



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

REPLY TO
ATTENTION OF:

CECW-PE (10-1-7a)

15 APR 1987

SUBJECT: Rio Nigua at Salinas, Puerto Rico

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on flood damage reduction along the Rio Nigua at Salinas, Puerto Rico. It is accompanied by the report of the district and division engineers. These reports are in final response to a resolution by the Committee on Public Works and Transportation of the House of Representatives dated 1 October 1986. The study resolution requested that the Secretary of the Army, acting through the Chief of Engineers, make a survey of the Rio Nigua at Salinas, Puerto Rico, and such tributary streams as may be necessary, to determine the advisability of providing improvements for flood control, water supply, and allied purposes. Preconstruction engineering and design activities will be continued under this authority.
2. The reporting officers recommend a flood damage reduction project primarily involving levee construction of two separable elements. These elements include a 2.96-kilometer (1.84-mile) levee to provide flood protection along the east bank of the Rio Nigua between Puerto Rico Highway 52 and the mouth of the river and a 3.98-kilometer (2.47-mile) levee to provide flood protection to the Coco community, upstream of Puerto Rico Highway 52. These levees are designed to protect against a flood event that has an expected annual exceedance probability of about 1 percent. No fish and wildlife mitigation features are required.
3. The estimated first cost of the recommended plan, based on October 1996 price levels, is \$12,802,000, of which \$6,920,000 would be Federal and \$5,882,000 would be non-Federal. The total average annual cost, based on a discount rate of 7 3/8 percent and a 50-year period of analysis, is estimated at \$1,078,000, including \$66,000 for operation, maintenance, repair, replacement, and rehabilitation. The average annual economic benefits are estimated at \$3,046,000. The benefit-cost ratio is 2.8 to 1. The proposed plan is the national economic development (NED) plan, and each of the separable levee elements is economically justified and represents the NED plan for that element.
4. Washington level review indicates that the proposed plan is technically sound, economically justified, and environmentally acceptable. The proposed project complies with applicable Corps planning procedures and regulations. Also, the views of interested parties, including Federal, State, and local agencies have been considered.

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5. Accordingly, I recommend that improvements for flood damage reduction in the Rio Nigua at Salinas area be authorized subject to cost sharing as required by Public Law 99-662, the Water Resources Development Act of 1986, as amended by Section 202 of Public Law 104-303, the Water Resources Development Act of 1996. This recommendation is also subject to the non-Federal sponsor agreeing to comply with applicable Federal laws and policies, including the following requirements:

a. Provide a minimum of 35 percent, but not to exceed 50 percent, of total project costs as further specified below:

(1) Provide, during construction, a cash contribution equal to 5 percent of total project costs;

(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 Federal Government to be necessary for the construction, operation, and maintenance of the project;

(3) Provide or pay to the Federal 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; and

(4) Provide during construction any additional costs as necessary to make its total contribution equal to 35 percent of total project costs.

b. Provide all lands, easements, and rights-of-way, and suitable borrow and dredged or excavated material disposal areas, and perform or ensure the performance of all relocations determined by the Federal Government to be necessary for the construction, operation, and maintenance of the project;

c. Provide all improvements required on lands, easements, and rights-of-way to enable the proper disposal of dredged or excavated material associated with the construction, operation, maintenance, repair, replacement, or rehabilitation of the project. Such improvements may include, but are not necessarily limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and dewatering pumps and pipes;

d. Provide during construction any additional amounts as are necessary to make its total contribution equal to 35 percent of total project costs assigned to structural flood control;

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- e. For so long as the project remains authorized, pay 100 percent of costs to operate, maintain, repair, replace, and rehabilitate the completed project or functional portion of the project prescribed by the Federal Government;
- f. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor now or hereafter owns or controls for access to the project for the purpose of inspection, and, if necessary after failure to perform by the non-Federal sponsor, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Federal Government shall operate to relieve the non-Federal sponsor of responsibility to meet the non-Federal sponsor's obligations, or to preclude the Federal Government from pursuing any other remedy at law or equity to ensure faithful performance;
- g. Hold and save the United States free from all damages arising from 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 United States or its contractors;
- h. Keep, and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR) Section 33.20;
- i. Perform, or cause to be performed, any investigations for hazardous substances as 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 U.S.C. 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the operation, maintenance, repair, replacement, and rehabilitation of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the Non-Federal sponsor with prior specific written direction, in which case the Non-Federal sponsor shall perform such investigations in accordance with such written direction;
- j. Assume complete financial responsibility, as between the Federal Government and the Non-Federal sponsor, 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 Federal Government determines to be required for the operation, maintenance, repair, replacement, or rehabilitation;

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k. As between the Federal Government and the non-Federal sponsor, the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability. 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;

l. 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 required for the operation, maintenance, repair, replacement, and rehabilitation of the project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act;

m. Comply with all applicable Federal and Commonwealth laws and regulations including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), 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";

n. Provide 35 percent of that portion of total cultural resource preservation, mitigation and data recovery costs attributable to flood control that are in excess of 1 percent of the total amount authorized to be appropriated for flood control;

o. Participate in and comply with applicable Federal floodplain management and flood insurance programs in accordance with Section 402 of Public Law 99-662, as amended;

p. Within 1 year after the date of signing a project cooperation agreement, prepare a floodplain management plan designed to reduce the impact of future flood events in the project area. The plan shall be prepared in accordance with guidelines developed by the Federal Government and must be implemented not later than 1 year after completion of construction of the project;

q. Prescribe and enforce regulations to prevent obstruction of or encroachment on the project that would reduce the level of protection it affords or that would hinder operation and maintenance of the project;

r. Not less than once each year, inform affected interests of the extent of the protection afforded by the project; and

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s. 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.

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 Commonwealth of Puerto Rico; interested Federal agencies; and other parties will be advised of any modifications and will be afforded an opportunity to comment further.



JOE N. BALLARD
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Chief of Engineers