



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
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CINCINNATI, OH 45202-3222

CELRD-PD-G

7 FEB 13

MEMORANDUM FOR Commander, U.S. Army Engineer District, Chicago (Susanne Davis/CELRD-PM-PL), 111 N. Canal, Suite 600, Chicago, IL, 60606-7206

SUBJECT: Review Plan for Indian Ridge Marsh, Section 1135 Project

1. The attached Review Plan (RP) for Indian Ridge Marsh was presented to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-214 "Civil Works Review" dated 15 December 2012.
2. The Indian Ridge Marsh project is located on southeast side of Chicago, Illinois. The site covers about 145 acres between Lake Calumet to the West and the Calumet River to the East. The site was once used for the disposal of slag from steel making operations and dredged materials from the Calumet Harbor and River during the 1970s. Since then, lower quality wetlands have reestablished throughout the site. The poor hydrology of the disturbed area has isolated the wetlands and ponds, allowing the wetlands to become overgrown with invasive and non-native species and reducing the diversity of native aquatic life. Two water control structures will be installed at the project site to control the water levels and improve hydrology. The project preserves the existing Black-crowned Night Heron rookery; enhances and naturalizes existing aquatic, wetland, and woodland areas; creates marsh, wet prairie, mesic prairie, savanna, and wet woodland habitats; and protects restored areas while encouraging public access.
3. The RP defines the scope and level of peer review for the activities to be performed for the subject project. The USACE LRD Review Management Organization (RMO) has reviewed the attached RP and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-214.
4. I concur with the recommendations of the RMO and approve the enclosed RP for the Indian Ridge Marsh project.
5. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP should be removed.
6. If you have any questions please contact Dr. Hank Jarboe, CELRD-PDP, at (513) 684-6050.

ROBERT D. PETERSON
Colonel, USA
Acting Commander

Encl
Review Plan

IMPLEMENTATION DOCUMENT REVIEW PLAN
USING THE PROGRAMMATIC REVIEW PLAN MODEL
for
Continuing Authorities Program (CAP)
Projects

[Indian Ridge Marsh](#)
Section 1135 Project

[Chicago District](#)

MSC Approval Date: February 7, 2013
Last Revision Date: January 3, 2013



**US Army Corps
of Engineers** ®

**IMPLEMENTATION DOCUMENT REVIEW PLAN
USING THE PROGRAMMATIC REVIEW PLAN MODEL**

**Indian Ridge Marsh, Chicago, IL
Section 1135 Project**

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS	2
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION	4
3. STUDY INFORMATION.....	4
4. DISTRICT QUALITY CONTROL (DQC)	5
5. AGENCY TECHNICAL REVIEW (ATR)	5
6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)	6
7. POLICY AND LEGAL COMPLIANCE REVIEW	7
8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION.....	8
9. MODEL REVIEW.....	8
10. REVIEW SCHEDULES AND COSTS	8
11. PUBLIC PARTICIPATION	9
12. REVIEW PLAN APPROVAL AND UPDATES	9
13. REVIEW PLAN POINTS OF CONTACT	9
ATTACHMENT 1: PDT TEAM ROSTER.....	10
ATTACHMENT 2: ATR TEAM ROSTER – NOT APPLICABLE	11
ATTACHMENT 3: STATEMENT OF TECHNICAL REVIEW FOR PLANS AND SPECIFICATIONS.....	12
ATTACHMENT 4: STATEMENT OF RISK INFORMED DECISION MAKING	13
ATTACHMENT 5: PROJECT RISK REGISTER.....	14
ATTACHMENT 6: ACRONYMS AND ABBREVIATIONS.....	15

1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review in accordance with EC 1165-2-209, for the Indian Ridge Marsh, Section 1135 project life cycle, including the previously completed decision document and the design and implementation of the project.

Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, provides the authority to modify existing Corps projects to restore the environment and construct new projects to restore areas degraded by Corps projects with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F.

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

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

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

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

This review plan is based on the model Programmatic Review Plan for CAP project decision documents, which is applicable to projects that do not require an EIS. If an EIS is required, the model Programmatic Review Plan is not applicable and a study specific review plan must be prepared by the home district, coordinated with the appropriate Planning Center of Expertise (PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-209.

The model Programmatic Review Plan for CAP project decision documents was used to cover implementation products. Following the format of the model programmatic review plan, the project review plan was modified to incorporate information for the review of the design and implementation phases of the project.

c. References

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

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

transparent, described to address any limitations of the model or its use, and documented in study reports (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for CAP decision documents and IEPR decisions is the home MSC. The MSC will coordinate and approve the review plan. The Chicago District will post the approved review plan on its public website. A copy of the approved review plan (and any updates) will be provided to the ECO-PCX to keep the PCX apprised of requirements and review schedules.

3. STUDY INFORMATION

- a. **Decision Document.** The Indian Ridge Marsh, Chicago, IL decision document (Detailed Project Report) was approved in May 2003 and concluded that there was a Federal interest in the project. Indian Ridge Marsh covers over 145 acres on the southeast side of Chicago between Lake Calumet and the Calumet River. The primary focus of alternatives consisted of enhancing and naturalizing existing aquatic, wetland, and woodland areas, creating and monitoring marsh, prairie, and savanna communities, seeding and planting native species, and protect restored areas while encouraging public access. An Environmental Assessment (EA) was prepared along with the decision document and a FONSI was signed on February 5, 2002.

Following the completion of the DPR, plans and specifications (P&S) commenced but were delayed for many years due to federal funding issues (between 2003 and 2010). Since the FONSI was signed on February 5, 2002, a supplemental EA was prepared in February 2010 prior to completion of P&S.

- b. **Project Description.** Located on southeast side of Chicago, the Indian Ridge Marsh project site covers about 145 acres between Lake Calumet to the West and the Calumet River to the East. The site is bounded by 116th street on the north, Torrence Avenue on the east, the Calumet River on the south, and the Norfolk and Western railroad on the west. Specifically, the Indian Ridge Marsh site was used for the disposal of slag from steel making operations and dredged materials from the Calumet Harbor and River during the 1970s. Large portions of the marsh were filled with dredge material from disposal activities of the U. S. Army Corps of Engineers. Since then, lower quality wetlands have been reestablished throughout the site. The poor hydrology of the disturbed area has isolated the wetlands and ponds, allowing the wetlands to become overgrown with invasive and non-native species and reducing the diversity of native aquatic life. Two water control structures will be installed at the project site to control the water levels and improve hydrology. The project preserves the existing Black-crowned Night Heron rookery; enhances and naturalizes existing aquatic, wetland, and woodland areas; creates marsh, wet prairie, mesic prairie, savanna, and wet woodland habitats; and protects restored areas while encouraging public access.

Both the DPR and P&S were completed by an AE. The DPR and P&S included the appropriate ITR conducted by the AE, and associated quality assurance (QA) reviews by the Chicago District resulting in the Planning Chief's, ITR and legal certifications, and statement of design complete. The DPR was completed in February 2002 and approved in May 2003. The P&S were completed in July 2010. A project cooperation agreement (PCA) was executed in July 19, 2010. The total estimated cost for the recommended plan was estimated to be \$6,700,000. The Federal share is estimated at \$5,000,000 and the nonfederal share is estimated at \$1,700,000. There is no benefit-cost-ratio as

the project is justified based upon ecosystem benefits. A four year construction contract was awarded in September 2010.

- c. Factors Affecting the Scope and Level of Review.** The scope of review the Indian Ridge Marsh project is affected by the life cycle duration of the project. The feasibility decision document was completed in 2003 which included ITR, and a Supplemental EA completed in 2010 due to the time period between feasibility and design. The PCA was executed in 2010. The project was temporarily suspended between 2003 and 2010 due to lack of federal funding to complete P&S and award the construction contract. Federal funding was received in FY10 to complete the P&S and award the construction contract. The project does not have a life safety issue and there are no public disputes based on construction activities. Project risks have been identified and are listed in the project risk register in Attachment 5.
- d. In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. No in-kind products were used for the DPR. Additionally, no in-kind products were used as part of the design and implementation phase.

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 Process of the District and the home MSC.

Both the DPR and P&S were completed by an AE. The DPR and P&S included the appropriate ITR conducted by the AE, and associated quality assurance (QA) reviews by the Chicago District resulting in the Planning Chief's, ITR, BCOE, real estate and legal certifications, and statement of design complete. Indian Ridge Marsh is currently under construction. QA/QC during construction is managed through the District's Construction office and Contracting Officer in accordance to the Regional and District Business Processes and contract requirements.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision and implementation 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. The completion of the DPR and the LRR preceded the commencement of ATR for decision documents. At the time, ITR was the means for ensuring technical compliance with established policies. ITR was completed on the DPR in February 2002 and on the P&S in June 2010 by the AE. Both the DPR and P&S were internally reviewed by Chicago District to complete the required QA reviews.

Products to Undergo ATR. None anticipated. A four year construction contract was awarded in September 2010.

a. Required ATR Team Expertise. Not Applicable.

b. Documentation of ATR. Not Applicable.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

For Section 1135 decision documents prepared under the model Programmatic Review Plan, Type I IEPR may or may not be required.

- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

For Section 1135 decision documents prepared under the model Programmatic Review Plan, Type II IEPR may or may not be anticipated to be required in the design and implementation phase. The decision on whether Type II IEPR is required will be verified and documented in the review plan prepared for the design and implementation phase of the project.

a. **Decision on Type I IEPR.** It is the policy of USACE that Section 1135 project decision documents should undergo Type I IEPR unless ALL of the following criteria are met:

- Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life;
- Life safety consequences and risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an EIS;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

Based on the information and analysis provided in the preceding paragraphs of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis. In addition, the decision document for the project was approved in May 2003, prior to the IEPR requirements of WRDA 2007.

b. **Products to Undergo Type I IEPR.** None

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

d. **Documentation of Type I IEPR.** Not applicable.

e. **Decision on Type II IEPR.** The project does not involve a significant threat to human life. This is an ecosystem restoration project with low risk impacts as outlined in the risk register (Attachment 5). A Type II IEPR will not be applicable.

f. **Products to Undergo Type II IEPR.** Not Applicable.

g. **Documentation of Type II IEPR.** Not Applicable.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents were 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.

Both the DPR and P&S were completed by an AE. The DPR and P&S included the appropriate ITR conducted by the AE, and associated quality assurance (QA) reviews by the Chicago District resulting in the Planning Chief's, ITR, BCOE, real estate and legal certifications, and statement of design complete in accordance with the current policies, guidance and regulations at the time.

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

The decision document was completed in 2003 before such certification was required. The contract for Indian Ridge March project have been awarded and currently under construction. Certification of the cost estimate is not required for construction contracts.

9. MODEL REVIEW

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

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.** Not Applicable as project is in construction.
- b. Engineering Models.** Not Applicable as project is in construction.

10. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** Not Applicable.
- b. Type I IEPR Schedule and Cost.** Not Applicable.

c. Model Review Schedule and Cost. Not Applicable.

11. PUBLIC PARTICIPATION

Throughout the feasibility study and P&S phase, several meetings were held with local officials and groups to discuss the recommended plan. The public expressed support for the project. The EA was sent out for agency and public review in 2001, and the FONSI signed in February 2002. The study was coordinated with the U.S. Fish and Wildlife Service pursuant to the requirements of the Fish and Wildlife Coordination Act in July 2001. Coordination was made with the Illinois Environmental Protection Agency over the years. Due to project delays, because of lack of federal funding, the 401 permit was received in October 2010.

12. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this review plan and ensuring that use of the Model Programmatic Review Plan is appropriate for the specific project covered by the plan. The review plan is a living document and may change as the study progresses. The home district is responsible for keeping the review plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 7. Significant changes to the review plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. Significant changes may result in the MSC Commander determining that use of the Model Programmatic Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-209 and Director of Civil Works' Policy Memorandum #1. The latest version of the review plan, along with the Commanders' approval memorandum, will be posted on the home district's webpage.

13. REVIEW PLAN POINTS OF CONTACT

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

- Project Manager
- Chief Planning Branch
- Senior Regional Engineer, Great Lakes and Ohio River, Engineering Division
- Chief Design Branch

ATTACHMENT 1: PDT TEAM ROSTER

Team Member	Area of Expertise	Contact Information
	Project Manager	
	Lead Engineer	
	AE's Project Manager	
	Project Engineer	
	Contracting Officer	
	Construction Contractor's Project Manager	
	Lead Planner/Restoration Ecologist	

ATTACHMENT 2: ATR TEAM ROSTER – NOT APPLICABLE

Team Member	Area of Expertise	Contact Information

ATTACHMENT 3: STATEMENT OF TECHNICAL REVIEW FOR PLANS AND SPECIFICATIONS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for plans and specifications for the Indian Ridge Marsh, Chicago, IL CAP Section 1135 project. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-209 and Director of Civil Works’ Policy Memorandum #1. 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 U.S. 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.

_____	_____
ATR Team Leader	Date
_____	_____
Project Manager	Date
_____	_____
Chief, Planning Branch	Date
_____	_____
Chief, Design Branch	Date
_____	_____
Senior Regional Engineer, CELRD RMO	Date

ATTACHMENT 4: STATEMENT OF RISK INFORMED DECISION MAKING

CERTIFICATION OF RISK INFORMED DECISION FOR TYPE II IEPR

In accordance with Appendix E of EC 1165-2-209, the ecosystem restoration project was evaluated for life safety risks. There are no innovative materials or techniques to be used on this project. The project does not require redundancy, resiliency, or robustness as the project only involves restoration activities. The project does not have unique construction sequencing and overlapping schedules. In light of the risk-informed decision making process, I have determined that a Type II IEPR (Safety Assurance Review) is not required for this project.

Chief, Technical Services Division

Date

ATTACHMENT 5: PROJECT RISK REGISTER

INDIAN RIDGE MARSH SECTION 1135 - CONSTRUCTION

C

RISK EVENT	RISK DESCRIPTION	TRIGGER	PROBABILITY	SEVERITY	RISK DECISION LEVEL	RISK OWNER	RISK RESPONSE	RESPONSE DESCRIPTION	ISSUE
Communication with LS	multiple parties inconsistent communication	changes in funding and schedule, media	occasional	marginal	PM	PM	mitigation	key contact at USACE and LS to relay messages, updated	X
Utilities	may be in the way of water control structure	confirm utilities and possible re-design	likely	marginal	AE, Contractor	PM	transference	web pages re-design responsibility of AE	
Federal funding	lack of federal funds to complete S&A	no FY12 federal budget or reprogramming	occasional	marginal	PM	PM	mitigation	reduce QA efforts by field and/or restoration ecologist	
\$5M federal funding limit	unexpected modification to construction contract	contract modification or differing site conditions	occasional	marginal	PM	PM	mitigation/transference	reduce the establishment period increase O&M responsibilities	
Real estate appraisal	final credit	approval of final appraisal	unlikely	marginal	PM	PM	mitigation/transference	final credit appraisal already approved	
Construction requirements	removing culvert under road and installing water control structure	construction activities in the vicinity of road and pipeline	occasional	marginal	COR	COR	transference	road or pipeline compromised during construction is the responsibility of contractor	

ATTACHMENT 6: ACRONYMS AND ABBREVIATIONS

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

ATTACHMENT 7: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number