

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

Loiza, Puerto Rico
SECTION 14 STUDY

DRAFT
FEASIBILITY REPORT and
Environmental Assessment

Appendix E
Pertinent Correspondence



GOVERNMENT OF PUERTO RICO

Department of Natural and Environmental Resources

JAN 31 2018

Eng. Jason A. Kirk
Colonel, U.S. Army
District Commander
DEPARTMENT OF THE ARMY
Jacksonville District Corps of Engineers
701 San Marcos Boulevard
Jacksonville, Fl. 32207

Dear Colonel Kirk:

This is to reaffirm the support of the Puerto Rico Department of Natural and Environmental Resources (DNER) for the Loíza, Section 14 of the Continuing Authorities Program (CAP) in Loíza, Puerto Rico. Puerto Rico DNER has the financial capability to execute a Project Partnership Agreement (PPA) for the Project should the Project Report be approved.

Once the Project Report is approved Puerto Rico DNER and the U.S. Army Corps of Engineers will negotiate and execute a second PPA for the construction phase of the project as well as which includes costs of the projects, acquiring necessary real estate interests, and performing necessary operation, maintenance, repair, rehabilitation, and replacement of the Project.

Sincerely,

Tania Vázquez-Rivera
Secretary

fc: Eng. Moisés Sánchez-Loperena
Acting Assistant Administrator
Water and Minerals Resources Area





COMMONWEALTH OF
PUERTO RICO
Department of Natural and
Environmental Resources

July 3rd, 2015

Col. Alan Dodd
Commander and District Engineer
U.S. Army Corps of Engineers
Jacksonville District
Attn: CESAJ PM WF
P.O. Box 4970
Jacksonville, FL 32232 0019

Dear Sir:

The Department of Natural and Environmental Resources (DNER) is responsible for the administration, conservation, and surveillance of the coastal public trust lands (maritime-terrestrial zone, territorial waters, and submerged lands) of Puerto Rico. DNER also leads the implementation of the Puerto Rico Coastal Zone Management Program (PRCZMP).

Through the PRCZMP, DNER has evaluated coastal hazards and conducts island wide sea level rise vulnerability assessments. Results from the latest storm surge modeling conducted in coordination with CariCOOS and the University of Puerto Rico can be viewed at: www.pr-coo.org. As part of these assessments as well as a result of the evaluation of Loiza municipality citizens' complaints, DNER confirmed real erosion problems potentially aggravated by storm surge and winter swells at the Parcelas Suárez site. DNER Marine Resources Division also conducted a benthic habitat assessment (June 22, 2015) in order to evaluate benthic habitats condition as well as potential opportunities for coral reefs rehabilitation or the deployment of detached breakwaters or artificial reefs as means to dissipate wave energy, reduce erosion rates and potentially increase beach width through beach nourishment.

During 2014 and 2015, DNER and representatives of the Jacksonville District visited the Parcelas Suárez site at Loiza, and collected evidence of the erosion problem and the risk of greater impacts to communities' infrastructure such as a school and a community center as well as to a municipal road and private residences.

To that effect, I request that the U.S. Army Corps of Engineers, Jacksonville District, undertake an in-depth investigation of the Parcelas Suárez Sector, to address Loiza municipality's problems under the authority of Section 14 of the Flood Control Act of 1946, as amended. The Department of Natural and Environmental Resources (DNER) hereby expresses our willingness to serve as the study sponsor.

I understand that the first \$100,000 of the initial investigations would be federally financed. DNER would further discuss with the USACE District Engineer how to proceed should additional costs be necessary to complete the study. DNER also understands that costs in excess of \$100,000 for the rest of



the feasibility phase would be shared 50:50. It is important to emphasize that DNER favors natural, nature-based solutions to erosion problems, and a combination of nature based structural solution to the problem. DNER would consider to a lesser degree fully structural solutions as the favored option.

If studies indicate a viable solution, our objective will be to proceed with project planning, design, and eventual construction. We are capable of fulfilling our financial obligations for further study, design, construction, operation, and maintenance. In general, providing a minimum of 35 percent of the total project costs, including furnishing lands, easements, right of way, relocations, and disposal areas. We are also aware that the Corps' and our responsibilities will be delineated in the Project Partnership Agreement, which both parties will execute before construction commences.

Should you need additional information, please contact Mr. Ernesto I. Díaz, Director of the Puerto Rico Coastal Zone Management Program at ediaz@drna.gobierno.pr or myself at cguerrero@drna.gobierno.pr at your earliest convenience.

Cordially,



Carmen R. Guerrero Pérez
Secretary

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019



REPLY TO
ATTENTION OF

JUL 27 2011

Planning Division
Plan Formulation Branch

Honorable Daniel J. Galán-Kercadó
Secretary
Department of Natural and Environmental Resources
Post Office Box 366147
San Juan, Puerto Rico 00936-6147

Dear Secretary Galán:

At the request of the Department of Natural and Environmental Resources, the *Loiza Coastline, Puerto Rico Trip Report* has been completed by the Jacksonville District, U.S. Army Corps of Engineers (Corps). The report accompanies this letter and was completed under the authority of Section 22 of the Water Resources Development Act of 1974, which provides cost shared Water Resources Planning Assistance to the States.

The report details inspection, evaluation, and proposed alternatives for Hurricane and Storm Damage Reduction to infrastructure along the coast of Loiza, Puerto Rico. The non-federal sponsor for this report is the Puerto Rico Department of Natural and Environmental Resources (DNER). In summary, coastal storm damages including inundation, erosion, and wave attack along the Loiza shoreline threaten infrastructure such as roads, public buildings, private homes, and beach access for recreation. They also contribute to safety hazards to the public.

During a March 2010 site visit, Corps staff inspected three focus areas along the Loiza shoreline: Punta Iglesia West, Punta Iglesia East and Punta Uvero West. Alternatives to protect infrastructure along this stretch of shoreline were discussed with DNER and State Historic Preservation Office (SHPO) representatives, who also attended the site visit. These alternatives are evaluated in the trip report and include construction of new revetments, repair of existing revetments, beach nourishment, groins, dune creation, sand nets, and breakwaters.

Although further analysis may indicate that another alternative is preferable, based on available information, beach nourishment with select construction of vegetated dunes may be a viable alternative for Punta Iglesia West and the western extent of Punta Iglesia East. The mouth of the Rio Grande de Loiza is a potential sand source close enough to allow for economical dredging and pumping, or truck-haul, of sand.

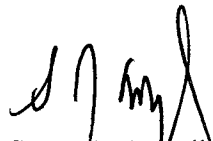
Use of this source for beach nourishment would maintain sand in the coastal system and potentially relieve upstream flooding problems created when sand dams the river mouth. Such use would represent good Regional Sediment Management (RSM) strategy, potentially addressing both regional flooding and storm damage problems. Further analysis is recommended, including numerical modeling. If modeling determines that a nourishment project would be difficult to maintain in front of these areas, the addition of groins to stabilize the nourishment could be considered. Otherwise shoreline armoring with select construction of revetments should be investigated in greater detail.

Construction of new revetments and/or repair of existing revetments (armoring) could be a viable alternative for the eastern extent of Punta Iglesia East and Punta Uvero West which currently contain medium to high density armoring with little to no beach fronting the armor. It should be reiterated that while armoring protects landward property, adjacent unarmored beaches would likely experience increased erosion. Considering this point, if beach nourishment is determined to be viable for Punta Iglesia West, the viability of continuing nourishment further east should be investigated. This could reduce the need for armor construction while providing shore protection, environmental, and recreational benefits afforded by a nourished beach.

The alternatives recommended in this Trip Report are provided by the Corps as planning assistance under Section 22 of the Water Resources Development Act (WRDA) of 1974 (P.L. 930251), as amended. Any design, construction, or other work associated with implementing the alternatives would be the responsibility of the Puerto Rico Department of Natural and Environmental Resources.

Please contact Jorge M. Tous at (787) 378-1394 or Matthew Schrader at (904) 232- 2043 for additional information.

Sincerely,



Stuart J. Appelbaum
Chief, Planning & Policy Division

Enclosure