

# Review Plan

## Matagorda Ship Channel Improvement Project Post-Authorization Change Report

February 2025

### 1. Project Summary

**Project Name:** Matagorda Ship Channel Improvements

**Location:** Port Lavaca, Calhoun and Matagorda Counties, Texas

**P2 Number:** 451954

**Decision and Environmental Compliance Document Type:** Post-Authorization Change Report (PACR) and Supplemental Environmental Impact Statement (SEIS)

**Congressional Authorization Required:** Pending decision from higher headquarters

**Project Purpose(s):** Deep Draft Navigation

**Non-Federal Sponsor:** Calhoun Port Authority

**District:** Galveston (SWG)

**District Contact:** Project Manager (409) 766-3139

**Major Subordinate Command:** Southwestern Division (SWD)

**Major Subordinate Command Contact:** Senior Planner, (469) 487-7069

**Review Management Organization (RMO):** Deep Draft Navigation Planning Center of Expertise or Southwestern Division

**RMO Contact:** Economist, (251) 694-3842 or Economist, (469) 487-7065

#### Key Review Plan Dates

Date of RMO Endorsement of Review Plan	Pending
Date of SWD Approval of Review Plan	Pending
Date of Independent External Peer Review (IEPR) Recommendation Memo Approval	Pending
Has the Review Plan changed since RMO Endorsement?	No
Date of Last Review Plan Revision	N/A
Date of Review Plan Web Posting	Pending

### Milestone Schedule and Other Dates

	Scheduled	Actual
Feasibility Cost Share Agreement Execution	N/A	N/A
Alternatives Milestone	N/A	N/A
Tentatively Selected Plan	14-Aug-25	Pending
Release Draft Report to Public	06-Nov-25	Pending
Agency Decision Milestone	09-Feb-26	Pending
Director's Report	8-Oct-26	Pending

## 2. References

- CECW-P Memo, Policy and Legal Compliance Review, dated 9 January 2019
- CECW-P Memo, Model Coordination for Civil Works Planning Studies, dated 28 July 2023
- CESWD-PDP Quality Management Plan, August 2021
- Director of Civil Works (DCW) Memorandum, Revised Delegation of Authority in Section 2034(a)(5)(A) of the Water Resources Development Act of 2007 (WRDA 2007), as amended (33 U.S.C. 2343), 7 June 2018
- Director's Policy Memorandum (DPM) CW Programs 2018-05, Improving Efficiency and Effectiveness in USACE CW Project Delivery (Planning Phase and Planning Activities), 3 May 2018
- DPM 2019-01, Policy and Legal Compliance Review, 9 January 2019
- Engineer Circular (EC) 1105-2-412, Assuring Quality of Planning Models, 31 March 2011, as updated in CECW-P Memo dated 7 December 2017.
- Engineer Pamphlet (EP) 1105-2-61, Feasibility and Post-Authorization Study Procedures and Report Processing Requirements, 1 July 2023
- Engineer Regulation (ER) 1105-2-100, Planning Guidance Notebook, 22 April 2000, as amended
- ER 1105-2-103 Planning Policy for Conducting Civil Works Planning Studies, 7 December 2023
- Engineer Regulation (ER) 1165-2-217, Review Policy for Civil Works (CW), 1 May 2021
- Executive Order (EO 13807), Presidential Executive Order on Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure, dated 15 August 2017
- Planning Bulletin (PB) 2018-01, Feasibility Study Guidelines, 26 September 2018 and its supplemental PB 2018(S) dated 20 June 2019

- Sabine Pass to Galveston Bay, TX Coastal Storm Risk Management and Ecosystem Restoration Preconstruction Engineering and Design (PED) and Construction Phases Implementation Review Plan
- Southwestern Division (SWD) Planning and Policy Division Quality Management Plan (QMP) dated August 2021.

The online USACE Planning Community Toolbox provides more review reference information at:

<https://planning.erdc.dren.mil/toolbox/current.cfm?Title=Peer%20Review&ThisPage=Peer&Side=No>.

### **3. Review Execution Plan**

The general plan for executing all required independent reviews is outlined in the following two tables.

Table 1 lists each study product to be reviewed. The table provides the schedules and costs for the anticipated reviews. Teams also determine whether a site visit will be needed to support each review. The decisions about site visits are documented in the table. As the review plan is updated, the team will note each review that has been completed.

Table 2 identifies the specific expertise and role required for the members of each review team. The table identifies the technical disciplines and expertise required for members of review teams. In most cases, the team members will be senior professionals in their respective fields. In general, the technical disciplines identified for a District Quality Control (DQC) team will be needed for an Agency Technical Review (ATR) team. Each ATR team member will be certified to conduct ATR by their community of practice. An IEPR is warranted, panel membership will reflect disciplines representing the areas of expertise applicable to the review being conducted. The table is set up to concisely identify common types of expertise that may be applicable to one or more of the reviews needed for a study.

**Table 1: Schedule and Costs of Reviews**

Product to undergo Review	Review Level	Site Visit	Start Date	End Date	Cost	Complete
Planning Model Review	Model Review (see EC 1105-2-412)	N/A	N/A	N/A	N/A	N/A
Draft Feasibility Report / SEIS	District Quality Control (DQC)	No	09-Sep-25	10-Oct-25	\$33,000	No
Draft Feasibility Report / SEIS	Public Comment under National Environmental Policy Act (NEPA)	No	06-Nov-25	23-Dec-25	N/A	No
Draft Feasibility Report / SEIS	Agency Technical Review (ATR)	No	15-Oct-25	04-Dec-25	\$78,000	No
Draft Feasibility Report / SEIS	Independent External Peer Review (IEPR)	No	15-Oct-25	13-Feb-26	\$210,000	No
Draft Feasibility Report / SEIS	Policy and Legal Compliance Review	No	15-Oct-25	31-Dec-25	N/A	No
Final Feasibility Report / SEIS	DQC	No	27-Apr-26	21-May-26	\$33,000	No
Final Feasibility Report / SEIS	ATR	No	26-May-26	07-Jul-26	\$75,000	No
Final Feasibility Report / SEIS	Policy and Legal Compliance Review	No	15-Jul-26	28-Aug-26	N/A	No
Final Feasibility Report / SEIS	Release Final Report under NEPA	No	07-Sep-26	06-Oct-26	N/A	No
List In-kind Products from the sponsor (use separate rows for each product)	Identify review levels (DQC, ATR, IEPR)	N/A	N/A	N/A	N/A	N/A
Review Management Organization – Coordination and Participation	An RMO will participate in most key meetings including In-Progress Reviews, Issue Resolution Meetings and SMART Milestone Meetings	No	22-Jan-24 A	N/A	\$13,000*	No

\*Funding is necessary only if DDN-PCX is designated at RMO.

**Table 2: Review Teams - Disciplines and Expertise**

<b>Discipline / Role</b>	<b>Expertise</b>	<b>DQC</b>	<b>ATR</b>	<b>IEPR</b>
DQC Team Lead	Extensive experience preparing Civil Works decision documents and leading DQC. The lead may serve as a DQC reviewer for a specific discipline (planning, economics, environmental, etc.).	Yes	No	No
ATR Team Lead	Professional with extensive experience preparing Civil Works decision documents and conducting ATRs. Skills to manage a virtual team through an ATR. The lead may serve on the ATR team for a specific discipline (such as planning, economics, or environmental work).	No	Yes	No
IEPR Manager	Planning Center of Expertise Assigns a PCX IEPR Lead and specifies required expertise.	No	No	Yes
Planning	Skilled water resources planner knowledgeable in complex planning investigations and the application of SMART principle to problem solve for Deep Draft Navigation studies.	Yes	Yes	Yes
Economics	Experience with applying theory, methods and tools used in the economic evaluation of water resources projects for DDN studies.	Yes	Yes	Yes
Environmental Resources	Experience with environmental evaluation and compliance requirements, national environmental laws and statutes, applicable Executive Orders, and other planning requirements for DDN studies.	Yes	Yes	Yes
Cultural Resources	Experience with cultural resource survey methods, area of potential effects, National Historic Preservation Act Section 106, and state and federal laws pertaining to American Indian Tribes for DDN studies.	Yes	Yes	Yes
Real Estate	Experience developing Real Estate Plans and experience in real estate fee/easement acquisition and residential/business relocations for Federal and/or Federally Assisted Programs for implementation of Civil Works projects for DDN studies.	Yes	Yes	Yes
Coastal Hydrology	Engineer with experience applying coastal hydrologic principles and technical tools to project planning, design, construction, and operation for DDN studies.	Yes	Yes	Yes
Coastal Hydraulics	Engineer with experience applying coastal hydraulic engineering principles and analytic tools to project planning, design, construction, and operation for DDN studies.	Yes	Yes	Yes

<b>Discipline / Role</b>	<b>Expertise</b>	<b>DQC</b>	<b>ATR</b>	<b>IEPR</b>
Civil Engineering & Design	Engineer with experience designing coastal DDN channels and turning basins for project planning, design, construction and operations.	Yes	Yes	Yes
Cost Engineering	Experience using cost estimation software; working knowledge of water resource project construction; capable of making professional determinations using experience for DDN studies.	Yes	Yes	Yes
Construction / Operations	Extensive construction management experience and operations work for DDN studies.	Yes	Yes	Yes
Climate Preparedness and Resilience (ATR Only)	A member of the Climate Preparedness and Resiliency Community of Practice knowledgeable of coastal hydrology climate change assessment policy and practice for DDN studies.	No	Yes	Yes
Risk and Uncertainty	Expert on multi-discipline coastal analyses to ensure consistent and appropriate identification, analysis, and written communication of risk and uncertainty for DDN studies	No	Yes	Yes

## 4. Documentation of Reviews

**Documentation of DQC.** Quality Control will be performed continuously. A specific certification of DQC completion will be prepared at the base conditions (existing and future), draft and final report stages. Documentation of DQC will follow the District Quality Manual and the SWD Quality Management Plan. Design review Checking System (DrChecks) will be used for documentation of DQC comments. An example DQC Certification statement is provided in ER 1165-2-217, Appendix D. Documentation of completed DQC, to include the DQC checklist, will be provided to the SWD, RMO and the ATR Team leader. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort.

**Documentation of ATR.** DrChecks will be used to document all ATR comments, responses, and resolutions. Comments should be limited to those needed to ensure product adequacy. All members of the ATR team will use the four-part comment structure (see ER 1165-2-217, Section 5). If a concern cannot be resolved by the ATR team and Project Delivery Team (PDT), it will be elevated to the vertical team to resolve using the issue resolution process in ER 1165-2-217, Section 5.9. Unresolved concerns will be closed in DrChecks by noting the concern has been elevated. ATR documentation will include an assessment by the ATR team of the effectiveness of DQC. The ATR Lead will prepare a Statement of Technical Review (see ER 1165-2-217, Section 5.11, and Appendix D), for the draft and final reports, certifying that review issues have been resolved or elevated. ATR will be certified when all concerns are resolved or referred to the vertical team and the ATR documentation is complete.

**Documentation of IEPR.** The Outside Eligible Organization will submit a final Review Report no later than 60 days after the end of the draft report public comment period. USACE shall consider all recommendations in the final Review Report and prepare a written response for all recommendations. The final decision document will summarize the Review Report and USACE response and will be posted on the internet.

## 5. Supporting Information

### Study Authority

The Post-Authorization Change Report seeks to document design changes to the project authorized in the Water Resources Development Act (WRDA) 2020 and described in the Chief's Report dated 15 November 2019, Matagorda Ship Channel Improvement Project, Port Lavaca, Texas. The original study was conducted under Section 216 of the Flood Control Act of 1970. The existing Matagorda Ship Channel project was authorized by the River and Harbor Act of 3 July 1958, as described in House Document No. 131, 84<sup>th</sup> Congress, 1<sup>st</sup> Session and House Document No. 388, 84<sup>th</sup> Congress, 2<sup>nd</sup> Session.

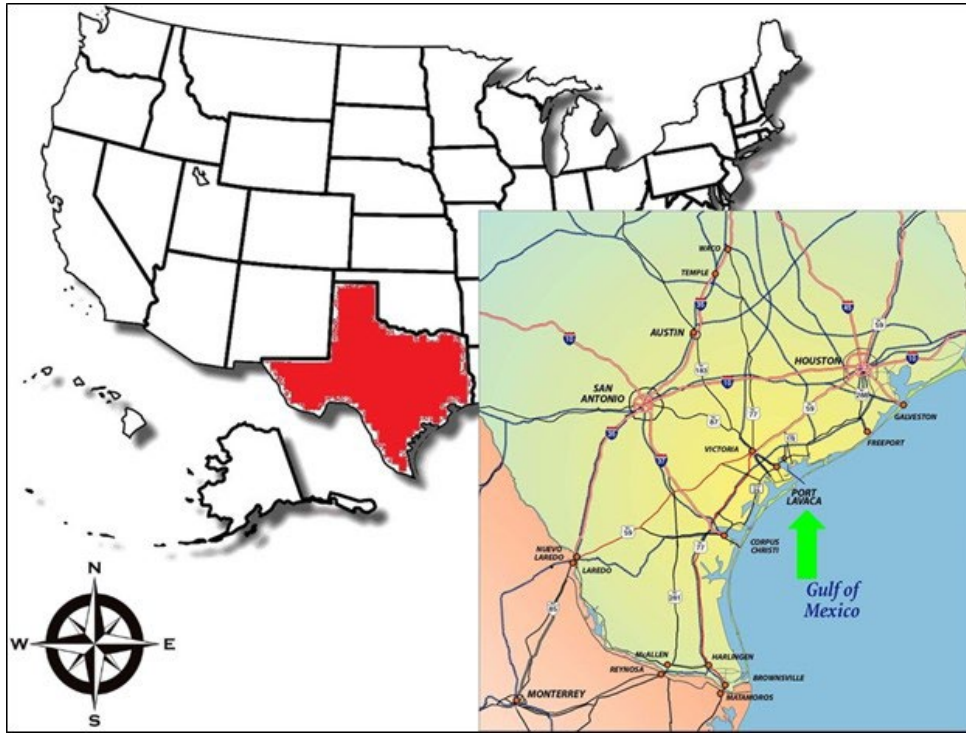
### Study or Project Area

The 26-mile existing Federal Matagorda Ship Channel (MSC) is located 125 miles southwest of Galveston, Texas and 80 miles northeast of Corpus Christi, Texas (Figure 1). The channel extends from offshore in the Gulf of Mexico through Matagorda Bay and Lavaca Bay to the Port.

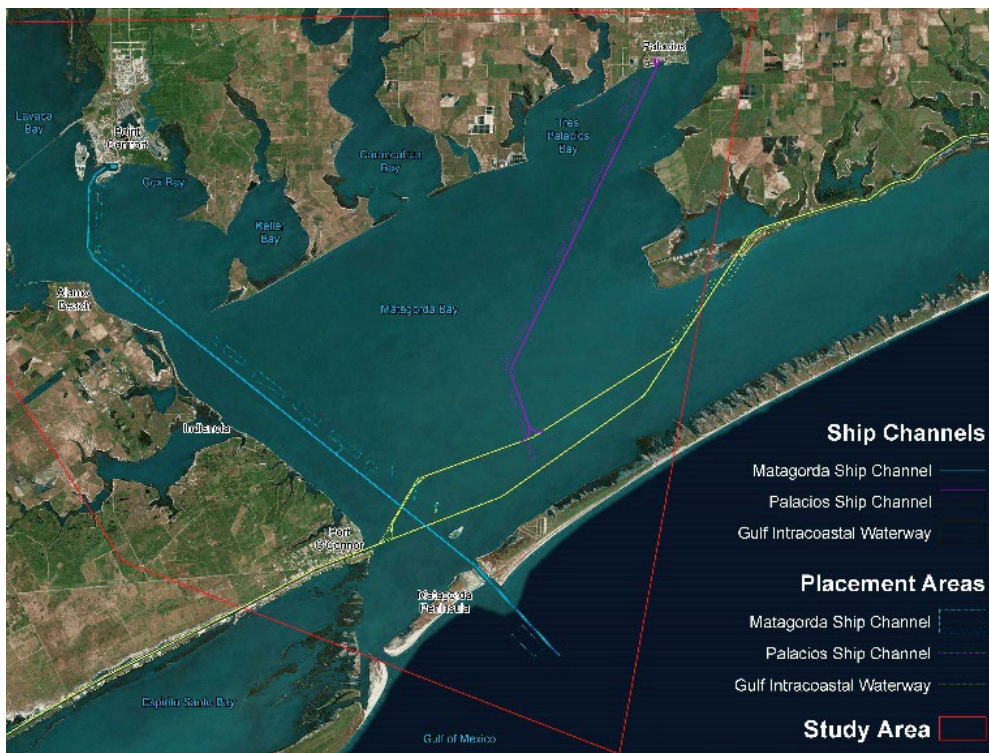
Matagorda Bay is about 12 miles wide and 16 miles long, with natural depths of 9 to 12- feet. A narrow arm of water, about four miles wide, extends 35 miles northeast from the main body of the bay. This is divided into two bays by the Colorado River Delta. Matagorda Bay is separated from the Gulf of Mexico by the Matagorda Peninsula and tidal throughout. Pass Cavallo, located at the southwest corner of the bay, is the only permanent natural pass between the bay and the

Gulf of Mexico. Lavaca Bay is a small water body lying north of, and continuous to, the northwest corner of Matagorda Bay.

**Study or Project Area Map**



**Figure 1 – Study Area Map.**



**Figure 2 – Matagorda Ship Channel**

## **Problem Statement**

- The existing designed channel depth limits channel use to vessels whose drafts are -38 feet (') Mean Lower Low Water (MLLW) or less.
- Vessels that require deeper drafts cannot come into the Port fully loaded.
- The existing designed channel bottom width is 200' and limits channel use to a single vessel with a maximum width (beam) of 109'.
- The existing designed channel bottom width is 200' and leaves little room for pilot error during times of high winds, waves, or changes in shoaling. Pilots will only move vessels through the MSC with a length overall (LOA) of 639' or longer during daylight.
- The existing designed turning basin (1,000' by 1,000') limits the size of vessels which can call on the Port facilities.

## **Goals and Objectives**

The Federal objective of water and related land resources project planning is to contribute to National Economic Development consistent with protecting the Nation's environment; pursuant to national environmental statutes; applicable executive orders (Eos); and other Federal planning requirements.

- Improve the navigational efficiency of the deep-draft navigation system over the 50-year period of analysis
- Improve the operational safety of the deep-draft navigation system over the 50-year period of analysis

## **Future Without Project Conditions**

Future Without Project (FWOP) conditions are defined as those conditions that would exist within the study area, during the 50-year period of analysis if the USACE would implement no changes to the existing federally authorized deep-draft navigation channel. The expected FWOP condition is the same as the "No Action" alternative plan.

## **Types of Measures/Alternatives Being Considered**

- Deepening the existing channel
- Widening the existing channel

## **Estimated Cost/Range of Costs**

Costs of alternatives are unknown at this time but given the size of the area and problem complexity, costs are expected to be between \$200 million and \$400 million.

## **6. Models to be Used in the Study**

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 are any models and analytical tools used 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 following planning models may be used to develop the decision document:



**Table 3: Planning Models.**

<b>Model Name and Version</b>	<b>Model Description and How it Will be Used in Study</b>	<b>Certification/Approval</b>
HarborSym	HarborSym is a discrete event Monte-Carlo simulation model designed to facilitate economic analyses of proposed navigation improvement projects in coastal harbors. Incorporating risk and uncertainty, the model will be used to estimate transportation cost savings (benefits) attributable to fleet and loading changes under future with project (FWP) conditions.	Certified
Regional Economic System (RECONS)	RECONS is a regional economic impact modeling tool that estimates jobs, incomes and sales associated with USACE Civil Works spending and additional economic activities. The model will be used to estimate the regional economic impacts of project implementation.	Certified
Wetland or HEP Models	If needed, the study will use a certified or approved for regional use wetland or HEP model to assess effects to wetlands and determine appropriate mitigation. At this time, it has not been determined if upland placement areas will be proposed and thus, the exact model has not been determined.	Approved
IWR Planning Suite v2.0.9	IWR Planning Suite is a software designed to assist with the formulation and comparison of alternative plans for ecosystem restoration and may be needed to evaluate beneficial use placement alternatives. Performs Cost Effectiveness/ Incremental Cost Analysis (CE/ICA).	Certified
Oyster Habitat Suitability Index	Used under the Habitat Evaluation Procedure Methodology. This Index assesses effects to oysters and determines appropriate mitigation. The PDT will use the species HIS models to quantify impacts and mitigation, and if needed, ecosystem restoration benefits of beneficial use measures for the focused array of alternatives.	Approved
Habitat Suitability Index (HSI) models (e.g., red	Used under the Habitat Evaluation Procedure Methodology. The PDT will use	Approved or Certified

<b>Model Name and Version</b>	<b>Model Description and How it Will be Used in Study</b>	<b>Certification/Approval</b>
drum, brown/white shrimp, etc.)	the species HIS models to quantify impacts and mitigation, and if needed, ecosystem restoration benefits of beneficial use measures for the focused array of alternatives.	

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. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. For example, HH&C models need to comply with the requirements of HH&C CoP Enterprise Standard 08101.

These engineering models may be used to develop the decision document:

**Table 4: Engineering Models.**

<b>Model Name and Version</b>	<b>Model Description and How it Will be Used in Study</b>	<b>Certification/Approval</b>
Micro-Computer Aided Cost Estimating System (MCACES, MII)	The second generation of the Micro-Computer Aided Cost Estimating System (MCACES) will be used to generate project costs. It is a detail cost estimating program that was developed in conjunction with Project Time & Cost, Inc. (PT&C). MII provides an integrated cost estimating system (software and databases) USACE requirements for preparing cost estimates for project alternatives.	Approved
Abbreviated Risk Analysis, Cost Schedule Risk Analysis	Cost risk analyses identify the amount of contingency that must be added to a project cost estimate and define the high-risk drivers. The analyses will include a narrative identifying the risks or uncertainties.  During the alternative's evaluation, the PDT will assist the cost engineer in defining confidence/risk levels associated with the project features within the abbreviated risk analysis. For the Class 3 estimate, an evaluation of risks will be performed using Crystal Ball Cost Schedule Risk Analysis for construction costs over \$40 million or the Abbreviated Risk Analysis for projects under \$40 million. This project triggers the CSRA use requirement.	Civil Works Cost Engineering and ATR MCX mandatory

<b>Model Name and Version</b>	<b>Model Description and How it Will be Used in Study</b>	<b>Certification/Approval</b>
Total Project Cost Summary (TPCS)	The TPCS is the required cost estimate document that will be submitted for either division or HQUSACE approval. The Total Project Cost for each Civil Works project includes all Federal and authorized non-Federal costs represented by the Civil Works Work Breakdown Structure features and respective estimates and schedules, including the lands and damages, relocations, project construction costs, construction schedules, construction contingencies, planning and engineering costs, design contingencies, construction management costs, and management contingencies. This model will be used to show costs by WBs Number for Cost Estimate, Project First Cost & Total Project Cost.	Civil Works Cost Engineering and ATR MCX mandatory
Corps of Engineers Dredge Estimating Program (CEDEP)	CEDEP is the required software program that will be used for dredging estimates using floating plants. CEDEP contains a narrative, documenting reasons for decisions and selections made by the cost engineer. Software distribution is restricted because it's considered proprietary to the Government. This model will be used to generate dredging quantities.	Civil Works Cost Engineering and ATR MCX mandatory
USACE Sea level Rise Calculator / Sea Level Tracker (SLT)	Shows actual sea level vs. the projected sea level change curves plainly and Answer the question, "What rate of sea level change is currently being observed at the selected gauge?" This model will be used to show FWOP sea levels.	USACE required
Coastal Modeling System (CMS)	An integrated two-dimensional (2D) numerical modeling system for simulating waves, currents, water levels, sediment transport and morphology change, and salinity and temperature. This model will be used to show FWOP and FWP coastal hydraulic conditions.	USACE Open Source
DELFT 3D	3D modeling suite will be used to investigate hydrodynamics, sediment transport and morphology and water quality for fluvial, estuarine and coastal environments.	Open Source
Corps Shoaling Analysis Tool (CSAT) V 2.6	CSAT will be used to calculate channel shoaling volumes using historical channel	

Model Name and Version	Model Description and How it Will be Used in Study	Certification/Approval
	surveys and uses the shoaling rates to predict future dredging volumes.	

**7. Factors Affecting Level and Scope of Review**

All planning products are subject to the conduct and completion of District Quality Control. Most planning products are subject to Agency Technical Review and a smaller sub-set of products may be subject to IEPR. Information in this section helps in the scoping of reviews through the considerations of various potential risks.

**Objectives of the Reviews**

Teams should perform a critical analysis of the intended outcome of reviews with particular attention to key technical considerations and associated risks likely to be encountered during the study and/or in later phases of the project. The Planning Centers of Expertise are adept at facilitating these types of outcome-based discussions and in capturing study-specific statements characterizing risks and the relevance of those risks to the objectives of various reviews. Teams are encouraged to collaborate with the appropriate planning center in conducting and documenting these risk assessments.

**District Quality Control.** DQC is the foundation of the USACE quality process, and it is this robust and appropriate process that is used to check models for accuracy and applicability. All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC.

This guidance applies to all Engineering modeling whether used in planning studies, feasibility, in PED or any other phase of a Civil Work’s project where models are updated or used. For computations using computer models and other complex methods of analysis, a reviewer must perform a review, hand check or other independent verification of the critical loading case or results to demonstrate that the conclusions from the model are appropriate.

This internal review process covers basic science and engineering work products. It fulfils the project quality requirements of the Project Management Plan.

SWD Quality Assurance (QA) responsibilities include an assessment of the capability of the DQC Review Team and that all reviewers performing computation Quality Checks are qualified with experience and have a thorough understanding of the computations to ensure that all calculations, assumptions and models used are correct.

**Agency Technical Review.** The Agency Technical Review (ATR) is “undertaken to ensure the quality and credibility of USACE scientific and technical information is consistent with ER 1165-2-217, Review Policy for Civil Works (CW), 01 May 2021. The role of the ATR is to “assess the adequacy of DQC, validate key PDT decisions, and bring up important issues, concerns and lessons learned.” ATR Teams are charged to review that “appropriate computer models and methods of analysis were used, and basic assumptions are valid and used for the intended purpose.”

ATR is performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. All engineering reviewers for ATR shall be nominated and approved in the Corps of Engineers Reviewer Certification and Access Program (CERCAP), and all planning reviewers shall be nominated and approved in the planner

database. Other ATR reviewers must be certified to be competent within their subject matter expertise for the review being completed and part of their specific charge is to review that appropriate models are used and were checked on a project.

The ATR lead and Review Managing Organization (RMO) are charged with ensuring that all technical disciplines relevant to the project are included in the review. The ATR team lead will be from outside the SWD. No targeted ATRs are anticipated. If significant life safety issues are involved in a study or project, an IEPR should be conducted during ATR.

### **Assessing the Need for IEPR**

#### Mandatory IEPR Triggers

- Has the Chief of Engineers determined the project is controversial? Yes
- Has the Governor of an affected state requested an IEPR? No
- Is the cost of the project more than \$200 million? Yes

#### Discretionary IEPR

- Has the head of another Federal agency requested an IEPR? No

#### Potential IEPR Exclusion

- Is the project cost greater than \$200 million? Yes, and
- Does the project have an Environmental Impact Statement (EIS)? Yes

#### IEPR Exclusion Condition A.

- Does the study include an EIS? Yes
- Is the project controversial? Yes
- Does the project have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources? No
- Does the project have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures? Yes
- Does the project, before implementation of mitigation measures, have more than a negligible adverse impact on a species listed as endangered or threatened species under the Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.) or the critical habitat of such species designated under such Act. Yes

### **OR**

#### IEPR Exclusion Condition B.

- Does the study include an EIS? Yes and
- Does the project involve only the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates within the same footprint and for the same purpose as an existing water resources project; No or
- Is for an activity for which there is ample experience within USACE and the industry to treat the activity as being routine; Yes and
- Does the project have minimal life safety risk? Yes

### **OR**

#### IEPR Exclusion Condition C.

- Does the study include an EIS? Yes, and
- Is the study being conducted under the general continuing authorities of the CAP? No

#### **Assessing Other Risk Considerations**

- Will the study likely be challenging? If so, describe how?
  - No. The study is straight forward. Reasons necessitating a PACR has been identified and internal review processes enhanced to prevent similar issues.
  - Yes. The schedule agreed to by the Galveston District and SWD is very tight with little room for error.
- Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks.
  - Economics: A significant portion of deepening project benefits would be based in part on a new type of activity: crude oil and condensate exports. Due to the lack of historical tonnage data for petroleum product exports from the Port, an assumption about throughput tonnage for the project Base Year will be necessary. This assumption will involve high uncertainty given high volatility in crude export markets and regional competition. Project justification will be highly sensitive to export volume assumed.
  - Economics: The design vessel for this study (mid-sized Aframax tanker of 110,000 DWT) is not calling in the existing condition and cannot call in the FWOP condition due to its displacement and its beam. The assumption is that the design vessel (a mid-sized Aframax tanker) would begin calling in the future with-project (FWP). The project is unlikely justified without deployment of the design vessel.
  - Cultural Resources: There is a high probability to encounter submerged cultural resources within the study.
  - Planning: The width of the channel in this study was calculated based on the design vessel, a mid-sized Aframax tanker, which is to be used for the new crude oil traffic, as described above. Should this activity not emerge as expected, the project width could be over-designed. Conversely, if the activity proves to be more substantial than expected, it could attract even larger vessels than the Aframax, as other ports along the Texas Gulf have, and the project could potentially be under-designed.
  - Residual Risk and Uncertainty: The 2019 study identified residual risks and uncertainties (Section 4.11.16). The tables ranked risks between None, Very Low and Low. Risk Management for each was described. Some risk management measures, such as resource agency coordination and oyster surveys, have since taken place.
- Is the project likely to be justified by life safety or is the study or project likely to involve significant life safety issues? Briefly describe the life risk, including the District Chief of Engineering's assessment as to whether there is a significant threat to human life associated with aspects of the study or failure of the project or proposed projects.
  - No. The project is not likely to be justified by life safety nor is the study or project likely to involve significant life safety issues.

- Is the information in the decision document or anticipated project design likely to be based on novel methods, involve 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? If so, how?
  - No. Neither the information in the decision document nor anticipated project design is likely to be based on novel methods, involve 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.
- Does the project design require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design/construction schedule? If so, how?
  - No. The project design does not require redundancy, resiliency, and/or robustness, unique construction sequencing nor a reduced or overlapping design/construction schedule.
- Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources? If so, what are the anticipated impacts?
  - See prior response.
- Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures? If so, describe the impacts?
  - See prior response.
- Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat? If so, what are the anticipated impacts?
  - See prior response.

## 8. Risk Informed Decisions on Level and Scope of Review

**Targeted ATR.** Will a targeted ATR be conducted for the study? **No**

**IEPR Decision.** IEPR is required. The PACR will document changes to the project since the final feasibility report. Most of those changes will be additions of placement options to the DMMP, resulting environmental impacts, and any required mitigation. Testing, handling, placing, and mitigating impacts of the dredged material are among the controversial aspects of the project. It is prudent to conduct a IEPR of these additions.

## 9. Policy and Legal Compliance Review

Policy and legal compliance review of draft and final planning decision documents is delegated to the SWD (see Director's Policy Memorandum 2019-01).

### (i) Policy Review.

The policy review team is identified through the collaboration of the SWD Chief of Planning and Policy and the HQUSACE Chief of the Office of Water Project Review. The makeup of the Policy Review team will be drawn from Headquarters (HQUSACE), the SWD, the Planning Centers of Expertise, and other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of decision documents as well as SMART Planning Milestone meetings. These engagements may include In-Progress Reviews, Issue Resolution Conferences or other vertical team meetings plus the milestone events.
- The input from the Policy Review team should be documented in a Memorandum for the Record (MFR) produced for each engagement with the team. The MFR should be distributed to all meeting participants.
- Teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

### (ii) Legal Review.

Representatives from the Office of Counsel will be assigned to participate in reviews. Members may participate from the District, SWD and HQUSACE. The SWD Chief of Planning and Policy will coordinate membership and participation with the office chiefs.

- In some cases, legal review input may be captured in the MFR for the particular meeting or milestone. In other cases, a separate legal memorandum may be used to document the input from the Office of Counsel.

Each participating Office of Counsel will determine how to document legal review input.

## 10. Public Comment

This Review Plan will be posted on the district's website. Public comments on the scope of reviews, technical disciplines involved, schedules and other considerations may be submitted to the district for consideration. If the comments result in a change to the Review Plan, an updated plan will be posted on the district's website.

## 11. Documents Distributed Outside the Government

For information distributed for review to non-governmental organizations, the following disclaimer shall be placed on documents:

**“This information is distributed solely for the purpose of pre-dissemination review under applicable information quality guidelines. It has not been formally disseminated by USACE. It does not represent and should not be construed to represent any agency determination or policy.”**

## 12. Appendix A - Brief Description of Each Type of Review

This section describes each level of review to be conducted. Based upon the factors discussed in Section 1, this study will undergo the following types of reviews:

**District Quality Control.** All decision documents and accompanying components will undergo DQC. This internal review covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan. The DQC team will read all reports and appendices. The review must evaluate the correct application of methods, validity of assumptions, adequacy of basic data, correctness of calculations (error-free), completeness of documentation, and compliance with guidance and standards. Districts are required to check all computations and graphics by having the reviewer place a highlight (e.g., place a “red dot”) on each annotation and/or number indicating concurrence with the correctness of the information shown.

**Agency Technical Review.** ATR will be performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. These teams will be comprised of certified USACE personnel. The ATR team lead will be from outside the SWD.

**Independent External Peer Review. IEPR is required for this decision document.** This is the most independent level of review and is applied in cases that meet criteria where the risk and magnitude of the project are such that a critical examination by a qualified team outside of USACE is warranted. Certain criteria dictate mandatory performance of IEPR, and other considerations may lead to a discretionary decision to perform IEPR. For this study, a risk-informed decision has been made that IEPR is appropriate. The information in Section 1 – Factors Affecting the Scope of Review – informed the decision to conduct IEPR.

**Cost Engineering Review.** All decision documents will be coordinated with the Cost Engineering Mandatory Center of Expertise (MCX). The MCX assisted in determining the expertise needed on the ATR and IEPR teams. The MCX will provide the Cost Engineering certification. The RMO is responsible for coordinating with the MCX for the reviews. These reviews occur as part of ATR.

**Policy and Legal Compliance Review.** These reviews culminate in determinations that report recommendations along with the supporting analyses and coordination to comply with law and policy as well as to warrant approval or further recommendation to higher authority by the SWD Commander.

**Public Review.** The district will post the Review Plan and approval memo on the district’s internet site. Public comment on the adequacy of the Review Plans will be accepted and considered. Additional public review will occur when the report and environmental compliance document(s) are released for public and agency comment.