

DEPARTMENT OF THE ARMY

NORTH ATLANTIC DIVISION, CORPS OF ENGINEERS FORT HAMILTON MILITARY COMMUNITY GENERAL LEE AVENUE, BLDG 301 BROOKLYN, NY 11252

REPLY TO ATTENTION OF:

CENAD-RBT

30/1/2012

MEMORANDUM FOR Commander, New York District, ATTN: CENAN-EN (Mr. Connolly), 26 Federal Plaza, Room 2039A, New York, NY 10278-0090

SUBJECT: Review Plan Approval for PN 151661, Burlington Bollards Removal, Lake Champlain, Vermont

1. References:

- a. Memorandum, CENAN-EN-MC-F, 12 Jun 2011, Subject: Burlington Harbor Bollards Removal, Lake Champlain, Vermont Risk Informed Assessment of Significant Threat to Human Life
- b. EC 1165-2-209 Change 1, Water Resources Policies and Authorities Civil Works Review Policy, 31 Jan 2012
- 2. The enclosed Review Plan for removal of oil bollards (dolphins) from Burlington Harbor, Lake Champlain, Vermont project has been prepared in accordance with Reference 1.b. The project consists of removal of three bollards (steel sheeting filled with rocks & capped with concrete) to 1-foot above the lakebed, removal of contaminated rock fill material, and removal of associated piping. The goal of the project is to eliminate a potential obstruction to navigation caused by continued deterioration of the obsolete structures.
- 3. NAD Business Technical Division is the Review Management Organization (RMO) for this Review Plan. The Review Plan does not include Independent External Peer Review since the project does not involve potential hazards which pose a significant threat to human life (Ref. 1.a).
- 4. The Review Plan for the removal of oil bollards (dolphins) from Burlington Harbor, Lake Champlain, Vermont is approved. The Review Plan is subject to change as 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.
- 5. In accordance with Reference 1.b, Appendix B, Paragraph 5, this approved Review Plan shall be posted on your district website for public review and comment.

CENAD-RBT

SUBJECT: Review Plan Approval for Burlington Bollards Removal, Lake Champlain, Vermont

6. The Point of Contact for this action in Business Technical Division is Alan Huntley, 347-370-4664 or Alan.Huntley@usace.army.mil.

Encl as

CF (w/ encl): CEMP-NAD (C. Shuman) CENAD-PDC (L. Monte)



Review Plan for Burlington Bollards Removal Lake Champlain, Vermont

New York District U.S. Army Corps of Engineers

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of review for the Plans and Specifications (P&S), Engineering Documentation Report (EDR), Design Documentation Report (DDR), and cost estimate for the demolition of the abandoned oil bollards in Lake Champlain, Vermont.

b. References

- (1) EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (3) ER 1110-1-12, Engineering and Design Quality Management, 31Jul 2006, as revised through 31 Mar 2011
- (4) WRDA 2007 H. R. 1495 Public Law 110-114, 8 Nov 2007
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix G, 30 June 2004
- 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.

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 implementation documents is the Major Subordinate Command (MSC), while for a decision document is the appropriate Planning Center of Expertise (per EC 1165-2-209). Therefore the RMO for the peer review of the P&S, EDR, DDR, and cost estimate described in this Review Plan is the North Atlantic Division.

3. PROJECT INFORMATION

- a. Implementation Documents. This Review Plan has been prepared for the Engineering Documentation Report (EDR), Design Documentation Report (DDR), plans and specifications (P&S), and cost estimate for the Burlington Harbor Bollards demolition project. The purpose of these documents is to provide a record of final design. Approval of these documents is at the District Command level. An Environmental Assessment with a Finding of No Significant Impact (FONSI) will be prepared and signed by the District Engineer and will be submitted for review with the EDR.
- **b.** Project Description. This project was authorized for construction by PL108-137 without a report from the Chief of Engineers.

The oil bollards (from this point called Oil Dolphins) are early to mid twentieth century caisson-type structures used to facilitate pumping petroleum products from barges to associated tank farms on the waterfront. The Oil Dolphins located off Burlington Harbor were constructed of steel sheeting, filled with rocks and then capped with concrete. As part of the demolition, the three bollards will be cut to 1 ft above the lakebed, cleaned out, and capped with concrete. The associated pipelines with the three bollards will also be cut, cleaned out, and capped with concrete.

The goal of the oil dolphins' removal is to eliminate a potential obstruction to navigation caused by continued deterioration of these obsolete structures. A complicating factor in the removal of these structures is that the fill has been contaminated by petroleum spilled whilst they were active. Appropriate best management practices are included in the plans and specifications to address this.

4. DISTRICT QUALITY CONTROL (DQC)

All implementation documents will 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 will manage the DQC.

- **a. Documentation of DQC.** DQC will be documented through the use of DrCheckssm and a DQC report, which will be signed by all reviewers.
- **b.** Products to Undergo DQC. Products that will undergo DQC include EDR, DDR, Plans and Specifications and Cost Estimate.
- **c.** Required DQC Expertise. DQC will be performed by staff in the home district that are not involved in the study. Additional Quality Control will be performed by the Project Delivery Team during the course of completing the design.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all implementation documents. 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. 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 products that will undergo ATR include the DDR, EDR, Plans and Specifications and Cost Estimate.
- 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 implementation documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as civil engineering).
Environmental Resources	Team member will have independently completed EA/EIS's and be well versed in the NEPA process, will have participated in partnerships with other environmental resource agencies, will have experience with identifying and resolving environmental issues in a coastal ecosystem, and will have experience with Section 106 actions and documentation.
Civil Engineering	Team member will be an expert in the field of civil engineering.
Cost Engineering	Team member will be an expert in cost estimating for similar projects in MII. The team member will be a Certified Cost Technician, a Certified Cost Consultant, or a Certified Cost Engineer. As the Cost Engineering Center of Expertise, Walla Walla District will assign this team member as part of a separate effort coordinated by the ATR team lead.
Structural Engineering	Team member will be an expert in the field of structural engineering, especially in review of caisson structures.

- **c. Documentation of ATR.** DrCheckssm 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 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 DrCheckssm 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, PCX, 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 ER 1110-1-12. Unresolved

concerns can be closed in DrCheckssm 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 copy of each ATR comment, the PDT response, a brief summary of the pertinent points in the follow on discussion, including any vertical coordination, and the agreed upon resolution.

ATR will 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 for the DDR, EDR, Plans and Specifications, and Cost Estimate. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

An IEPR may be required for implementation 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 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 IEPRs, or Safety Assurance Reviews (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.** Type I IEPR is not applicable as per EC 1165-2-209, Civil Works Review Policy, since the Burlington Bollards project is in the Preconstruction Engineering and Design Phase.

Type II Independent External Peer Review, Safety Assurance Review, is required by EC 1165-2-209 for hurricane and storm risk management and flood risk management projects, as well as other projects where potential hazards pose a significant threat to human life. As documented in Memorandum for Record dated 12 June 2012 (Attachment 4), New York District Chief, Engineering Division made a risk informed assessment of whether there is a significant threat to human life as a result of the Burlington Bollards Removal Project. The key factors considered were:

- (1) The Burlington Bollards Removal Project provides neither flood risk management nor storm risk management.
- (2) The project's purpose is to remove existing abandoned structures that present a hazard to navigation. The "with project condition" will restore the lake to a more natural condition by removing the navigation hazard while leaving the foundation of the caissons in the lake bottom. These foundations will continue to be marked on NOAA charts.

Based on a risk informed assessment which considered life safety factors, New York District Chief, Engineering Division determined that there is not a significant threat to human life associated with the Burlington Harbor Bollards Removal project. Accordingly, a Type II IEPR, Safety Assurance Review, is not required.

- b. Products to Undergo IEPR. Not applicable.
- c. Required IEPR Panel Expertise. Not applicable.
- d. Documentation of IEPR. Not applicable.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR facilitate the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of

results in implementation documents.

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

Since an IGE will be prepared the District, through the RMO, will determine what level of review is necessary.

9. MODEL CERTIFICATION AND APPROVAL

Not applicable since the Burlington Harbor Bollard demolition project is in the Preconstruction Engineering and Design Phase and this relates to the use of certified or approved models for planning activities.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. The schedule and costs budgeted for ATR reviews are as follows:

100% DDR, EDR, Plans & Specifications, Cost Estimate- July 2012 (\$10,000)

- b. IEPR Schedule and Cost. Not applicable.
- c. Model Certification/Approval Schedule and Cost. Not applicable.

11. PUBLIC PARTICIPATION

The Environmental Assessment will be open to the public with a 15 day comment period. Additionally, the EA will be published to NY District's website. There will be no public meetings prior to the start of the construction contract.

12. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division Commander, or his representative, is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, PCX (RMO), MSC (RMO), and HQUSACE members) as to the appropriate scope and level of review for the implementation documents. Like the PMP, the Review Plan is a living document and may change as the engineering and design progresses. The home district is responsible for keeping the Review Plan up to date. 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, will be posted on the Home District's webpage. The latest Review Plan should also be provided to the PCX (RMO).

13. REVIEW PLAN POINTS OF CONTACT

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

Jenifer E. Thalhauser, NAN, Project Manager, 917-790-8632

- Jenifer E. Thalhauser, NAN, Project Manager, 917-790-8632 Sidrah H. Mirza, NAN, EN Technical Manager, 917-790-8346 Linda Monte, NAD, Program Manager, 347-370-4567

ATTACHMENT 1: TEAM ROSTERS

PDT

Name	Role	Phone Number	E-mail Address
Jenifer E. Thalhauser	Project Manager	x-8632	Jenifer.E.Thalhauser@usace.army.mil
Sidrah H. Mirza	EN Technical Manager	x-8346	Sidrah.h.mirza@usace.army.mil
Ronald E. St-Laurent	Civil Engineering	x-8278	Ronald.E.St-Laurent@usace.army.mil
Peter D. Gohel	Cost Engineering	x-8254	Peter.D.Gohel@usace.army.mil
Carissa A. Scarpa	Cultural Resources	x-8612	Carissa.A.Scarpa@usace.army.mil
Kimberly A. Rightler	Biology/NEPA	x-8722	Kimberly.A.Rightler@usace.army.mil
Michael Weiss	Real Estate	x-8450	Michael.C.Weiss@usace.army.mil
Ellen Simon	Counsel	x-8158	Ellen.B.Simon@usace.army.mil

DQC Team

Name	Role	Phone	E-mail Address	
		Number		
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Anthony Schiano	Cost Engineering	x-8347	Anthony.schiano@usace.army.mil	
Nancy Brighton	Environmental	x-8703	Nancy.j.brighton@usace.army.mil	
Ellen Simon	Counsel	x-8158	Ellen.B.Simon@usace.army.mil	

ATR Team*

Name	Role	Review District
TBD		

^{*}All resumes will be reviewed and approved by the MSC prior to initiating any ATR.

Vertical Team

Name	Role	Phone	E-mail Address
		Number	
Anthony Ciorra	NAN PPMD Civil	917-790-8208	Anthony.Ciorra@usace.army.mil
	Works Branch		
	Chief		
Leonard J. Houston	NAN-PL,	917-790-8702	Leonard.Houston@usace.army.mil
	Environmental		
	Analysis Branch		
	Chief		
Frank Santangelo,	NAN-EN, Civil	917-790-8266	Frank.A.Santangelo@usace.army.mil
P.E.	Resources Branch		
	Chief		
Thomas	NAN-EN, Design	917-790-8363	Thomas.R.Dannemann@usace.army.mil
Dannemann, P.E.	Branch Chief		
			
Mukesh Kumar	NAN-EN, Cost	917-790-8421	Mukesh.Kumar@usace.army.mil
	Engineering		
	Branch Chief		
Angelo Trotto, P.E.	NAN-EN,	917-790-8296	Angelo.R.Trotto@usace.army.mil
	Engineering		
	Management,		
	Civil Works		
	Section Chief		

ATTACHMENT 2: STATEMENT OF AGENCY TECHNICAL REVIEW

BURLINGTON HARBOR BOLLARDS DEMOLITION LAKE CHAMPLAIN, VERMONT

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for The Burlington Harbor Bollards demolition project located in Lake Champlain, Vermont. The ATR was conducted as defined in the project's approved 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, 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.

Signature & Date	
[Name]	
ATR Team Leader	
[Office symbol or name of AE Firm]	
Signature & Date	
Jenifer E. Thalhauser	
Project Manager	
CENAN-PP-C	

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

Signature & Date	
Arthur J. Connolly, P.E.	
Chief, Engineering Division	
CENAN-EN	

ATTACHMENT 3: 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
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	ОМВ	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home	The District or MSC responsible for the	RMC	Risk Management Center
District/MSC	preparation of the decision document		
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act

CENAN-EN-MC-F 12 June 2012

MEMORANDUM FOR RECORD

SUBJECT: Burlington Harbor Bollards Removal, Lake Champlain, Vermont – Risk Informed Assessment of Significant Threat to Human Life

- **1. Project Information.** This project was authorized for construction by PL108-137 without a report from the Chief of Engineers. It consists of the demolition of oil bollards in Lake Champlain because they are potentially considered to be navigational hazards.
- 2. **Project Description.** The oil bollards (from this point called Oil Dolphins) are early to mid twentieth century caisson-type structures used to facilitate pumping petroleum products from barges to associated tank farms on the waterfront. The Oil Dolphins located off Burlington Harbor were constructed of steel sheeting, filled with rocks and then capped with concrete. As part of the demolition, the three bollards will be cut to 1 ft above the lakebed, cleaned out, and capped with concrete. The associated pipelines with the three bollards will also be cut, cleaned out, and capped with concrete.

The goal of the oil dolphins' removal is to eliminate a potential obstruction to navigation caused by continued deterioration of these obsolete structures. A complicating factor in the removal of these structures is that the fill has been contaminated by petroleum spilled whilst they were active. Appropriate best management practices are included in the plans and specifications to address this.

- 3. **Risk Informed Assessment**. A Type I IEPR is not warranted since the Burlington Harbor Bollards project is in the Preconstruction, Engineering, and Design Phase. Type II IEPR, or SAR, is required for hurricane and storm risk management projects, as well as other projects where potential hazards pose a significant threat to human life. The Burlington Harbor Bollards project provides neither flood risk management nor storm risk management. Its purpose is to remove existing abandoned structures that present a hazard to navigation in the lake. The "with project" condition will restore the lake to a more natural condition.
- 4. **Determination**. Both Type I IEPR and Type II IEPR's are not warranted for the demolition of the Burlington harbor bollards.

Engineering Division