REVIEW PLAN

Waukegan Outer Harbor, Waukegan, IL
Interim Dredged Material Management Plan

Chicago District

MSC Approval Date: Pending
Last Revision Date: 12 July 2012

US Army Corps
of Engineers ®

REVIEW PLAN

Waukegan Outer Harbor, Waukegan, IL
Interim Dredged Material Management Plan

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Waukegan Outer Harbor Interim Dredged Material Management Plan and Environmental Assessment.

b. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(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) PMP, Waukegan Outer Harbor Dredging, January 2012

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for 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 (PCXIN). The PCXIN point of contact is Mr. Wes Walker, Huntington District.

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.

3. STUDY INFORMATION

a. Decision Document. For the Waukegan Outer Harbor study, the District is developing an Interim Dredged Material Management Plan (DMMP). The Interim DMMP will describe a single dredging and disposal plan in lieu of the 20-yr project horizon of a typical DMMP. An Interim DMMP is being prepared due to the fact that this study and a single proposed dredging event are being funding by USEPA through the Great Lakes Restoration Initiative (GLRI). The funding is limited and contingent on a project being executed prior to the expiration of the GLRI program. The appropriate approval authority is the MSC. The Interim DMMP will be accompanied by an Environmental Assessment.

b. Study/Project Description. Waukegan Harbor is located on the western shoreline of Lake Michigan in Waukegan, Illinois. The manmade harbor is approximately 10 miles south of the Illinois-

Wisconsin state line and 40 miles north of Downtown Chicago. The harbor is not connected to any inland waterways. The Federal project consists of three different sections: Inner Harbor, Outer Harbor, and Approach Channel. While the Approach Channel to Waukegan Harbor is dredged regularly, the Inner and Outer Harbors have not been dredged by USACE since polychlorinated biphenyls (PCBs) were discovered near the project area in 1975.

Industrial contamination resulted in portions of the harbor area to be listed on USEPA's National Priority List and identified as an Area of Concern (AOC) due to a variety of beneficial use impairments, most notably restrictions on dredging activities. USEPA has been involved in remediation projects at the Inner Harbor and private slips under the Superfund program.

As part of the overall effort to delist Waukegan Harbor as an AOC, USACE has received a USEPA grant under the GLRI program to dredge the Outer Harbor. The Outer Harbor contains a backlog of approximately 96,000 cubic yards of shoaled sediment, which is impairing commercial navigation. Outer Harbor sediment is relatively clean and is believed to be suitable upland unconfined disposal, which will be confirmed through a field sampling investigation. The successful dredging of the Outer Harbor will result in both national and regional economic benefits and support USEPA's overall mission to remove the dredging restriction and delist Waukegan Harbor, which is a high priority to the agency. The specific project purpose for this study is inland navigation. Based on preliminary investigations, the most likely placement site is currently the former Coke Plant, a remediated Superfund site located adjacent to Waukegan Harbor. However, this site does present several challenges associated with potential future liability risks. Several other placement alternatives are also under consideration including the use of commercial landfills.

The District is actively working with the City of Waukegan, Waukegan Harbor Port District, the State of Illinois, and USEPA to identify suitable upland disposal sites. To date, the disposal locations under consideration would not require the construction of any permanent storage facilities and therefore should not require a cost-sharing non-Federal sponsor. Any legal requirements should be able to be covered under a Right of Entry agreement.

The preliminary estimate of the cost for dredging and disposal of 96,000 cubic yards is roughly $2 - $5 million.

c. Factors Affecting the Scope and Level of Review. This document outlines a routine maintenance dredging project, therefore the scope and level of review should be commensurate with the level of complexity of the project.

Challenges: The measures involved in dredging and beneficially using dredged material from the outer harbor are not expected to generate significant technical, institutional, or social challenges. The Chicago District has significant in-house expertise in dredging and experience constructing measures such as those that will be used for this project.

Project Risks: A detailed Risk Management Analysis for this study is included as Attachment 5. The greatest risk to this project involves the schedule. The Corps has a risk of losing USEPA GLRI funding for implementation if the decision document is not approved and a dredging contract is not awarded in FY13.

Life Safety: The project will neither be justified by life safety or will involve significant threat to human life/safety assurance. There is no reason to believe that any measures involved in the project are associated with a significant threat to human life.

Governor Request for Peer Review: The Governor **has not** requested peer review by independent experts.

Public Dispute: The project/study is not anticipated to be controversial nor result in 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. Several stakeholders are actively being coordinated with including USEPA, Illinois EPA, and Illinois DNR. USACE has long term relationships with agencies relating to Waukegan Harbor projects and the delisting of the Waukegan Harbor AOC is a major priority for the USEPA.

Project Design/Construction: The anticipated project design will take advantage of prevailing practices and methodologies. It is not expected to be based on novel methods or involve the use of innovative techniques, or present complex challenges for interpretation. It also not anticipated that the project will require unique construction sequencing or redundancy.

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. No specific in-kind contributions will be utilized that would require specific review.

4. DISTRICT QUALITY CONTROL (DQC)

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

a. Documentation of DQC. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements. It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander. The Major Subordinate Command (MSC)/District quality management plans address the conduct and documentation of this fundamental level of review; DQC is not addressed further in this review plan.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and

results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

a. Products to Undergo ATR.

The District anticipates Agency Technical Review to occur prior to the Alternative Formulation Briefing (AFB) milestone. An AFB review will be needed to receive approval from the MSC to release the NEPA document for public review.

- Draft Interim Dredged Material Management Plan (AFB level)
- Draft Environmental Assessment/ Finding of No Significant Impacts

b. Required ATR Team Expertise.

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.
Plan Formulation	The plan formulation reviewer should be a senior planner with experience in routine navigation dredging
Economics	The economics reviewer should be a senior economist with experience in routine navigation dredging.
NEPA Compliance	The NEPA compliance reviewer should have experience in routine disposal of dredged material.
Cost Engineering	The cost engineering reviewer should have experience in routine navigation dredging.

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 be 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 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 AFB, 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 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire

decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- 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. Based on the criteria set forth in EC1165-2-209, the proposed study will not require Type I or Type II IEPR. As included in paragraph 3(c), the project study does not pose a significant threat to human life; the estimated total cost of the project is less the $45 million; the governor of the State has not requested a peer review by independent experts; and the DCW or the Chief of Engineers has not determined the project study to be controversial in nature or to result in significant public dispute over either the size, nature, or effects of the project or the economic or environmental costs or benefits of the project.

Since this study does not meet any of the criteria for Type I or II IEPR and since Interim DMMPs are not typically subject to IEPR reviews, the District is seeking an IEPR exclusion from the MSC without having to submit a formal waiver request.

b. Products to Undergo Type I IEPR. Not-Applicable

c. Required Type I IEPR Panel Expertise. Not-Applicable

d. Documentation of Type I IEPR. Not-Applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. 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.

9. 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 is still the responsibility of the users and is 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. No planning models are anticipated to be used in the development of the decision document.

b. Engineering Models. No engineering models are anticipated to be used in the development of the decision document.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

ATR is only being scheduled for the AFB milestone. This is consistent with other planning products which are approved at the MSC level. The anticipated cost of ATR is $10,000.

Milestone/Task	Date
Submit IPR White Paper	Jul-12
Agency Technical Review	Aug-12
Submit AFB Document	Sep-12
Public Review of EA	Nov-12
Submit Final Decision Document	Dec-12

b. Type I IEPR Schedule and Cost. Not-Applicable

c. Model Certification/Approval Schedule and Cost. Not-Applicable

11. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. The Environmental Assessment will each be posted for 30 day public comment period. This Review Plan will be posted on the District's internet site and comments from the public will be accepted.

12. REVIEW PLAN APPROVAL AND UPDATES

The Great Lakes and Ohio River Division 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.

13. REVIEW PLAN POINTS OF CONTACT

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

Chicago District (CELRC):
, PM-PM, Project Manager,
, PM-PL-F, Lead Planner,

Great Lakes and Ohio River Division (CELRD):
, PDS-GL, District Liaison,
, PDS-P, Planning and Policy,

Planning Center of Expertise for Inland Navigation (PCX-IN):
, CELRH-NC, Technical Director,

ATTACHMENT 1: TEAM ROSTERS

Table 1 – Study Project Delivery Team

Discipline	Name	Phone	E-mail
Project Manager			
Lead Planner			
Regional Economist			
Biologist			
Cult & Arch. Resources			
Cost Engineer			
Civil Engineer			
Environmental			
Operations			
Operations			
Geotech			
Real Estate			
City of Waukegan			
USEPA			
Waukegan Port District			
IDNR			

Table 2 – Major Subordinate Command Planning and Policy Team

Discipline	Name	Office
Great Lakes and Ohio River Division		
Chief, Planning & Policy		CELRD-PP
District Liaison		CELRD-GL
Planning & Policy		CELRD-PP
Planning & Policy		CELRD-PP
Planning & Policy		CELRD-PP

Table 3 – Planning Centers of Expertise Team

Discipline	Name	Office
PCXIN		CELRH-NC

Table 4 – Agency Technical Review Team

Discipline	Name	Office/Agency
ATR Lead/ NEPA Compliance		MVR
Plan Formulation		LRE
Economics		LRB
Cost Engineering		LRE

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[sm].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Date

Project Manager
CELRC-PM-PM

SIGNATURE _____ _____

Date

Review Management Office Representative
PCX-IN

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE _____ _____

Date

Chief, Planning Branch
CELRC-PM-PL

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	OEO	Outside Eligible Organization
ASA(CW)	Assistant Secretary of the Army for Civil Works	OSE	Other Social Effects
ATR	Agency Technical Review	PCX	Planning Center of Expertise
DQC	District Quality Control/Quality Assurance	PDT	Project Delivery Team
DX	Directory of Expertise	PMP	Project Management Plan
EA	Environmental Assessment	PL	Public Law
EC	Engineer Circular	QMP	Quality Management Plan
EO	Executive Order	QA	Quality Assurance
Home District/MSC	The District or MSC responsible for the preparation of the decision document	QC	Quality Control
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
MSC	Major Subordinate Command	RTS	Regional Technical Specialist
NED	National Economic Development	SET	Scientific and Engineering Technology
NEPA	National Environmental Policy Act	SAR	Safety Assurance Review
OMB	Office and Management and Budget	USACE	U.S. Army Corps of Engineers
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation	WRDA	Water Resources Development Act

ATTACHMENT 5: RISK MANAGEMENT ANALYSIS

Risk Factor	Event	Probability of Occurrence	Severity of Risk	Overall Project Risk	Risk Response/Control (Ac)-Accept (Av)-Avoid (M)-Mitigate
HEALTH & SAFETY	Minor injury needing first aid	Seldom	Negligible	Low	(Av) Follow Health & Safety Plan
	Minor injury/accident	Seldom	Marginal	Low	(Av) Follow Health & Safety Plan
	Major accident with permanent partial/temporary total disability >3 months	Unlikely	Critical	Low	(Av) Follow Health & Safety Plan
	Major accident causing death or permanent total disability	Unlikely	Catastrophic	Low	(Av) Follow Health & Safety Plan
COST SHORTAGE/ OVERRUN	Insignificant cost increase	Likely	Negligible	Low	(Ac) Update 2101 form monthly
	5-10% cost increase	Seldom	Marginal	Low	(M) Update 2101, reallocate resources
	10-20% cost increase	Unlikely	Critical	Low	(M) Update 2101, reallocate resources
	>20% cost increase	Unlikely	Catastrophic	Low	(Av) Revise Scope of Work
SCHEDULE DELAYS	Insignificant schedule slippage	Likely	Negligible	Low	(Ac) Adjust Milestone date
	5-10% schedule slippage	Seldom	Marginal	Low	(M) Adjust Milestone date; Increase progress reporting frequency
	10-20% schedule slippage	Unlikely	Critical	Low	(M) Adjust Milestone date; Increase progress reporting frequency
	>20% schedule slippage	Unlikely	Catastrophic	Low	(M) Adjust project completion date
SCOPE OF WORK	Scope change barely noticeable	Seldom	Negligible	Low	(M) Update PMP; Follow Communications Plan
	Minor areas of scope are affected	Seldom	Marginal	Low	(M) Update PMP; Follow Communications Plan
	Scope change unacceptable to customer	Unlikely	Critical	Low	(Av) Review SOW w/Stakeholders
	Project end item is effectively useless	Unlikely	Catastrophic	Low	(Av) Review goals & objectives
QUALITY ISSUES	Quality degradation barely noticeable	Seldom	Negligible	Low	(Av) ATR; Follow QCP/QAP and Review Plan (RP)
	Quality reduction requires customer approval	Unlikely	Marginal	Low	(Av) ATR; Follow QCP/QAP and RP
	Quality reduction unacceptable to customer	Unlikely	Critical	Low	(Av) ATR; Follow QCP/QAP and RP
	Project end item is effectively useless	Unlikely	Catastrophic	Low	(Av) ATR; Follow QCP/QAP and RP
PROJECT SPECIFIC	Timely funding unvailable for project implimentation	Likely	Critical	High	(Av) Understand budgetary needs and communicate capabilities; (M) Adjust implementation schedule to match non-federal sponsor funding capability as necessary
	Local partners do not identify acceptable placement site	Unlikely	Critical	Moderate	(Av) Maintain communication regarding partner progress throughout project.
	Vertical chain does not accept liability risks associated with Superfund placement	Unlikely	Critical	Moderate	(Av) Maintain communication with vertical chain throughout project.
	EPA management decides not to fund project. Decides to handle themselves.	Seldom	Marginal	Low	(Ac) Funding decisions are at discretion of EPA.

ATTACHMENT 6: PROJECT SCHEDULE

Major Milestone	Date
NEPA Scoping	May 2012
Submit IPR White Paper	July 2012
In Progress Review Meeting	July 2012*
Agency Technical Review	August 2012*
Submit ATR Document	September 2012*
Alternative Formulation Briefing	October 2012*
NEPA Public Review	November 2012*
Final Report Submitted to LRD	December 2012*

* Estimated dates are included for milestones not yet completed