



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, US ARMY CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
BROOKLYN, NEW YORK 11252-6700

DEC 14 2012

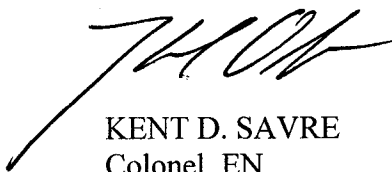
CENAD-PD-PP

MEMORANDUM FOR Commander, Philadelphia District, ATTN: CENAP-PL

SUBJECT: Review Plan Approval for Schuylkill River, Wissahickon Creek Restoration,
Pennsylvania Feasibility Study

1. The attached Review Plan for the subject study has been prepared in accordance with EC 1165-2-209, Civil Works Review Policy.
2. The Review Plan has been coordinated with the Ecosystem Planning Center of Expertise of the Mississippi Valley Division, which is the lead office to execute this plan. For further information, contact Ms. Jodi Creswell at 309-794-5448. The Review Plan currently does not include independent external peer review and will be revised after a risk-informed decision analysis has been made.
3. I hereby approve this Review Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

Encl


KENT D. SAVRE
Colonel, EN
Commanding

SCHUYLKILL RIVER, WISSAHICKON CREEK RESTORATION FEASIBILITY STUDY

REVIEW PLAN

1.0 PURPOSE

This Review Plan presents the process that assures quality products for the Schuylkill River, Wissahickon Creek Restoration Feasibility Study, General Investigation (GI) Feasibility Study. This Review Plan and ATR Plan define the responsibilities and roles of each member on the study and technical review team.

The FCSA was signed in April 2004. However, revised guidance now requires ATR. This Review Plan and ATR plan will document existing ATR processes and identify future actions to make the study compliant with existing policy.

Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, the ATR will be conducted by specialists from organizations outside of the district responsible for the study. Independent Technical Review will be conducted for all decision documents requiring headquarters approval and will be independent of the technical production of the project.

2.0 APPLICABILITY

This document provides the Review Plan for the 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

EC1165-2-209 "Civil Works Review Policy" dated January 31, 2010
EC 1105-2-412 "Assuring Quality of Planning Models" (March 31, 2011)
EC 1105-2-409 "Planning in a Collaborative Environment" (May 31, 2005)
ER 1105-2-100 "Planning Guidance Notebook & Appendices"

4.0 GENERAL PROJECT DESCRIPTION

The Corps of Engineers was given the authority to conduct an expedited reconnaissance study and any ensuing feasibility level investigations by the U.S. House of Representatives, Committee on Public Works and Infrastructure Resolution #2298 – Schuylkill River Basin, Pennsylvania, adopted March 15, 1988. The study resolution reads as follows:

(#2298) "Resolved by the Committee on Public Works and Transportation of the United States House of Representatives, that the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on the Schuylkill River, Pennsylvania, published as House Document Numbered 529, 89th Congress, the report on the Delaware River, published as House Document Numbered

522, 87th Congress, Second Session, as it relates to the Schuylkill River, and other pertinent reports, with a view to determining whether any modifications of recommendations contained therein are advisable at the present time, in the interest of flood control, water supply, recreation, water quality and other water and related land resource problems.”

In response to this study resolution, the Corps of Engineers Philadelphia District conducted the Schuylkill River, Wissahickon expedited reconnaissance study and, in accordance with Section 905(b) of the Water Resources Development Act of 1986 (WRDA 86), completed a study fact sheet in 2001. A limited reconnaissance study of the Schuylkill River Basin, completed in 1990, recommended further studies for flood damage reduction and protection measures along Wissahickon Creek. The findings of the expedited reconnaissance study indicated that there was Federal interest in further investigations of issues relating to stream flow variability, aquatic habitat degradation and poor water quality, flooding in some areas, and overall ecosystem imbalances. To address these concerns, it was recommended that riparian buffer, streambank, and channel restoration, construction of fish passages, wetland creation and restoration, structural flood damage reduction measures, surface and/or groundwater discharge and recharge studies, and other actions be evaluated for the watershed. Further sponsor coordination has focused this project on ecosystem restoration.

5.0 REVIEW REQUIREMENTS

Initial Quality Control (QC) review will be handled within the Section or Branch performing the work or by staff in the corresponding Sponsor Department when it involves In-Kind Services. Additional QC will be performed by the PDT during the course of completing the integrated 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 1165-2-209, Models used in the preparation of decision documents covered by this Circular will be reviewed in accordance with EC 1105-2-412, Planning Models Improvement Program: Model Certification, and are not subject to the requirements of this Circular. The uses and applications of models in individual studies that lead to the preparation of decision documents covered by this Circular will be reviewed in accordance with the requirements of this Circular. At this time it is not known what models will be used.

Pursuant to EC 1165-2-209, the integrated Feasibility Report will need an ATR team assigned by the PCX for Environmental Restoration (National Ecosystem Planning) Projects. It is recommended that the ATR be handled entirely within USACE, as the scope and technical complexity do not warrant an External Peer Review (EPR), based upon the initial Risk Screening Process conducted by the Project Development Team (PDT) (and approved by North Atlantic Division) noted in Section 9. It is anticipated that implementation costs will not exceed \$20 million, so costs will also not trigger the need for Independent External Peer Review. (\$45 million is the current threshold.) Of the ATR team, at least the team leader will be from outside North Atlantic Division. It is anticipated that while this study will be challenging and beneficial, it will not be novel, controversial or precedent setting, nor have significant national importance. As a result, the ITR will focus on:

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

6.0 REVIEW PROCESS

It is anticipated that the ATR Team Review Process will begin after the ATR Team has been assigned, and will cover the feasibility study and associated products developed to date. As alternative plans are formulated, the Review Process will focus on data, assumptions and the engineering, scientific, economic, social & environmental analysis process. Major Review Process milestones are listed below:

- Approval of Review Plan by NAD
- ATR team assigned by PCX
- P-8 Milestone – AFB RAM
- AFB
- Draft Report Review
- Final Report Review

7.0 REVIEW COST

The cost of the ATR is estimated to be \$(TBD). It is assumed that documents to be reviewed will be transmitted electronically. Comments will be made and addressed in Dr. Checks. It is also assumed that the external ATR team will be working virtually. Only under extreme circumstances should the external ATR team, or a representative of that team, be required to physically attend team or milestone meetings. The team should participate in all P milestone meetings; however, via conference call or video tele-conference.

8.0 REVIEW SCHEDULE

Note that since the commencement of this study preceded the requirement for PCX involvement and development of this Review Plan, the review schedule below does not match the major review process milestone list above.

TASK	START DATE	FINISH DATE
Develop ATR Plan & post to Web Site, PCX	06 Aug 07	11 Aug 07
Identify Regional ATR resources & Recommend ATR Plan to PCX	13 Aug 07	17 Aug 07
PCX Approves or Assigns ATR Team	November 2007	April 2010
Review of Draft Feasibility Report	3 rd Quarter 2013	
Review Final Feasibility Report	4 th Quarter 2013	

9.0 PROJECT RISK

The PDT members were asked to rate their assessment of the risk associated with this project based upon several factors and rate the project quantitatively among the defined levels of project risk of failure ranging from low to high. Based upon this analysis by the PDT, the project is projected to be low to medium in risk. The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating, so it is likely that the risk level would have been lower if the team were to have compared the risk of this project to a large ecosystem restoration project. The Project Delivery Team (PDT) scored each item in the Review Plan Score Guide (Table 9.1) to get an average score. 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 ecosystem restoration experience and a high degree of risk if the staff had a low level of ecosystem restoration experience. The score for the risk items were summed and the average value of the Assessment Score was used to determine the overall level of project risk. The results of the evaluation are tabulated as follows:

Table 9.1 Quality Control/Review Plan Score Guide

Project Risk Item	Assessment Score (Low Degree to High Degree)					Score
	Low	Medium	High			
Potential for Failure	1	2	3	4	5	2
Uncertainties of Predictions	1	2	3	4	5	3
Long Term Cumulative Effects/Customer Expectations	1	2	3	4	5	3
Staff Technical Experience	1	2	3	4	5	3
Failure Impact and Consequences	1	2	3	4	5	2
Average Project Risk Assessment Score						2.6
Project Magnitude Item						
Product Schedule/Cost	1	2	3	4	5	4
Project Complexity	1	2	3	4	5	3
Project Benefits	1	2	3	4	5	3
Project Scale	1	2	3	4	5	3
Average Project Magnitude Assessment Score						3.25*

*Average score of 4 is needed to warrant Independent External Peer Review.

10.0 REVIEW PLAN

The components of the Review Plan (external ATR only) were developed pursuant to the requirements of EC1165-2-209.

10.1 Team Information

The decision documents that will be the ultimate focus of the peer review process are the integrated Feasibility Report, the Division Commander's Public Notice, and the Environmental Record of Decision (ROD). The purpose of the decision documents will be to begin the approval process leading to the authorization to begin Plans & Specifications.

The PDT is listed as follows. This list provides the names and points of contact of NAB team members that are available to answer specific technical questions as part of the Peer Review Process. The list also provides the names and organization of participating outside entities.

District PDT Members:

Project Manager – Terry Fowler	Civil/Structural Engineer – Hector Cordero
Environmental Specialist – Greg Wacik	Geotechnical Engineer – Troy Cosgrove
GIS Specialist – Beth Adams	Real Estate Specialist – Heather Sachs
Economist – Bob Selsor	Cost Engineer – Tom Munyan
Hydraulic Engineer – Laura Bittner	

Non-District PDT Members:

Philadelphia Water Department – Lance
Butler

Independent Technical Review Team:

NER PCX to Provide the Name, Organization, Discipline, Phone, & E-Mail for these disciplines-

ECO-PCX POC – TBD

Planning

Economics

Environmental

Real Estate

Engineering:

- Hydraulics & Hydrology
- Civil Structural
- Geotechnical
- Cost Estimating – Walla Walla District will be consulted

10.2 Scientific Information

Based upon the self-evaluation by the PDT, it is unlikely that the USACE report to be disseminated will contain influential scientific information. The environmental restoration measures will be identified using standard engineering and economic methods. It is unlikely that this study will create new and untested methods or unique scientific information; however, it will benefit from ongoing research by others and from practical lessons learned during the course of the restoration program.

Economic and planning processes will additionally consider the Collaborative Planning EC. This EC describes all the economic accounts that can be used to describe economic benefits. The four main economic accounts are national economic development (NED), national ecosystem restoration (NER), regional economic development (RED), and the other social effects (OSE).

10.3 Timing

The ATR process is envisioned to begin with an assessment of the evaluation and comparison of alternative plans in this feasibility study. It is anticipated that work would start within days of naming the external ATR team. The estimated schedule is noted in Part 8 of this Review Plan.

10.4 Independent External Peer Review Process

No Independent External Peer Review process is envisioned at this time. This assessment is supported by the evaluation of the PDT and tabulated as shown in Section 9 of this Review Plan.

10.5 Public Comment

Public involvement is anticipated throughout the remainder of the Feasibility Study. The Public Involvement meeting dates have not been scheduled at this time.

It is anticipated that minutes of Public Involvement Meetings will be disseminated to the Peer Review Team. This will allow the public response to be available to the ATR team for their review.

10.6 ATR Reviewers

It is anticipated that reviewers should be available in the following disciplines:

Planning, Economics, Environmental, Real Estate, Engineering. The reviewer contact information should be stated in Section 10.1 of this Review Plan.

The expertise that should be brought to the review team includes the following:

- 1) Planning – The reviewer should have recent experience in reviewing Plan Formulation processes for ecosystem restoration studies and be able to draw on “lessons learned” in advising the PDT of best practices.
- 2) Economics – The reviewer should have a solid understanding of economic models including incremental cost analysis.
- 3) Environmental – The reviewer should have a solid background in natural stream restoration techniques, and related restoration issues.

- 4) Real Estate - the reviewer should have a solid background in real estate requirements and the use of easements for environmental restoration.
- 5) Engineering - The reviewer should be familiar with low tech design techniques and ecological methods used for stream restoration.

10.7 Independent External Peer Review Selection

Because an Independent External Peer Review is not anticipated for this study, there is no IEPR selection.