anchor forces and tug assistance.	Corps Developed Model
FUNWAVE	FUNWAVE is a phase-resolving, time-stepping Boussinesq model for ocean surface wave propagation in the nearshore.	Coastal CoP Preferred Model
SBeach	SBeach is a numerical simulation model for predicting beach, berm, and dune erosion due to storm waves and water levels. It has potential for many applications in the coastal environment, and has been used to determine the fate of proposed beach fill alternatives under storm conditions and to compare the performance of different beach fill cross-sectional designs.	Coastal CoP Preferred Model
ADCIRC	ADCIRC (ADvanced CIRCulation Model), developed by universities in cooperation with ERDC, is a system of computer programs for solving time dependent, free surface circulation and transport problems in two and three dimensions. These programs utilize the finite element method in space allowing the use of highly flexible, unstructured grids. Typical ADCIRC applications include: (i) modeling tides and wind driven circulation, (ii) analysis of hurricane storm surge and flooding, (iii) dredging feasibility and material disposal studies, (iv) near shore operations.	Coastal CoP Preferred Model

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. ATRs will be conducted on the draft and final reports. ATR of the draft report is anticipated in the fall of 2017 and ATR of the final report is anticipated in September 2018. The total estimated cost for the ATRs is \$85,000.

b. Type I IEPR Schedule and Cost. Not Applicable

c. Model Certification/Approval Schedule and Cost. The model review plan, if needed, will be developed in accordance with policy provided by EC 1165-2-214. The model will be approved prior to use in identifying the Tentatively Selected Plan. The estimated schedule and cost for any necessary certification or approval of planning models will be included in this section once they are determined.

11. PUBLIC PARTICIPATION

All future revisions to the Review Plan and any minor updates will be posted to the POA webpage. Public review of the draft decision document will be held concurrently with MSC review, ATR, and OWPR Policy Review. The public, including scientific or professional societies, will not be asked to nominate potential peer reviewers. If an EIS is required, the public comment period for the draft EIS will be no less than 45 days. Comments received during the public comment period for the draft report will not necessarily be available to the other review teams as part of their reviews, with exception of the IEPR panel (if applicable) which will receive a copy of any draft report public comments received. Public comments will be reviewed, addressed, and incorporated into the final draft report as appropriate. The final decision document, associated review reports, and USACE responses to IEPR comments (if applicable) will be made available to the public on the internet.

12. REVIEW PLAN APPROVAL AND UPDATES

The POD Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving POA, POD, 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. POA is responsible for keeping the Review Plan up to date. Minor changes to the Review Plan since the last POD 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 POD Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the POD Commander's approval memorandum, will be posted on the POA webpage. The latest Review Plan should also be provided to the RMO and POD.

13. REVIEW PLAN POINTS OF CONTACT

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

- PDT Plan Formulator (POA), (907) 753-2594
- PDT Project Manager (POA), (907) 753-5755
- POD Senior Economist, (808) 835-4625
- DDNPCX Review Manager, (251) 694-3842

ATTACHMENT 1: TEAM ROSTERS

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report PDT.

The Unalaska (Dutch Harbor) Channels Project Delivery Team is comprised of the following individuals:

Discipline	Name	Office Symbol
Project Manager	Ronnie Barcak	CEPOA-PM-C
Planning	George Kalli	CEPOA-PM-C-PL
Mayor	Shirley Marquardt	City of Unalaska
City Manager	David Martinson	City of Unalaska
Hydraulics & Hydrology	Dee Ginter	CEPOA-EN-CW-HH
Economics	Eric Johnson	CEPOA-PM-C-EC
Economics	Brent Andrews	CEPOA-PM-C-EC
Environmental Resources	Mike Rouse	CEPOA-EN-CW-ER
Environmental Resources	Chris Hoffman	CEPOA-EN-CW-ER
Cost Engineering	Al Arruda	CEPOA-EN-CE
Real Estate	Ron Green	CEPOA-RE-PC
Geotechnical	Innocencio Roman	CEPOA-EN-G-GM
Tribal Liaison	Amanda Andraschko	CEPOA-EN-CW-ER
Attorney	Phil Santerre	CEPOA-OC
Survey	Tom Sloan	CEPOA-EN-ES

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report DQC Team.

The Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report District Quality Control Team is comprised of the following individuals:

Discipline	Name	Team Member Office Symbol
Project Manager	Bruce Sexauer	CEPOA-PM-C
Planning	Cindy Upah	CEPOA-PM-C-PL
Economics	To Be Determined (TBD)	TBD
Hydraulics & Hydrology	Kenneth Eisses	CEPOA-EC-G-HH
Environmental Resources	Michael Noah	CEPOA-PM-C-ER
Cost Engineering	Karl Harvey	CEPOA-EC-CE
Real Estate	Michael Coy	CEPOA-PM-RE
Geotechnical	Douglass Bliss	CEPOA-EC-G-GM
Survey	Douglass Bliss	CEPOA-EC-G-GM
Local Sponsor	David Martinson	City of Unalaska

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report ATR Team.

The Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report ATR Team is composed of the following individuals:

Discipline	Name	Team Member Office Symbol
ATR Lead	Samantha Borer	CESAJ-PD-PN
Project Manager	TBD	TBD
Planning	TBD	TBD
Economics	TBD	TBD
Hydraulics & Hydrology	TBD	TBD
Environmental Resources	TBD	TBD
Cost Engineering	TBD	TBD
Real Estate	TBD	TBD
Geotechnical	TBD	TBD
Survey	TBD	TBD

Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report Vertical Team.

The Unalaska (Dutch Harbor) Channels, Unalaska, Alaska Feasibility Report Vertical Team is composed of the following individuals:

Title	Name
POA, Project Manager	Ronnie Barcak
POA, Technical Lead	George Kalli
POA, Chief Planning	Cindy Upah
POA, Chief Civil Works Branch	Bruce Sexuaer
POD, Civil Works Planning Team Leader	Linda Hihara-Endo
POD, Senior Economist	Russell Iwamura
DDNPCX Director	Eric Bush
HQ POD RIT, Civil Deputy	Steve Kopecky
HQ POD RIT, Civil Works Planner	Angie Dunn

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 the Unalaska (Dutch Harbor) Channels Feasibility Study. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. 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

ATR Team Leader
CENAE-EPP

Date

SIGNATURE

Project Manager
CEPOA-PM-C

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Review Management Office Representative
DDNPCX

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

Chief, Engineering Division
CEPOA-EN

Date

SIGNATURE

Chief, Planning Division
CEPOA-PM-C

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>
ASA(CW)	Assistant Secretary of the Army for Civil Works	NED	National Economic Development
ATR	Agency Technical Review	NER	National Ecosystem Restoration
CSDR	Coastal Storm Damage Reduction	NEPA	National Environmental Policy Act
DPR	Detailed Project Report	O&M	Operation and maintenance
DQC	District Quality Control/Quality Assurance	OMB	Office and Management and Budget
DX	Directory of Expertise	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
EA	Environmental Assessment	OEO	Outside Eligible Organization
EC	Engineer Circular	OSE	Other Social Effects
EIS	Environmental Impact Statement	PCX	Planning Center of Expertise
EO	Executive Order	PDT	Project Delivery Team
ER	Ecosystem Restoration	PAC	Post Authorization Change
FDR	Flood Damage Reduction	PMP	Project Management Plan
FEMA	Federal Emergency Management Agency	PL	Public Law
FRM	Flood Risk Management	QMP	Quality Management Plan
FSM	Feasibility Scoping Meeting	QA	Quality Assurance
GRR	General Reevaluation Report	QC	Quality Control
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
LRR	Limited Reevaluation Report	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
		WRDA	Water Resources Development Act