



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-PE (1110-2-1150a)

5 APR 1994

SUBJECT: Rio Grande de Arecibo, Puerto Rico

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the Rio Grande de Arecibo, Puerto Rico, flood control study. It is accompanied by the report of the district and division engineers. These reports are in final response to a resolution passed by the Committee on Public Works and Transportation of the U.S. House of Representatives, adopted 23 September 1982. In the resolution, the House committee requested review of the report on Arecibo Harbor, published as House Document 43, 75th Congress, 1st Session, and other pertinent reports in order to determine whether any modifications are necessary at this time in the interest of flood control, water supply, or allied purposes on the Arecibo River. Preconstruction engineering and design activities for this proposed project will be continued under this authority.
2. The recommended plan includes three flood control elements. The Rio Grande de Arecibo improvements provide a levee/floodwall structure 2.8 miles long that ties into a rubblemound jetty at the mouth. The Rio Santiago improvements provide 2.2 miles of channelization in the lower reaches, along with diversion of upper basin flows to Rio Grande de Arecibo. The combined effect of these two elements would reduce average annual flood damages in the city of Arecibo by about 96 percent. The third element provides an earth levee 0.7 mile long along the left bank of Rio Tanama to reduce average annual flood damages in the Los Canos community by about 57 percent. Recreation facilities consisting of a walking/bike trail and a fishing facility would be provided on the lands needed for flood control. About 7.2 acres of mangroves would be planted to mitigate for adverse impacts to fish and wildlife habitat; and cultural resource impacts also would be mitigated. The recommended plan is the national economic development plan. Preliminary studies of other water-related purposes in the study area were terminated because of limited potential for a Federal project.
3. Based on October 1993 prices, estimated first cost of the selected plan is \$18,857,000, of which \$9,913,000 would be Federal and \$8,944,000 would be non-Federal. Average annual benefits and

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costs for the recommended plan, based on the current Federal interest rate of 8 percent and a 50-year period of analysis, are \$7,160,000 and \$1,666,000, respectively, with a benefit-cost ratio of 4.3.

4. Washington level review indicates that the proposed plan is technically sound, economically justified, and environmentally acceptable. The proposed project complies with applicable U.S. Army Corps of Engineers planning procedures and regulations. Also, the views of interested parties, including Federal, State, and local agencies have been considered. No one has expressed any reservations or objections with regard to the proposed plan.

5. Accordingly, I recommend that improvements for flood control and recreation on Rio Grande de Arecibo and its tributaries be authorized for construction in accordance with the district engineer's recommended plan, and with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost-sharing, financing, and other applicable requirements of Public Law 99-662. Also, this recommendation is subject to the non-Federal sponsor agreeing to comply with applicable Federal laws and policies, including the following requirements:

a. Provide a minimum of 25 percent, but not to exceed 50 percent, of total project costs assigned to flood control, as further specified below:

(1) Provide during construction a cash contribution equal to 5 percent of total structural project costs assigned to flood control;

(2) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations determined by the Government to be necessary for the construction, operation, and maintenance of the project;

(3) Provide or pay to the Government the cost of providing all retaining dikes, wasteweirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, and maintenance of the project;

(4) Provide during construction any additional amounts as are necessary to make its total contribution equal to 25 percent of total project costs assigned to flood control;

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b. Provide 50 percent of the separable costs of the project assigned to recreation;

c. For so long as the project remains authorized, operate, maintain, repair, replace, and rehabilitate the completed project, or functional portion of the project, at no cost to the Government, in accordance with applicable Federal and State laws and any specific directions prescribed by the Government;

d. Grant the Government a right to enter, at reasonable times and in a reasonable manner, upon land which the local sponsor owns or controls for access to the project for the purpose of inspection, and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project;

e. Hold and save the Government free from all damages arising for the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-related betterments, except for damages due to the fault or negligence of the Government or the Government's contractors;

f. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project to the extent and in such detail as will properly reflect total project costs;

g. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601-9675, that may exist in, on, or under lands, easements or rights-of-way necessary for the construction, operation, and maintenance of the project; except that the non-Federal sponsor shall not perform such investigations on lands, easements, or rights-of-way that the Government determines to be subject to the navigation servitude without prior specific written direction by the Government;

h. Assume complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Government determines necessary for the construction, operation, or maintenance of the project;

i. To the maximum extent practicable, operate, maintain, repair, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA;

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j. Participate in and comply with applicable Federal floodplain management and flood insurance programs in accordance with section 402 of Public Law 99-662;

k. Prevent future encroachments on project lands, easements, and rights-of-way which might interfere with the proper functioning of the project;

l. Not less than once each year, inform affected interests of the limitations of the protection afforded by the project;

m. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the floodplain, and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project;

n. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way, and performing relocations for construction, operation, and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act;

o. Comply with all applicable Federal and Commonwealth laws and regulations, including section 601 of the Civil Rights Act of 1964, Public Law 88-352, and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army;"

p. Provide 25 percent of that portion of total historic preservation mitigation and data recovery costs, attributable to flood control, which are in excess of 1 percent of the total amount authorized to be appropriated for flood control; and

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q. Provide 50 percent of that portion of total historic preservation mitigation and data recovery costs, attributable to recreation, which are in excess of 1 percent of the total amount authorized to be appropriated for recreation.

6. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program nor the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the Puerto Rico Department of Natural Resources; interested Federal agencies; and other parties will be advised of any modifications and will be afforded an opportunity to comment further.



ARTHUR E. WILLIAMS
Lieutenant General, USA
Chief of Engineers

