

# **QUALITY CONTROL (QC) AND INDEPENDENT TECHNICAL REVIEW (ITR) PLAN**

## **1.0 PURPOSE**

This review plan presents the process that assures quality products for the Asharoken, North Shore of Long Island, New York feasibility study. This QC and ITR plan defines the responsibilities and roles of each member on the study and technical review team.

The product to be reviewed by the technical review team is the Asharoken Coastal Storm Damage Reduction Feasibility Study. Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, as detailed in EC1105-2-408 dated May 31, 2005, the ITR will be conducted by specialists from organizations outside of the district responsible for the study. This External ITR will be conducted for all decision documents requiring Congressional authorization and will be independent of the technical production of the project. This QC and ITR plan is, by reference, a part of the project management plan.

## **2.0 APPLICABILITY**

This document provides the quality control plan for the Asharoken Beach Erosion Control and Storm Damage Reduction feasibility study. It identifies quality control processes and independent technical review for all work to be conducted under this study authority, including in-house, sponsor, and contract work.

## **3.0 REFERENCES**

- EC 1105-2-408 "Peer Review of Decision Documents" (May 31, 2005)
- EC 1105-2-407 "Planning Models Improvement Program: Model Certification" (May 31, 2005)
- EC 1105-2-409 "Planning in a Collaborative Environment" (May 31, 2005)
- ER 1105-2-100 "Planning Guidance Notebook and Appendices"

## **4.0 GENERAL PROJECT DESCRIPTION**

Asharoken Beach is located on the north shore of Long Island between Eaton's Neck Point to the west and the Long Island Lighting Company (LILCO) Power Plant to the east on Long Island Sound. The beach is a narrow section of land in the Town of Huntington on the north shore of Long Island, which connects Eaton's Neck and the Village of Asharoken with the Village of Northport. The length of Asharoken Beach is approximately 2.4 miles, and the width varies from 100 feet at the northwestern section to 1,000 feet at the southeastern limit near the LILCO power plant. The roadway along Asharoken Beach (Asharoken Avenue) provides the only access to Eaton's Neck, a community of approximately 5,000 residents.

In the late 18<sup>th</sup> century, a shoal began to form between Long Island and Eaton's Neck Island, gradually becoming navigable at high tide only. As a result of longshore

transport from the east, accretion of the shoal continued, eventually joining Eaton's Neck with Long Island. In the 1960's LILCO constructed the Northport power plant adjacent to the Northport basin. Fuel oil for the power plant is delivered by 50,000 DWT tankers to a platform located approximately 2 miles offshore and piped to the plant. Tugs and other vessels which service the platform are moored in Northport basin. The basin also provides a town boat ramp which is frequented in the summer months by local residents.

As part of LILCO's plant construction, an existing barge jetty located east of the Northport Basin inlet was rehabilitated into a quarrystone and concrete riprap jetty and revetment. An additional quarrystone jetty on the west side of the inlet was constructed. According to local officials the shoreline east and west of the basin originally exhibited no offset. However, since the jetty construction the west shoreline (Asharoken Beach) has experienced erosion and the east shoreline has accreted.

During past storm events, private, municipal, and individual structures were damaged, and flooding of Asharoken Avenue has occurred at the northwestern portion of the study area. Since the shoreline continues eroding, the properties would be subject to increased storm damage without shore protection measures. During the past storms the northwestern portion of the study area has experienced wave attacks which have caused overtopping of the dune system. This overtopping has deposited sand and debris and has created ponding of water on Asharoken Avenue causing the road to be impassible for more than 24 hours. Asharoken Avenue is the only access to the mainland for the approximately 5,000 residents of Eaton's Neck. The critical problem for the project area is the constant beach erosion fronting Asharoken Avenue at the northwestern end of Asharoken Beach near the intersection of Bevin Road. This erosion threatens vital access to Eatons Neck. Closure of Asharoken Avenue, as occurred during the December 1992 northeaster, stranded the residents of Eatons Neck for about 2 days. The loss of access creates a safety hazard as Eatons Neck is cut off from emergency services including fire, police and ambulance. While Asharoken Avenue was blocked following the December 1992 storm, two residents of Eatons Neck had to be evacuated by helicopter for medical treatment. Continued erosion has left this roadway exposed to a potential for catastrophic failure requiring evacuation of the isolated community of Eatons Neck.

The North Shore of Long Island, New York study was authorized by the Committee of Public Works and Transportation, United States House of Representatives, adopted 13 May 1993. To wit:

*Resolved by the Committee on Public Works and Transportation of the United States House of Representative, That, the Secretary of the Army, acting through the Chief of Engineers, is requested to review the report of the Chief of Engineers on the North Shore of Long Island, Suffolk, County, New York, published as House Document 198, Ninety-second Congress, Second Session, and other pertinent reports to determine whether modifications of the recommendations contained therein are advisable at the present time, in the interest of beach erosion control, storm damage reduction and related purposes, on the North Shore of Long Island, New York, particularly in and adjacent to the communities*

The feasibility study alternatives were formulated in accord with Planning Guidance and Collaborative Planning Guidance. Plans outlined in the draft feasibility study emphasize coastal storm damage reduction activities that involve construction of structures or fill and are most likely to be appropriate for Corps initiatives. The non-Federal sponsor (NYSDEC) is fully supportive of measures to control erosion and reduce storm damage. It has also committed to using funds from the account that it manages to assist in the study and possible construction.

## **5.0 REVIEW REQUIREMENTS**

Initial Quality Control (QC) review has been handled within the Branch performing the work. Additional QC will be performed by the Project Delivery Team (PDT) during the course of completing the Feasibility Study. The detailed checks of computations and methodology should be performed at the District level, and the processes for this level of review are well established. Pursuant to EC 1105-2-408, item 2 c (2), Models used in the preparation of decision documents covered by this Circular will be reviewed in accordance with EC 1105-2-407, Planning Models Improvement Program: Model Certification. There are two spreadsheet-based economic models being utilized, which would need to be reviewed consistent with the current certification procedures.

Pursuant to EC 1105-2-408, the Feasibility study and EIS will need a full ITR team coordinated by the Planning Center of Expertise (PCX) for Coastal Storm Damage Reduction Projects. It is recommended that the ITR be handled entirely within USACE, as the scope and level of technical complexity do not warrant an External Peer Review (EPR), based upon the initial Risk Screening Process conducted by the PDT noted in Section 9. The study is not controversial or precedent setting, nor does it have highly significant national importance so as to warrant risk abatement external peer review. As a result, the ITR will focus on:

- 1 Review of the planning process and criteria applied.
- 2 Review of the methods of preliminary analysis and design.
- 3 Compliance with authority and NEPA requirements.
- 4 Completeness of preliminary support documents.
- 5 Spot checks for interdisciplinary coordination.

## **6.0 REVIEW PROCESS**

The ITR review process has not commenced; as stated above, the PCX for Coastal Storm Damage Reduction will coordinate this process. The review will cover key formulation and benefit and cost assessment areas. Major review process milestones are listed below:

- 1 Draft Report Review
- 2 Final Report Review

## **7.0 REVIEW COST**

The final cost of the ITR is to be determined between the PDT and the PCX. It is assumed that any remaining documents to be reviewed will be transmitted electronically. Comments will be made and addressed in Dr. Checks. It is also assumed that the external ITR team will be working virtually. Only under extreme circumstances should the external ITR team, or a representative of that team, be required to travel to physically attend PDT or milestone meetings. The external ITR team should, with this constraint, participate in all remaining milestone meetings.

## 8.0 REVIEW SCHEDULE

The review schedule is as follows:

| <u>TASK</u><br><u>DATE</u>                                       | <u>START DATE</u> | <u>FINISH</u> |
|--|-------------------|---------------|
| Develop ITR Plan and post to Web Site, PCX                       | June 2007         | July 2007     |
| Identify Regional ITR resources and<br>Recommend ITR Plan to PCX | July 2007         |               |
| Sponsor Approves ITR Plan  | July 2007         |               |
| Review of Models   | Aug 2007          |               |
|  | N/A (within ITR)  |               |
| Alternative Formulation Briefing                                 |                   |               |
| Review of Draft Report   | October 2007      |               |
| Review of Final Report   | March 2008        |               |

## 9.0 PROJECT RISK

The PDT has completed an initial risk assessment associated with this project based upon five factors and rated the project quantitatively among five levels of project risk of failure ranging from low to high (risk score class). The PDT scored each Project Risk Item in the Review Plan Score Guide (Table 9.1) and calculated an overall Average Project Risk Assessment Score. The exact value of the scores were not as important as compared to what risk score class (low, medium, or high) the Average Project Risk Assessment Score was classified as. Based upon the PDT analysis, the project is medium in risk because it did not receive an overall high risk score.

The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating. The Project Schedule and Cost were assessed as a low degree of risk if they both remained flexible and a high degree of risk if the Project schedule and cost was fixed. Staff Technical Experience was assessed as a low degree of risk if the staff had a high level of beach erosion control and coastal storm damage reduction experience and a high degree of risk if the staff had a low level of experience. The results of the evaluation are tabulated as follows:

**Table 9.1 Review Plan Score Guide**

| Project Risk Item                            | Risk Assessment Score<br>(Low Degree to High Degree) |   |        |   |      | Score                   |
|--|--|---|--------|---|------|-------------------------|
|  | Low  |   | Medium |   | High |                         |
| Project Complexity                           | 1  | 2 | 3      | 4 | 5    | 3                       |
| Customer Expectations                        | 1  | 2 | 3      | 4 | 5    | 4                       |
| Product Schedule/Cost                        | 1  | 2 | 3      | 4 | 5    | 3                       |
| Staff Technical Experience                   | 1  | 2 | 3      | 4 | 5    | 2                       |
| Failure Impact and Consequences              | 1  | 2 | 3      | 4 | 5    | 2                       |
| <b>Average Project Risk Assessment Score</b> |  |   |        |   |      | <b>2.8<br/>(Medium)</b> |

## 10.0 REVIEW PLAN

The components of the review plan were developed pursuant to the requirements of EC1105-2-408.

### 10.1 Team Information

The decision document that will be the ultimate focus of the review process is the Asharoken Beach Erosion Control and Storm Damage Reduction Feasibility Study. The purpose of the feasibility study and associated EIS will be to guide the Corps' efforts to control erosion and reduce storm damage along Asharoken Beach. This list provides the points of contact of NAN team members who are available to answer specific technical questions as part of the review process. The list also provides the names and organization of participating outside entities.

#### District Project Team Members:

| MAIN REPORT PRODUCT             | STUDY TEAM MEMBERS            | REVIEW TEAM MEMBER  |
|---------------------------------|-------------------------------|---|
| Feasibility Report<br>Main Text | Project Planner<br>CENAN-PL-F | All review team members will review this document internally<br>External ITR: TBD |
| NEPA Documentation              | CENAN-PL-E                    | All review team members will review this document internally                      |

|  |  |                   |
|--|--|-------------------|
|  |  | External ITR: TBD |
|--|--|-------------------|

| <b>Sections</b>          | <b>STUDY TEAM MEMBER</b> | <b>REVIEW TEAM MEMBER</b> |
|--------------------------|--------------------------|---------------------------|
| Plan Formulation         |                          | TBD thru PCX              |
| Economics                |                          | TBD thru PCX              |
| Environmental            |                          | TBD thru PCX              |
| Cultural Resources       |                          | TBD thru PCX              |
| Real Estate              |                          | TBD thru PCX              |
| Hydrology and Hydraulics |                          | TBD thru PCX              |
| Geotechnical/Structural  |                          | TBD thru PCX              |
| Cost Estimating          |                          | TBD thru PCX / DCX        |

### **10.2 Scientific Information**

Based upon the self evaluation by the PDT, it is unlikely that the USACE study to be disseminated will contain influential scientific information. Influential scientific information is defined by the Office of Management and Budget as scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.

### **10.3 Timing**

The ITR process will start upon coordination with the PCX.

### **10.4 External Peer Review Process**

It is not anticipated that external peer review will be required. PCX and vertical team concurrence is required.

### **10.5 Public Comment**

Public involvement is anticipated during the outreach phase between the draft and final feasibility studies. Further public involvement activities have not been scheduled at this time.

### **10.6 ITR Reviewers [This will be updated accordingly based on PDT and NAD negotiations.]**

It is anticipated that four to five reviewers total should be available in the following disciplines: coastal hydraulics and design, economics, geotechnical, planning, environmental, cultural resources, and cost estimating. The reviewer contact information should be stated in Section 10.1 of this review plan. Cost estimating, as required by HQUSACE, review will be conducted by Cost Estimating Center of Expertise (NWW).

### **10.7 External Peer Review Selection**

This will be determined conclusively in conjunction with the PCX and vertical team, if at odds with Section 10.4.