



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION
60 FORSYTH STREET SW, ROOM 10M15
ATLANTA, GA 30303-8801

28 OCT 2013

CESAD-RBT

MEMORANDUM FOR COMMANDER JACKSONVILLE DISTRICT (CESAJ-EN-QC/
LAUREEN A. BOROCHANER)

SUBJECT: Approval of the Review Plan for Lido Key, Hurricane and Storm Damage
Reduction Beach Nourishment Project, Sarasota County, Florida

1. References:

a. Memorandum, CESAJ-EN-QC, 13 September 2013, subject: Approval of Review
Plan for Beach Renourishment, Hurricane and Storm Damage Reduction (HSDR) for
Lido Key, Sarasota County, Florida (Enclosure).

b. EC 1165-2-214, Civil Works Review, 15 December 2012.

2. The Review Plan for the Implementation Documents for the nourishment of the Lido
Key Hurricane and Storm Damage Reduction submitted by reference 1.a. has been
reviewed by this office. As a result of this review, minor changes were coordinated with
your staff. The enclosed Review Plan with the coordinated changes incorporated is
hereby approved in accordance with reference 1.b above.

3. We concur with the conclusion of the District Chief of Engineering that Type II
Independent External Peer Review (Type II IEPR) is not required for this beach
nourishment effort. The primary basis for the concurrence that a Type II IEPR is not
required is the determination that the failure or loss of this beach nourishment project
would not pose a significant threat to human life.

4. The District should take steps to post the Review Plan to its web site and provide a
link to CESAD-RBT. Before posting to the web site, the names of Corps/Army
employees should be removed. Subsequent significant changes to this Review Plan,
should they become necessary, will require new written approval from this office.

5. The SAD point of contact is [REDACTED]

Encl

DONALD E. JACKSON, JR.
Brigadier General, USA
Commanding

PROJECT REVIEW PLAN

Beach Nourishment Lido Key Hurricane and Storm Damage Reduction Project

SARASOTA COUNTY, FLORIDA

Jacksonville District

September 2013

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.



**US Army Corps
of Engineers ®**

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1. PURPOSE AND REQUIREMENTS

a. Purpose

This Review Plan defines the scope and level of review activities for the Lido Key Hurricane and Storm Damage Reduction (HSDR) in Sarasota County, Florida. As discussed below, the review activities consist of a District Quality Control (DQC) effort, an Agency Technical Review (ATR), and a Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review. Also as discussed below, an Independent External Peer Review (IEPR) is not recommended. The project is in the initial nourishment phase and the related documents including Plans and Specifications (P&S) and a Design Documentation Report (DDR) are the implementation documents. Upon approval, this review plan will be included into the Project Management Plan for this project as an appendix to the Quality Management Plan.

b. References

- (1). ER 1110-2-1150, "Engineering and Design for Civil Works Projects", 31 August 1999
- (2). ER 1110-1-12, "Engineering and Design Quality Management", 31 March 2011
- (3). ER 415-1-11, "Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review", 1 January 2013
- (4). River and Harbor Act of 1970 (84 Stat. 1819), WRDA of 1986, WRDA 1999 (Project Authorization)
- (5). EC 1165-2-214, "Civil Works Review", 15 December 2012
- (6). Project Management Plan, Lido Key SPP, 116680
- (7). 02611-SAJ Quality Control of In-House Products: Civil Works PED, 21 November 2011
- (8). 08550-SAJ, BCOES Reviews, 21 September 2011

c. Requirements

This review plan was developed in accordance with EC 1165-2-214, 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 provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and other work products. The EC outlines three applicable levels of review: District Quality Control, an Agency Technical Review, and an Independent External Peer Review, and states that a Biddability, Constructability, Operability, Environmental, and Sustainability Review shall be included in the Review Plan.

d. Review Management Organization (RMO)

The South Atlantic Division is designated as the RMO for the efforts described in this Review Plan.

2. PROJECT INFORMATION

a. Project Location and Name

Lido Key is an artificially created 2.5-mile-long coastal barrier island located approximately 45 miles south of Tampa on the gulf coast of Florida. It is situated about 2 miles off the mainland and is about 0.5 miles across at its widest point. Longboat Key lies to the north of Lido Key across New Pass. Siesta Key is located to the south across Big Sarasota Pass. Sarasota Bay and the Intracoastal Waterway separate Lido Key from the mainland. Four study reaches of the gulf coast of Lido Key were delineated to facilitate evaluation of prospective hurricane and storm damages. Reach 1 extends from New Pass Inlet south to Ringling Boulevard. Reach 2 extends from Ringling Boulevard (FDEP monument R-35 and approximately 400 feet) south to R-40. Reach 3 extends from R-40 to R-43. Reach 4 (below R-43) is at Big Sarasota Pass Inlet, where a recreation park is located at the south end of the key.

b. Project Authorization

(1). A hurricane and storm damage reduction project for Lido Key, Florida was authorized by the December 31, 1970 River and Harbor act which provided for beach restoration of 1.2 miles of the mid-section of Lido Key's Gulf of Mexico shoreline and for periodic nourishment on an as-needed basis. Federal participation was limited to an initial period of 10 years. The city of Sarasota completed the northern portion of the project in 1970 without Federal participation. The project was never completed and was subsequently de-authorized in House Document 91-320 on January 1, 1990 in accordance with the provisions of Section 1001(b)(1) of the 1986 Water Resources Development Act.

(2). A general investigative study of the project was undertaken in response to Resolution, Docket 2458, adopted September 14, 1995 by the Committee on Transportation and Infrastructure, U.S. House of Representatives.

(3). A Reconnaissance Phase Assessment was prepared in January 1997. Recommendations resulting from this assessment included a hurricane and storm damage reduction project along a 9,100-foot segment of Lido Key extending from Florida Department of Environmental Protection (FDEP) monuments R-35 to R-44.

(4). Section 364 of Water Resources Development Act (WRDA) 1999 reauthorized the project as follows:

Each of the following projects is authorized to be carried out by the Secretary, if the Secretary determines that the project is technically sound, environmentally acceptable, and economically justified, as appropriate:

- A) IN GENERAL – The project for shore protection, Lido Key Beach, Sarasota, Florida, authorized by section 101 of the River and Harbor Act of 1970 (84 Stat. 1819) and de-authorized under section 1001(b) of the Water Resources Development Act of 1986 (33 U.S.C. 579a(b)), at a total cost of \$5,200,000, with an estimated Federal cost of \$3,380,000 and an estimated non-Federal cost of \$1,820,000.
- B) PERIODIC NOURISHMENT – The Secretary may carry out periodic nourishment for the project for a 50-year period at an estimated average annual cost of \$602,000, with an estimated annual Federal cost of \$391,000 and an estimated annual non-Federal cost of \$211,000.

c. Current Project Description

This will be the first time the project is constructed by the Federal Government as described in the authorization above. The project consists of constructing an 8,280-foot berm along Reach 2 and Reach 3 of the study area. Tapers at the end of the berm, with a total length of 1,850 feet, would increase the total length of sand fill to about 10,130 feet. The plan of improvement calls for construction of an 80-foot wide berm, measured seaward of the existing shoreline at elevation +5 feet referenced to National Geodetic Vertical Datum (NGVD). The advance fill volume is based on the rates of shoreline recession and erosion observed between 1991 and 1998. This initial construction would require placement of approximately 1,074,700 cubic yards (cy) of sand fill, consisting of 460,200 cy of design fill volume and approximately 614,500 cy of sacrificial advance fill.

Three borrow areas had been delineated for use; however these three borrow areas are not sufficient to meet the demands of the project. Therefore, another borrow source under development is the ebb shoal of Big Sarasota Pass. The modeling and geotechnical investigations were completed in 2012, and the sponsor is currently pursuing the permit.

In addition, three groins would be constructed along the southern portion of the study area to reduce post-construction erosion losses. The southernmost structure would be built along the north bank of Big Sarasota Pass and extend about 650 feet seaward at an elevation of +5 feet NGVD. The middle structure would be located about 800 feet north of Big Sarasota Pass and extend about 440 feet seaward from the existing +5-foot NGVD contour. The northernmost structure would be located 1,400 feet north of Big Sarasota Pass, and extend 320 feet seaward from the existing seawall near R-42. Each structure would consist of approximately 400-pound core stone overlain by two layers of 2-ton armor stone.

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for the project documents (DDRs and P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management and 02611 SAJ, Quality Control In-House Products: Civil Works PED. The subject project DDR and P&S will be prepared by the Jacksonville District using ER 1110-1-12 procedures and will undergo DQC.

4. AGENCY TECHNICAL REVIEW

a. Risk Informed Decision on Appropriate Level of Review

Nourishment of Lido Key is not considered routine because the project has not been constructed by the Federal Government and it includes the construction of three groins. Therefore, an ATR of the P&S and DDR implementation documents will be required in accordance with EC 1165-2-214m Para 9.b.

b. Agency Technical Review Scope.

Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and ER 1110-1-12. An ATR will be performed on the pre-final P&S & DDR.

ATR will be conducted by individuals and organizations that are external to the Jacksonville District. The ATR Team Leader is a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments are documented in the DrCheckssm model review documentation database. DrCheckssm is a module in the ProjNetsm suite of tools developed and operated at ERDC-CERL (www.projnet.org). At the conclusion of ATR, the ATR Team Leader will prepare a Review Report that summarizes the review. The report will consist of the ATR Certification Form from EC 1165-2-214 and the DrCheckssm printout of the comments.

c. ATR Disciplines.

As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills and abilities; and experience levels. Civil Engineering and Construction team members may be combined if a qualified individual is available.

ATR Team Leader. The ATR Team Leader will be from outside SAD and should have a minimum of 15 years of experience with Navigation and/or Shore Protection Projects. ATR Team Leader shall be a co-duty to one of the review disciplines.

Civil Engineering/Dredging Operations. The team member should be a registered professional engineer with 7 years of dredging operations and/or civil/site work project experience that includes dredging and disposal operations, embankments, groins, channels, revetments and shore protection project features.

Construction Management. The team member should have 7 years of construction management experience with beach nourishment with beach quality material and construction of groins.

Geotechnical Engineering and Engineering Geology. The team member should be a registered professional engineer with a minimum of 7 years experience in geologic and geotechnical analyses used to support the development of Plans and Specifications for navigation and shore protection projects with beach nourishment and rock structures.

NEPA Compliance. The NEPA compliance reviewer should be a senior environmental resources specialist with 5 years of experience in NEPA compliance activities associated with coastal storm damage reduction projects. Draft or Final NEPA and other environmental documents will be submitted to the ATR team with the DDR and Plans and Specifications to aid in performing ATR.

5. BIDDABILITY, CONSTRUCTABILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY (BCOES) REVIEW

The value of a BCOES review is based on minimizing problems during the construction phase through effective checks performed by knowledgeable, experienced personnel prior to advertising for a contract. Biddability, constructability, operability, environmental, and sustainability requirements must be emphasized throughout the planning and design processes for all programs and projects, including during planning and design. This will help to ensure that the government's contract requirements are clear, executable, and readily understandable by private sector bidders or proposers. It will also help ensure that the construction may be done efficiently and in an environmentally sound manner, and that the construction activities and projects are sufficiently sustainable. Effective BCOES reviews of design and contract documents will reduce risks of cost and time growth, unnecessary changes and claims, as well as support safe, efficient, sustainable operations and maintenance by the facility users and maintenance organization after construction is complete. A BCOES Review will be conducted for this project. Requirements and further details are stipulated in ER 1110-1-12, ER 415-1-11, and 08550-SAJ, BCOES Reviews.

6. INDEPENDENT EXTERNAL PEER REVIEW

a. General.

EC 1165-2-214 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases. The EC defines Section 2035 Safety Assurance Review (SAR) as a Type II Independent External Peer Review

(IEPR). The EC also requires Type II IEPR be managed and conducted outside the Corps of Engineers.

b. Type I Independent External Peer Review (IEPR) Determination.

A Type I IEPR is associated with decision documents. A Type I IEPR is not applicable to the implementation documents covered by this Review Plan.

c. Type II Independent External Peer Review (IEPR) Determination (Section 2035).

The Lido Key Shore Protection Project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review and, therefore, the District Engineering Chief does not recommend a Type II IEPR review under Section 2035 and/or EC 1165-2-214 be performed for this project. The factors, as stated under Section 2035 and EC 1165-2-214, are used in determining whether a Safety Assurance Review of design and construction activities is warranted. These factors and their applicability to this project are as follows:

- (1). The failure of the project would pose a significant threat to human life.
The project will perform the initial nourishment that will establish an authorized beach section and construct three groins to reduce post-construction erosion losses. The beach is designed to protect structures through its sacrificial nature and is continually monitored and periodically renourished in accordance with program requirements and constraints. Failure or loss of the beach fill will not pose a significant threat to human life.
In addition, the prevention of loss of life within the project area from hurricanes and severe storms is via public education about the risks, warning of potential threats and evacuations before hurricane landfall.
- (2). The project involves the use of innovative materials or techniques.
The project will utilize standard methods and procedures used by the Corps of Engineers on other similar works.
- (3). The project design lacks redundancy.
The beach fill design for the project is in accordance with the USACE Coastal Engineering Manual. The manual does not employ the concept of redundancy for beach fill design.
- (4). The project has unique construction sequencing, or a reduced, or overlapping design construction schedule.
Construction schedules do not have unique sequencing and activities are not reduced or overlapped. The construction methods associated with these renourishment contracts have been used successfully by the Corps of Engineers on other similar projects.

7. MODEL CERTIFICATION AND APPROVAL

The project does not use any engineering models that have not been approved for use by USACE.

8. BUDGET AND SCHEDULE

- (1). Project Milestones. (Dates subject to change based on funding)
 - Initiate Draft P&S: 19-Sep-2013
 - Complete Draft P&S: 23-Dec-2013
 - DQC Review: January 2014
 - ATR Review: February 2014
 - BCOES Review: March 2014
 - Advertisement: October 2014

- (2). ATR Estimated Cost. \$19,000 - \$25,000

9: POINTS OF CONTACT

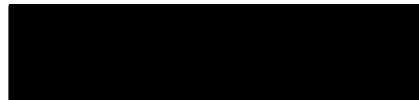
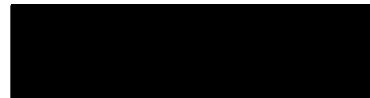
Jacksonville District points of contact names, titles, and responsibilities are listed below.

Per guidance, the names of the following individuals will not be posted on the Internet with the Review Plan.

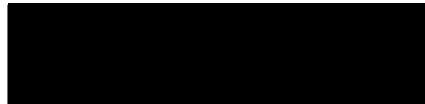
Review Manager



Project Information (PM) & (ETL),



South Atlantic Division,
Review Management Office Representative



ATTACHMENT A

PARTIAL LIST OF ACRONYMS AND ABBREVIATIONS

<u>Acronyms</u>	<u>Defined</u>
ATR	Agency Technical Review
CAP	Continuing Authorities Program
DCW	Director of Civil Works
DQC	District Quality Control
EC	Engineering Circular
ECI	Early Contractor Involvement
EIS	Environmental Impact Statement
ER	Engineering Regulation
FAQ's	Frequently Asked Questions
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
SAD	South Atlantic Division
MSC	Major Subordinate Command
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PMP	Project Management Plan
QA	Quality Assurance
QCP	Quality Control Plan
QMS	Quality Management System
RIT	Regional Integration Team
RMC	Risk Management Center
RMO	Review Management Organization
RP	Review Plan
SES	Senior Executive Service
SAR	Safety Assurance Review (also referred as Type II IEPR)

Attachment B

ATR Report Outline and COMPLETION OF AGENCY TECHNICAL

Lido Key Hurricane and Storm Damage Reduction (HSDR) in

Sarasota County, Florida

**Review of Plans and Specifications (P&S), Design Documentation Report
(DDR)**

ATR REPORT OUTLINE (Unneeded items, such as ATR Team Member Disciplines that are not identified as needed in the Review Plan, shall be deleted from the ATR Report.)

1. Introduction:
2. ATR Team Members:
 - Environmental Engineer.
 - Hydrogeology and Geology.
 - Water Management.
 - Hydrology and Hydraulics.
 - Geotechnical Engineering.
 - Structural Engineering.
 - Mechanical and Electrical Engineering.
 - Civil Engineering.
 - NEPA Compliance.
 - ATR Team Leader.
3. ATR Objective:
4. Documents Reviewed:
5. Findings and Conclusions:
6. Unresolved Issues:

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Lido Key Hurricane and Storm Damage Reduction (HSDR) in Sarasota County, Florida, including the design documents, plans and specifications and DDR. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214 and ER 1110-1-12. 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.

NAME
ATR Team Leader

Date

NAME
Project Manager

Date

NAME
Review Management Office Representative

Date

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.

NAME
Chief, Engineering Division
SAJ-EN

Date