DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
GENERAL LEE AVENUE, BLDG 301
BROOKLYN, NY 11252-6700

REPLY TO
ATTENTION OF:

OCT 0 2012

CENAD-RBT

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 Green Brook Flood Risk Management (FRM) Project, Borough of Bound Brook Levee System Evaluation Report (LSER)

1. References:

a. Memorandum, CENAN-EN-MC, 30 Aug 12, subject: Review Plan for Borough of Bound Brook Levee System Evaluation Report

b. EC 1165-2-209 Change 1, Water Resources Policies and Authorities – Civil Works Review Policy, 31 Jan 12

c. EC 1110-2-6067, USACE Process for the National Flood Insurance Program (NFIP) Levee System Evaluation, 31 Aug 10

2. The enclosed Review Plan for Green Brook FRM Project, Borough of Bound Brook LSER has been prepared in accordance with Reference 1.c.

3. NAD Business Technical Division is the Review Management Organization (RMO) for the Agency Technical Review (ATR). The Review Plan does not include Independent External Peer Review since the project does not involve a decision document (Type I) or design and construction (Type II).

4. The Review Plan for the Green Brook FRM Project, Borough of Bound Brook LSER 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.c, Appendix B, Paragraph 5, this approved Review Plan shall be posted on your district website for public review and comment.

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

Encl
as

KENT D. SAVRE
Colonel, EN
Commanding

CF (w/ encl):
CEMP-NAD (C. Shuman)
CENAD-PD-PP (C. Jones)

REVIEW PLAN

Green Brook Flood Risk Management Project
Borough of Bound Brook Levee System
Levee System Evaluation Report (LSER)

New York District

MSC Approval Date: _____

Last Revision Date: _____

US Army Corps
of Engineers ®

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Green Brook Flood Risk Management Project, Borough of Bound Brook Levee System, Levee System Evaluation Report (LSER).

b. References

(1) Engineering Circular (EC) 1165-2-209, Water Resources Policies and Authorities, Civil Works Review Policy, 31 Jan 2012
(2) EC 1110-2-6067, USACE Process for the National Flood Insurance Program (NFIP) Levee System Evaluation
(3) Code of Federal Regulations 44CFR 65.10
(4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(5) *Project Management Plan, dated 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). As further noted in the following paragraphs, the LSER is not considered a decision document, and thereby would not be subject to the cost engineering review and certification requirements in EC 1165-2-209 nor to EC 1105-2-412.

2. PROJECT DESCRIPTION

This project is referred to as the Borough of Bound Brook Levee System Evaluation Report. The levee system is part of the Green Brook Flood Risk Management Project, and the system reduces the risk of flooding to a large section of the Borough of Bound Brook. The primary purpose of the LSER is to determine whether the levee system meets the requirements for inclusion in the National Flood Insurance Program in accordance with EC 1110-2-6067 and Code of Federal Regulations 44CFR 65.10. To best determine the appropriate level of review required for this LSER, it has been classified as an "other work product" pursuant to EC 1165-2-209, paragraph 9.c.2.

3. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. Pursuant to EC 1165-2-209, the RMO for a decision document is the appropriate Planning Center of Expertise and for Dam and Levee Safety modifications is the Risk Management Center (RMC). For other work products, the Major Subordinate Command (MSC), shall serve as the RMO. The LSER would not be considered a decision or implementation document, thereby making it an "other work product". Therefore the RMO for the peer review of the LSER is the North Atlantic Division.

4. DISTRICT QUALITY CONTROL (DQC)

Pursuant to USACE guidance, all work products and reports shall undergo the necessary and appropriate DQC. DQC will be performed in accordance with EC 1165-2-209 and ER 1110-1-12. The members of the DQC team have been identified in Attachment 1. The staff performing DQC will not be involved with the development of the LSER. DQC will be documented through the use of DrChecks[sm] and a DQC report will be signed by all reviewers. The completed LSER with referenced attachments will be reviewed by the DQC team. The referenced attachments may include but are not limited to:

a) Hydrologic Reports and Models
b) Hydraulic Reports and Models (to include FDA Models)
c) Geotechnical Reports
d) Design Criteria and Assumptions
e) As-Built drawings and specifications
f) Construction completion reports
g) Miscellaneous other documents pertinent to the design of the project elements.

5. AGENCY TECHNICAL REVIEW (ATR)

In accordance with EC 1165-2-209, paragraph 15.b, the Levee System Evaluation Report will require an ATR. The LSER will include a recommendation to another federal agency (FEMA), the report evaluates structures that pose potential life safety risks, and the report could be controversial if the evaluation determines that the levee systems is not eligible for inclusion in the National Flood Insurance Program (NFIP). The completed LSER with referenced attachments will be reviewed by the ATR team. The RMO shall determine the appropriate team leader for the ATR team, and it is recommended that the regional Levee Safety production center (CENAB) perform the ATR on the LSER. The ATR team composition and documentation requirements are noted below.

a. **Required ATR Team Expertise.** The RMO, in cooperation with the PDT, will determine the final make-up of the ATR team. The following table provides the types of disciplines that should be included on the ATR team and the expertise required. The names, organizations, contact information, credentials, and years of experience of the ATR members will be included in Attachment 1 once the ATR team is established.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in Flood Risk Management Projects and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process.
Hydrology	Team member should be an expert in the field of urban hydrology and hydraulics, have a thorough understanding of flash flooding and the use of HEC computer modeling systems.
Hydraulic Engineering	Team member should be an expert in the field of urban hydrology and hydraulics, have a thorough understanding of open channel systems and the use of HEC computer modeling systems. A registered professional engineer is required
Geotechnical Engineering	Team member should have expertise in levee construction and other local flood risk management techniques. A registered professional engineer is required
Civil Engineering	Team member will have expertise in the design of flood risk

	management projects. A registered professional engineer is required.
Structural Engineering	Team member will have expertise in structural measures included in FRMPs. A registered professional engineer is required.
Electrical/Mechanical	Team member will have expertise with the mechanical and electrical components of FRMPs. A registered professional engineer is required.
Economics/FDA Model	Team member will have expertise with FDA Modeling.

b. Documentation of ATR. DrChecks review software (https://www.projnet.org/projnet/) 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 and RMO), 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 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:

- 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 pertinent points in the follow-on discussion including any vertical coordination, and the agreed upon resolution.

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 initial IPR, the subsequent IPRs, 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. The LSER is not a decision document and will not require an IEPR.

7. POLICY AND LEGAL COMPLIANCE REVIEW

As noted in EC 1165-2-209, all decision documents will be reviewed for their compliance with law and policy. Since the LSER is an evaluation of an existing project, it is not considered a decision document. A policy and legal compliance review is not required.

8. REVIEW SCHEDULES AND COSTS

a. **ATR Schedule and Cost.** The LSER is expected to be ready for ATR mid-October 2012. Comments will be due three weeks from issuance of ATR. All comments should be addressed/resolved within 30 days of the ATR teams review. The ATR has a current budget of $40,000.00.

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

9. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district and MSC/RMO) as to the appropriate scope and level of review for the LSER. 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. 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 will also be provided to the RMO/MSC.

10. REVIEW PLAN POINTS OF CONTACT

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

- Sheila Rice-McDonnell, P.E, NAN, Technical Manager, 917-790-8297
- Encer Shaffer, P.E., LSPM, 917-790-8360

ATTACHMENT 1: TEAM ROSTERS

PDT

Name	Role	Phone Number	E-mail
Frank Verga	Project Manager	917-790-8212	Frank.Verga@usace.army.mil
Sheila Rice-McDonnell, P.E.	Technical Manager	917-790-8297	Sheila.Rice-McDonnell@usace.army.mil
Peter Koch	Hydrology	917-790-8359	Peter.M.Koch@usace.army.mil
Raymond Schembri, P.E.	Lead Hydraulics	917-790-8265	Raymond.L.Schembri@usace.army.mil
Roy Messaros, PhD	Hydraulics	917-790-8247	Roy.C.Messaros@usace.army.mil
Stanley Sedwick, P.E.	Lead Geotechnical Engineer	917-790-8370	Stanley.J.Sedwick@usace.army.mil
Gennaro Cimmino, P.E.	Geotechnical Engineer	917-790-8281	Gennaro.J.Cimmino@usace.army.mil
Michael Chen, P.E.	Lead Structural Engineer	917-790-8749	Xiaoming.Chen@usace.army.mil
Sital Bhakta, P.E.	Structural Engineer	917-790-8379	Sital.Bhakta@usace.army.mil
Kevin Whorton, P.E.	Civil Engineer	917-790-8065	Kevin.A.Whorton@usace.army.mil
Elena Manno	Mechanical Engineer	917-790-8371	Elena.N.Manno@usace.army.mil
Thomas Sessa, P.E.	Electrical Engineer	917-790-8272	Thomas.E.Sessa@usace.army.mil
Johnny Chan	Economics/FDA Model	917-790-8706	Johnny.C.Chan@usace.army.mil

DQC Team

Name	Role	Phone Number	E-mail
Bill Barth	Hydrology	917-790-8352	William.R.Barth@usace.army.mil
Javier Jimenez-Vargas, P.E.	Hydraulics	917-790-8243	Javier.Jimenez-Vargas@usace.army.mil
Ben Baker, P.G.	Geologist	917-790-8371	Ben.A.Baker@usace.army.mil
Janice Lauletta	Structural	917-790-8283	Janice.A.Lauletta@usace.army.mil
John Alaskewicz	Mechanical	917-790-8279	John.P.Alaskewicz@usace.army.mil
Bill Bendick	Electrical	917-790-8381	William.J.Bendick@usace.army.mil
Ron St-Laurent	Civil	917-790-8278	Ronald.E.St-Laurent@usace.army.mil
TBD	Economics/FDA Model	917-790-	

ATR Team

Name	Role	Review District
TBD	ATR Lead	TBD
TBD	Hydraulics	TBD
TBD	Hydrology	TBD
TBD	Geotechnical	TBD
TBD	Structural	TBD
TBD	Electrical/Mechanical	TBD
TBD	Civil	TBD
TBD	Economics/FDA Model	TBD

Vertical Team

Name	Role	Phone Number	Email
Alan Huntley, P.E.	NAD BTD	347-370-4664	Alan.Huntley@usace.army.mil
Michael Rovi, P.E.	Deputy, Engineering Division, CENAN	917-790-8260	Michael.Rovi@usace.army.mil
Thomas Dannemann, P.E.	Branch Chief, Design Branch, Engineer Division, CENAN	917-790-8363	Thomas.R.Dannemann@usace.army.mil
Frank Santangelo, P.E.	NAN Civil Resources Branch Chief	917-790-8266	Frank.A.Santangelo@usace.army.mil
Angelo Trotto, P.E.	Civil Works Section Chief, Engineering Management Branch, Engineering Division, CENAN	917-790-8296	Angelo.R.Trotto@usace.army.mil

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 _____ _____
Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____
Name Date
Architect/Engineer Project Manager[1]
Company, location

SIGNATURE _____ _____
Name Date
Review Management Office Representative
Office Symbol

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 _____ _____
Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____
Name Date
Chief, Planning Division
Office Symbol

[1] Only needed if some portion of the ATR was contracted

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	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	OMB	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 District/MSC	The District or MSC responsible for the preparation of the decision document	RMC	Risk Management Center
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
IPR	Interim Progress Report	USACE	U.S. Army Corps of Engineers
LRR	Limited Reevaluation Report	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF

CENAN-EN-MC 30 August 2012

MEMORANDUM FOR Chief, Business Technical Division, North Atlantic Division

SUBJECT: Review Plan for Borough of Bound Brook Levee System Evaluation Report

1. We respectfully request that the attached review plan be approved for the execution of the ATR for a Levee System Evaluation Report. This report will determine whether the levee system is eligible for inclusion in the National Flood Insurance Program.

2. This plan details the requirements set forth in the Civil Works Review Policy (EC 1165-2-209). Pursuant to these requirements, we have determined that the appropriate level of review for this product is an ATR.

3. Should you have any questions or concerns regarding this review plan, please do not hesitate to contact Encer Shaffer at 917-790-8360.

ARTHUR J. CONNOLLY, P.E.
Chief, Engineer Division

ROUTING AND TRANSMITTAL SLIP

Date: 4-Sep-2012

TO:			Initials	Date
1.	CENAD-RBT	~~Mr. Bianco~~		10 September 2012
2.	CENAD-PD-PP	Mr. Jones		10 Sept 12
3.	CENAD-RB	Mr. Bauer		17 Sep 12
4.	CENAD-PD	Mr. Leach		27 Sep 12
5.	CENAD-DD	COL Larsen		
6.	CENAD-DE	COL Savre		5 Oct 12
7.	CENAD-RBT			

	Action		File		Note and Return
X	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate	6	Signature
1 - 5	Coordination		Justify		

REMARKS

SUBJECT: Review Plan Approval for Green Brook Flood Risk Management (FRM) Project, Borough of Bound Brook Levee System Evaluation Report (LSER) (no P2 number)

1. NAN has submitted a request for approval of the Review Plan for the subject project.

2. BACKGROUND:

a. EC 1165-2-209 requires MSC approval of all Review Plans (regardless of level of review (DQC, ATR or IEPR) required by the plan).

b. This project will undergo a District Quality Control (DQC) review and Agency Technical Review (ATR). For this project, Independent External Peer Review (IEPR) is not required; Type I isn't required since an LSER is not a decision documment & a Type II isn't required since it's not design & construction.

c. For the ATR, CENAD-RBT is the Review Management Office (since an LSER is classified as "other work product" per EC 1165-2-209).

d. Per EC 1110-2-6067, an ATR is the appropriate level of review for an LSER (Para 10.c).

3. RECOMMENDATION: That the Commander approve the Review Plan.

4. Request Commander's signature on enclosed memo.

5. After signature please return to RBT for continued action.

TAB A- NAN's request (memo)
TAB B- Review Plan for Green Brook Flood Risk Management (FRM) Project, Borough of Bound Brook Levee System Evaluation Report (LSER)
TAB C- EC 1165-2-209 (w/o appendices)

DO NOT use this form as a RECORD of approvals, concurrence, disposals, clearances, and similar actions

FROM: (Name, org symbol, Agency/Post)	Room No. - Bldg
	Cube 132 - Bldg 301
Alan Hindley CENAD-RBT	Phone No. 4664

Locally Produced Exception

OPTIONAL FORM 41