



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:

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 Continuing Authorities Program (CAP) Project, Section
204, Plumb Beach, NY

1. References:

a. Memorandum, CENAN-EN-MC, 18 Sep 12, subject: Review Plan for the Plumb Beach,
New York, Continuing Authorities Project Section 204

b. Memorandum, CENAN-EN-MC-F, 14 Sep 12, subject: Plumb Beach New York Section
204 Beneficial Use of Dredged Material for Shoreline Protection Project – Risk Informed
Assessment of Significant Threat to Human Life

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

2. The enclosed Review Plan for the Continuing Authorities Program (CAP) Project, Section
204, Plumb Beach, NY has been prepared in accordance with Reference 1.c. The project will be
completed via two contracts. The first contract, awarded on 23 March 2012, includes placement
of a berm and dune at Plumb Beach, and installation of a temporary geotube to prevent sand
migration. The second contract will include construction of one offshore breakwater, two
terminal groins, planting of beach grass on the dune, and removal of the temporary geotube. The
subject Review Plan was prepared for the second contract.

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 potential hazards which pose a significant threat to
human life (Ref. 1.b).

4. The Review Plan for the CAP Project, Section 204, Plumb Beach, NY 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.

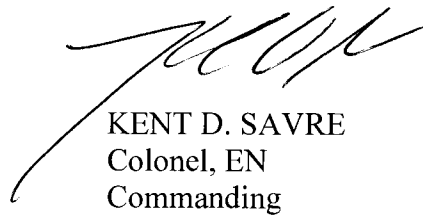
CENAD-RBT

SUBJECT: Review Plan Approval for Continuing Authorities Program (CAP) Project, Section 204, Plumb Beach, NY

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/L. Cocchieri)

Review Plan

For

Plumb Beach, NY

Continuing Authorities Project

Section 204



**US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT**

September 2012

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1. PURPOSE AND REQUIREMENTS

a. Purpose

This Review Plan defines the scope and level of peer review for implementation documents for continued construction of the Plumb Beach Project. These implementation documents include 1) Plans and 2) Specifications for construction of sediment-retention structures which will function together with previously constructed dune and berm beach fill for storm damage reduction.

Section 204 of the Water Resources Development Act of 1992, Public Law 102-580, provides the authority to carry out projects to reduce storm damage to property, to protect, restore and create aquatic and ecologically related habitats, including wetlands, and to transport and place suitable sediment, in connection with dredging for construction, operation, or maintenance by the Secretary of an authorized Federal water resources project. 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. References

1. EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010
2. Director of Civil Works' Policy Memorandum #1, Continuing Authorities Program Planning Process Improvements, 19 Jan 2011
3. ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
4. ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006 as revised through 31 March 2011
5. WRDA 2007 H. R. 1495 Public Law 110-114, 8 Nov 2007
6. Plumb Beach, New York, Section 204 Beneficial Use of Dredged Material Study for Shoreline Protection Final Detailed Project Report with Environmental Assessment: Impacts of Beneficial Uses of Dredged Material and Structural

Alternatives for Shoreline Protection, Section 204, Plumb Beach, Brooklyn, New York, New York District Army Corps of Engineers, May 2011

c. Requirements.

This review plan was developed in accordance with EC 1165-2-209 and Director of Civil Works' Policy Memorandum #1, which establish an accountable, comprehensive, life-cycle review strategy for Civil Works Continuing Authorities Program (CAP) projects 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 three general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), and Policy and Legal Compliance Review.

- d. Review Management Organization (RMO).** The RMO responsible for managing the overall peer review effort described in this Review Plan is North Atlantic Division (MSC), (per EC 1165-2-209), Mr. Alan Huntley, P.E., Business Technical Division, Regional Technical Directorate, Telephone number 347-370-4664.

2. PROJECT INFORMATION AND BACKGROUND

a. Project Description.

Plumb Beach is located on Jamaica Bay along the southern margin of the Borough of Brooklyn, City of New York (Figure 1-2). It is a low-lying, crescent-shaped, undeveloped barrier beach which extends approximately 5,000 feet from Knapp Street at the entrance of Sheepshead Bay Channel east to the tip of a tidal flat. At the request of the New York City Department of Parks and Recreation, a Section 204 report with Environmental Assessment was completed in May 2011 and was approved at the Division level on 6 June 2011. This project is authorized under the Continuing Authorities Program (CAP) Section 204 of the Water Resources Development Act of 1992, as amended.



Figure 1: General Location

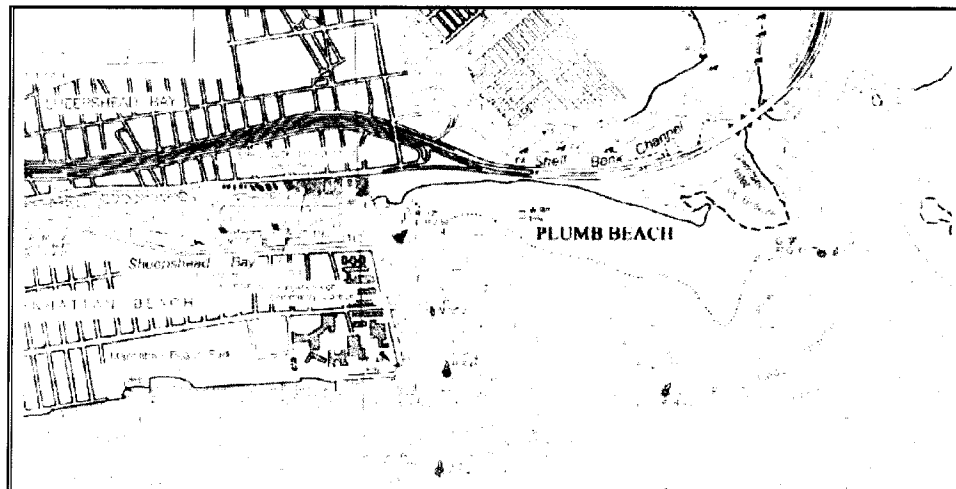


Figure 2: Project Location

Coastal erosion threatens to undermine a major access route into New York City (the Belt Parkway), a recreational bike path and other park facilities, and buried utilities running parallel to the bike path and highway. The Recommended Plan resulting from the Section 204 Report provides for reduction of storm damages from coastal erosion along shoreline fronting the Belt Parkway caused by high surge events in Jamaica Bay through construction of a storm protective sand dune and berm (placed

under a previous contract), one rubblemound offshore breakwater and two rubblemound terminal groins. These stone structures serve the purpose of retaining the protective dune and berm, as well as preventing movement of sand into adjacent coastal wetlands to the east and a navigation channel to the west. Appurtenant structures in this contract include planting of 1.2 acres of beach grass on the previously placed sand dune, and removal of one temporary geotube groin. Project design includes periodic sediment rehandling to backpass sand fill accumulated updrift of both groins to the critical erosion location at the center of the project. The New York City Department of Parks and Recreation is the non-Federal sponsor for the project.

Construction of the Recommended Plan will be accomplished via two contracts. The first contract includes placement of the berm and dune at Plumb Beach, plus installation of a temporary geotube to prevent sand migration eastward into sensitive wetlands prior to completion of permanent stone structures. The Plumb Beach sand placement is a beneficial use of dredged material component of navigation channel deepening of the Ambrose Channel S-AM-3B, in New York and New Jersey harbors. This contract option for Plumb Beach was awarded on 23 March 2012 and sand placement is expected to commence on October 16, 2012.

The second contract, which is the subject of this Review Plan, includes construction of one offshore breakwater, two terminal groins, removal of the temporary geotube groin, and beach grass planting of the dunes and will complete initial construction of the Recommended Plan. The structures contract value is estimated to be between \$5M and \$10M. Award is projected in November-December 2012.

b. Implementation Documents.

This Review Plan has been prepared for the plans and specifications (P&S) for construction of structural elements at Plumb Beach, NY.

c. Factors Affecting the Scope and Level of Review.

Multi-use Site. Plumb Beach is a multi-use location, functioning (1) as erosion protection for a major vehicular access way, the Belt Parkway, (2) as part of the New York City Department of Parks and Recreation providing a bike path, parking, comfort

station, and shore access for wind surfing and other activities, and (3) as an integral park with the US Department of the Interior National Park Service Gateway Recreational Area, with coastal wetlands, nature trails, and diverse habitats. The Recommended Plan takes into account the multi-use nature of the site.

3. DISTRICT QUALITY CONTROL (DQC)

All implementation documents shall undergo DQC fulfilling the project quality requirements defined in the Project Management Plan (PMP) and ER 1110-2-1150.

- a. **Documentation of DQC.** DQC will be documented through the use of DrChecks and a DQC report, which will be signed by all reviewers.
- b. **Products to Undergo DQC.** Products that will undergo DQC include the Plans and Specifications.
- c. **Required DQC Expertise.** DQC will be performed by Staff in the Home District that are not involved in the P&S. The required disciplines for review are listed in page 6. The DQC supplements the reviews provided by the Project Delivery Team during the course of completing the P&S.

4. 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 documents presented are technically correct and comply with published USACE guidance. 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.

- **Purpose:** ATR is intended to confirm that such work was done in accordance with clearly established professional principles, practices, codes, and criteria.
- **Managed by:** ATR Leader
- **Performed by:** Senior Technical Team Members, preferably recognized subject matter experts (Outside New York District)
- **Required for:** Plans & Specifications
- **Documentation:** DrChecks and Review Report
- **Review Management Organization:** North Atlantic Division MSC

a. **Identification of Teams**

District Project Delivery Team

Responsibility	Name	Contact
Technical Manager	Jamal Sulayman	917-790-8299
Project Manager	Daniel Falt	917-790-8614
Plan Formulation	Stephen Couch	917-790-8707
Economics	Louis Ballarin	917-790-8605
Environmental	Leonard Houston/ Howard Ruben	917-790-8702; 917-790-8723
Coastal Engineer	Diane Rahoy	917-790-8263
Civil Engineer Technician	Sam Cham	917-790-8375
Civil/Geotech Engineer	Regina Fylnn	917-790-8376
Cost Engineer	Anthony Schiano	917-790-8347

District Quality Control Team

Responsibility	Name	Plans	Specs	Contact
Technical Manager	Jamal Sulayman	X	X	917-790-8299
Project Manager	Daniel Falt	X	X	917-790-8614
Coastal Engineer	David Yang / Lynn Bocamazo	X	X	917-790-8270 917-790-8396
Civil / Geotech Engineer	Kevin Whorton	X	X	917-790-8065
Cost Engineer	Mukesh Kumar	X	X	917-790-8421

Agency Technical Review Requirements

Responsibility	Name	Plans	Specs	Contact
Review Lead	TBD	X	X	
Coastal Engineer	TBD	X	X	
Civil / Geotech Engineer	TBD	X	X	

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with 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. The ATR lead may also serve as a reviewer for a specific discipline.
Coastal Engineering	Team member will be an expert in the field of coastal processes and have a thorough understanding of sediment transport, application of wave forces and water levels over the likely range of storm return periods, beach fill design including renourishment, appurtenant structures for beach fill design, design of rubblemound structures, and determination of risk due to sea level rise. A registered professional engineer is required
Civil Engineering/ Geotech	Team member will be an expert in the field of civil engineering, especially in review of coastal projects, with expertise in interpretation of offshore geotechnical investigations including borings. A registered professional engineer is required

b. Documentation of ATR. DrChecks 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 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, RMO, 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 either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. 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:

- 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 verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

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 sample Statement of Technical Review is included in Attachment 1.

5. INDEPENDENT TECHNICAL PEER REVIEW (IEPR)

IEPR may be required for CAP 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 IEPRs 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.
- **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.

b. Decision on IEPR.

Type I IEPR is not applicable as per EC 1165-2-209, Civil Works Review Policy, since the Plumb Beach project is exempt as a Section 204 CAP project in the construction phase which does not include an EIS or meet the mandatory triggers for Type I IEPR as listed in EC 1165-2-209.

Type II Independent External Peer Review, Safety Assurance Review, is required by EC 1165-2-209 for any hurricane and storm risk management projects where issues of life safety are present. As documented in Memorandum for Record dated 14 September 2012, 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 Plumb Beach, New York Continuing Authorities Program Section 204 Project. 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 this project. Therefore, a Type II IEPR, Safety Assurance Review, is not required for this contract.

The Key Factors considered in this assessment were as follow:

- 1). The First contract has been awarded and construction of the berm and dune at Plumb Beach to a minimum elevation of 8.0 feet is underway.
- 2). The Plumb Beach New York Section 204 Beneficial Use of Dredged Material Study for Shoreline Protection Project protects a critical highway (The Belt Parkway) from coastal erosion. Alternative storm evacuation routes exist for residents of low-lying barrier islands to the east, and the width of the divided highway is such that westbound lanes are unlikely to be undermined even in extreme events with the project in place.
- 3). Failure of the shore protection project would most likely be from gradual erosion followed by a significant coastal storm event. The New York City Department of Parks and Recreation has the resources to monitor the shore protection project if there is erosion that reduces the features of the project (beach width and height and dune width and height) to such an extent that the Parkway becomes at-risk. The Corps and the City have a plan to maintain the shore protection project features over the life of the project.
- 4). Traditional and proven design features and traditional and proven construction materials and methodologies will be used, which reduces the human life safety risk to low.
- 5). All elements in construction, including regulatory requirements, USACE EM 385-1-1 compliance, and the appropriate federal, state and local laws, ordinances, criteria, rules and regulations are in place to reduce the human life safety risk to low.

6. 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.

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

Not applicable since the project is in the Construction Phase and this relates to review and certification of the Current Working Estimate, which would be addressed under review of decision documents.

8. MODEL CERTIFICATION AND APPROVAL

Not applicable since the project is in the Construction Phase and this relates to the use of certified or approved models for planning activities.

9. BUDGET AND SCHEDULE

The schedule and costs budgeted for ATR reviews are as follows:

Review Discipline	Activity	Deliverable	Review type	Review Cost	Review Duration
Technical Mgmt	Eng. Mgmt	QCR /ATR/Drchecks review	Quality Control	\$3000	Sep-Oct 2012
ATR Lead	ATR	Statement Review Completion	Quality Control	\$2000	Sep-Oct 2012
Coastal	ATR of Plans & specs	Statement Review Completion/DrChecks	Quality Control	\$3000	Sep-Oct 2012
Civil/Geotech	ATR of Plans & specs	Statement Review Completion/DrChecks	Quality Control	\$2000	Sep-Oct 2012
TOTAL REVIEW COST				\$10,000	

10. PROJECT MILESTONES

TASK	SCHEDULE DATE
90% P&S	August 2012
BCOE	September 2012
100% P&S	October 2012

11. POINTS OF CONTACT

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

Daniel Falt, Project Manager, CENAN-PP-C
 917-790-8614
Daniel.T.Falt@usace.army.mil

Jamal Sulayman, Technical Manager, CENAN-EN-MC
 917-790-8299
Jamal.A.Sulayman@usace.army.mil

Attachments

ATTACHMENT 1: SAMPLE STATEMENT OF TECHNICAL REVIEW

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the implementation documents including Plans and Specifications for the Plumb Beach, New York CAP Section 204-Beach Structure Contract. 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 construction, the appropriateness of data used and level obtained technical correctness, and consideration of 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 DrCheckssm.

 (name)
 ATR Team Leader
 Chief, Coastal Planning , CENAP-PL-PC

 Date

 (name)
 Project Manager
 CENAN-PP-C

 Date

 (name)
 Review Management Office Representative
 CENAD-PD-CS

 Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: There were no significant concerns and documentation of the comments and responses in Dr. Checks is attached. As noted above, all concerns resulting from the ATR of the project have been fully resolved.

 (name)
 Chief, Engineering Division
 CENAN-EN

 Date

ATTACHMENT 2: 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	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/MSD	The District or MSD 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
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act



REPLY TO
ATTENTION OF

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

CENAN-EN

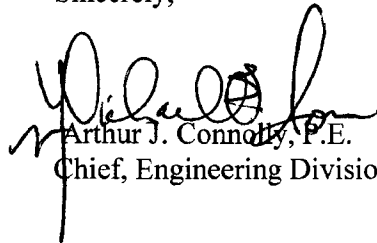
September 18, 2012

MEMORANDUM FOR Commander North Atlantic Division, ATTN: Business Technical Division

SUBJECT: Review Plan for the Plumb Beach, New York, continuing Authorities Project Section 204.

1. In accordance with the EC 1165-2-209 (Civil Works Review Policy), enclosed for review and approval is the subject document.
2. The point of contact for the Review Plan is Jamal Sulayman of my staff at (917)790-8299.

Sincerely,



Arthur J. Connolly, P.E.
Chief, Engineering Division

Encl.
Review Plan

CF
C, CENAN-PL
C, CENAN-PP

MEMORANDUM For Record

SUBJECT: Plumb Beach New York Section 204 Beneficial Use of Dredged Material for Shoreline Protection Project - Risk Informed Assessment of Significant Threat to Human Life


1. **Project Information.** The recommended plan resulting from the Plumb Beach New York Section 204 Beneficial Use of Dredged Material Study for Shoreline Protection Project provides for reduction of storm damages from coastal erosion along Plumb Beach shoreline caused by high surge events in Jamaica Bay through an erosion control beach fill dune and berm section, one offshore stone breakwater, and two stone terminal groins. The New York City Department of Parks and Recreation is the non-Federal sponsor for the project. A Review Plan is being prepared for the implementation documents for construction of the stone structure component of project. Beach berm and dune components of the project will be placed between October 14 and October 30 2012; as a beneficial use of dredged material component of the navigation channel deepening of the Ambrose Channel S-AM-3B, in New York and New Jersey harbors.
2. **Project Description.** The stone structures serve the purpose of retaining the protective dune and berm, as well as preventing movement of sand into adjacent coastal wetlands to the east and a navigation channel to the west. Appurtenance structures in this contract include planting of 1.2 acres of beach grass on the placed sand dune, and removal of one temporary geotube groin. Project design includes periodic sediment rehandling to backpass sand fill accumulated updrift of both groins to the critical erosion location at the center of the project.
3. **Risk Informed Assessment.** In accordance with EC 1165-2-209 (31 Jan 10), Civil Works Review Policy, a risk informed assessment was made as to whether there is a significant threat to human life from the shore protection project component (Table 1). The key factors considered are:
 - a. The Plumb Beach New York Section 204 Beneficial Use of Dredged Material Study for Shoreline Protection Project protects a critical highway (The Belt Parkway) from coastal erosion. Alternative storm evacuation routes exist for residents of low-lying barrier islands to the east, and the width of the divided highway is such that westbound lanes are unlikely to be undermined even in extreme events with the project in place.
 - b. Failure of the shore protection project would most likely be from gradual erosion followed by a significant coastal storm event. The New York City Department of Parks and Recreation has the resources to monitor the shore protection project if there is erosion that reduces the features of the project (beach width and height and dune width and

height) to such an extent that the Parkway becomes at-risk. The Corps and the City have a plan to maintain the shore protection project features over the life of the project.

- c. Traditional and proven design features and traditional and proven construction materials and methodologies will be used, which reduces the human life safety risk to low.
- d. All elements in construction, including regulatory requirements, USACE EM 385-1-1 compliance, and the appropriate federal, state and local laws, ordinances, criteria, rules and regulations are in place to reduce the human life safety risk to low.

4. Determination. Based on a risk informed assessment which considered life safety factors, I have determined that there is not a significant threat to human life associated with the Plumb Beach New York Section 204 Beneficial Use of Dredged Material for Shoreline Protection Project. Accordingly, it is recommended that a Type II IEPR, Safety Assurance Review, is not warranted for this project.

Encl


ARTHUR J. CONNOLLY, P.E.
Engineering Division

No.	Risk Factor (Possible Threat to Life Safety)	Risk Magnitude (H/M/L)	Basis of Concern	Risk Assessment
1	Land Use adjacent to the project	Low	Plumb Beach is located in New York City, a major metropolitan location.	Plumb Beach is situated on both New York City park land and Gateway National Recreation Area park lands. Land use within the project area is limited to park land and highway.
1a	<ul style="list-style-type: none"> • Population Density 	Low	Brooklyn zip code 11235 which includes Plumb Beach has a population density of over 29,000 persons/sq. mi. based on 2010 census data.	The Plumb Beach project area contains no residences or commercial properties. Some park facilities are present, including a parking lot, comfort station, and bike path.
1b	<ul style="list-style-type: none"> • Critical Facilities Affected (e.g. schools, hospitals, assisted living/nursing homes, evacuation routes) 	Medium	The Plumb Beach project fronts the Belt Parkway, which is a major transportation route within New York City, and a storm evacuation route.	Transit on the Belt Parkway is heavy at virtually all times. The Parkway is one major evacuation route for persons leaving low-lying barrier islands to the east such as Rockaway, which was evacuated in 2011 during Hurricane Irene. Alternate evacuation routes do exist but blockage of the Belt would reduce evacuation effectiveness. The project's main purpose is to reduce risk due to undermining of the highway. The highway is a divided road, with westbound lanes 75-ft inland from the eastbound lanes. Loss of both east and west bound lanes from erosion is unlikely during a single storm event with the project in place.
1c	<ul style="list-style-type: none"> • Number/types of structures in floodplain 	Low	Plumb Beach is located in New York City, a major metropolitan location.	The Plumb Beach project area contains no residences or commercial properties.

				Some park facilities are present, including a parking lot, comfort station, and bike path. Few structures will be affected by flooding or project failure.
2	Inundation of protected side due to project failure	Low	Project design does not provide inundation protection for the Plumb Beach area. Rather, it provides erosion protection for shoreline fronting the Belt Parkway, underground utilities along the Parkway, and recreational infrastructure.	Catastrophic failure of the sand fill and stone retention structures is unlikely due to the rubblemound structure design and the independence of the separate sand retention structures. The sand fill and retention structures have low crest elevations, which allows for sediment retention but does result in structure submergence at fairly modest storm return intervals. These structures will not prevent or exacerbate inundation of upland infrastructure.
3	Shoreline Storm Erosion	Low	Coastal storms often result in significant shore erosion over short time periods which can undermine structures.	Construction of the breakwater and terminal groins with beach fill will increase berm width and beach volume which will lessen the risk of storm erosion relative to existing conditions.
4	Wave Attack	Low	Overtopping of the dune/berm by waves during high water level events can result in damage to structures from direct wave impact.	Construction of the project will increase berm width and beach volume which will lessen the risk of damage due to wave impact by causing waves to break further seaward and reduce in size.
5	Use of unique or non-traditional design methods	Low	Unique or non-traditional design methods may be poorly understood or inadequately designed and may be more subject to failure than proven design methods.	Engineering for the project elements employed accepted methods in accordance with COE guidance. No innovative or precedent setting methods or models were used.

6	Use of unique or non-traditional design features	Low	Unique or non-traditional design features may be poorly understood or inadequately designed and may be more subject to failure than proven design features.	Design of the stone structures and beach fill features falls within prevailing practice and includes only time-tested design features (e.g. berm, rubblemound groins).
7	Use of unique or non-traditional construction materials or methodologies	Low	Unique or non-traditional construction materials or methods may be poorly understood or executed inadequately resulting in a project feature that may be more subject to failure than those built with proven materials and methods.	All materials and construction techniques used for the stone structures and beach fill features are in common practice.
8	Does the project have unique construction sequencing or a reduced or overlapping design/construction schedule?	Low	Unique or accelerated construction sequencing may lead to poor quality work, leading to greater possibility of future project failure.	The stone structure and beach fill features do not have any accelerated design or construction scheduling. Sufficient time is available for completion of construction including allowance for environmental no-build windows.
9	Inherent risk with construction methodologies.	Low	Unique or accelerated construction methodologies may lead to poor quality work, leading to greater possibility of future project failure.	All materials and construction techniques used for the stone structures and beach fill features are in common practice.
10	Does the project design require:			
10a	<ul style="list-style-type: none"> Redundancy 	Low	Failure of one critical project element would result in sudden, catastrophic damage. Duplication of critical components of the protective system is required to increase the reliability of the system.	Construction of the stone structures and beach fill features greatly reduces the risk to human life and property relative to the existing condition, which is seriously eroded. Nonperformance of the shore protection segment would result in flood levels, erosion, and/or wave forces less than or equal to those present under existing conditions.

10b	<ul style="list-style-type: none"> Resiliency 	Low	Erodible structures are reduced in volume over time, providing less protective capacity.	The stone structures and beach fill features of the project include resiliency in the form of regular sediment regrading from accumulation at the terminal groins back to the center critical erosion location. Estimated annual costs also include allowance for maintenance of the stone structures, and monitoring of all shore protection elements.
10c	<ul style="list-style-type: none"> Robustness 	Low to Medium	Natural events can occur that are greater than the optimized project design, and may lead to project failure.	Critical design conditions for the stone structures occur when still water levels are at or near the crest elevation. Higher water levels (submergence) soften the impact of waves on the structures, while the structures continue to protect upland infrastructure by breaking large waves. Beach fill designs are adaptable to changes in water level due to climate change (sea level rise), with opportunities to incorporate additional volume and/or dune/berm elevation if needed.

ROUTING AND TRANSMITTAL SLIP

Date

1-Oct-2012

TO:	Initials	Date
1. CENAD-RBT Mr. Bianco	<i>[Signature]</i>	30 October 2012
2. CENAD-PP Mr. Jones / Mr. Cocchieri	<i>[Signature]</i>	03 OCT 12
3. CENAD-PC Ms. Monte / Mr. Fins	<i>[Signature]</i>	04 OCT 12
4. CENAD-RB Mr. Bauer		
5. <i>[Signature]</i> CENAD-PD Mr. Leach	<i>[Signature]</i>	04 OCT 12
6. CENAD-DD COL Larsen		
7. CENAD-DE COL Savre		
8. CENAD-RBT		
<input type="checkbox"/> Action		Note and Return
<input checked="" type="checkbox"/> Approval		Per Conversation
<input type="checkbox"/> As Requested		Prepare Reply
<input type="checkbox"/> Circulate		See Me
<input type="checkbox"/> Comment		Investigate
<input type="checkbox"/> 1 - 6 Coordination		Justify

REMARKS

SUBJECT: Review Plan Approval for Continuing Authorities Program (CAP) Project, Section 204, Plumb Beach, NY

1. NAN has submitted the subject Review Plan for MSC approval.

2. BACKGROUND:

a. EC 1165-2-209 requires MSC approval of all Review Plans. The subject Review Plan for the CAP Project, Section 204, Plumb Beach, NY has been prepared IAW EC 1165-2-209.

b. The project will be completed via two contracts. The first contract, awarded on 23 March 2012, includes placement of a berm and dune at Plumb Beach, and installation of a temporary geotube to prevent sand migration. The second contract will include construction of one offshore breakwater, two terminal groins, planting of beach grass on the dune, and removal of the temporary geotube. The subject Review Plan was prepared for the second contract.

c. 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 potential hazards which pose a significant threat to human life (Ref. 1.b).

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- Review Plan for CAP Project, Section 204, Plumb Beach, NY

TAB B- NAN's request (memo)

TAB C- NAN's Risk Informed Assessment of Threat to Human Life (memo)

TAB D - Shoreline Protection - GEOTUBE MARINE STRUCTURES INFORMATION

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

Phone No.

4664

[Signature]
Alan Huntley
CENAD-RBT

Locally Produced Exception

OPTIONAL FORM 41