



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

REPLY TO
ATTENTION OF:

CECW-MVD (1105-2-10a)

03 JAN 1975

SUBJECT: Bayou Sorrel Lock, Louisiana

THE SECRETARY OF THE ARMY

1. I submit, for transmission to Congress, my report on replacement of Bayou Sorrel Lock in south-central Louisiana for the purposes of inland navigation and flood damage reduction. It is accompanied by the report of the district engineer and the president of the Mississippi River Commission. The inland navigation component of the report responds to resolutions by the Committees on Public Works of the United States Senate and House of Representatives, dated 29 September 1972 and 12 October 1972, respectively. These resolutions requested a review of the reports on the Gulf Intracoastal Waterway (GIWW), Louisiana-Texas Section, including the Morgan City-to-Port Allen Route, with a view to determining the advisability of modifying the existing project in the interest of navigation. The flood damage reduction component, which was authorized by the Flood Control Act of 1928 (Public Law 70-391), as amended, addresses modifying the Bayou Sorrel Lock to safely pass a portion of the design flood of the MR&T Project through the Atchafalaya Basin Floodway. Pre-construction engineering and design activities for the Bayou Sorrel Lock, Louisiana, project will continue under the authority provided by the existing project and the resolutions cited above.
2. The reporting officers recommend a plan to reduce inland navigation delays on the GIWW at the Bayou Sorrel Lock and address flood damage reduction needs in the lower Atchafalaya Basin by constructing a new larger capacity lock at Bayou Sorrel. The recommended plan includes construction of a new 75-foot-wide by 1,200-foot-long, U-shaped lock located adjacent to the existing lock at Bayou Sorrel, the construction of two approach channels to the new lock, the closure of the existing lock, erosion protection in the vicinity of the lock, and mooring buoy facilities adjacent to the erosion protection. The Atchafalaya Basin Floodway East Access Channel would be relocated west of its existing alignment and extend southward to tie into the Morgan City-to-Port Allen Alternate Route about 5,000 feet south of the new lock. The northern approach channel to the new lock would parallel the existing northern approach channel from 3,500 feet and then merge with the existing navigation channel. Measures to mitigate unavoidable impacts to fish and wildlife resources include planting and management of 126 acres as hardwood forest; construction of a ditch to connect existing dredged material disposal sites to the East Access Channel with the swamp to the west of disposal sites; and

CECW-MVD

SUBJECT: Bayou Sorrel Lock, Louisiana

construction of a sediment trap along an existing ditch. There are no relocations of pipelines, power lines, or other facilities required for the implementation of the recommended plan. Bayou Sorrel Lock is located in Iberville Parish in south-central Louisiana about 50 miles south of Baton Rouge.

3. The modification of Bayou Sorrel Lock to safely pass the project flood in the Atchafalaya Basin Floodway is a feature of the authorized MR&T project. Since modifications to Bayou Sorrel Lock for flood damage reduction purposes are authorized for implementation, all implementation costs in excess of the least-cost flood control plan at Bayou Sorrel Lock would be allocated to inland navigation. The least-cost flood control plan is a replacement lock with the same dimensions as the existing lock (56-feet-wide by 797-feet-long), but at the required MR&T project flood design elevation of +31.7 feet National Geodetic Vertical Datum. At October 2004 prices, the estimated total first cost of the flood control features of the recommended plan is \$88,500,000, which would be apportioned 100 percent to the Federal Government pursuant to the Flood Control Act of 1928, as amended. The modification of Bayou Sorrel Lock to safely pass the Atchafalaya Basin Floodway project flood is an inseparable feature of the MR&T project. The cost of the modification is included in the total cost of the overall MR&T project for controlling floods on the Mississippi River below Cairo, Illinois, and the benefits for the modification are the total benefits for the MR&T project. The MR&T project remains economically justified.

4. At October 2004 prices, the estimated total first cost of the navigation improvement features of the recommended plan needed to reduce delays associated with the existing lock is approximately \$9,000,000. The Morgan City to Port Allen Alternate Route is a feature of the GIWW inland navigation system, an inland waterway, identified in Section 206 of the Inland Waterways Revenue Act of 1978, as amended. In accordance with the cost sharing principles described in Section 102 of the Water Resources Development Act of 1986, one-half of the cost of navigation improvement construction shall be paid from amounts appropriated from the general fund of the U.S. Treasury and one-half of the cost of construction shall be paid from amounts appropriated from the Inland Waterway Trust Fund. The inland navigation plan represents the incremental costs to increase the capacity of the existing lock from 56-feet-wide by 797-feet-long to 75 feet-wide by 1,200 feet-long. The equivalent average annual costs attributable to inland navigation are \$865,000. The average annual benefits are \$16,590,000. The benefit-to-cost ratio for navigation improvements is 19.2 to 1.0, at a discount rate of 5-3/8 percent and 50-year period of analysis. The recommended navigation improvements constitute the national economic development plan. The incremental annual operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) costs attributable to inland navigation are estimated at \$187,000 per year.

CECW-MVD

SUBJECT: Bayou Sorrel Lock, Louisiana

5. Washington level review indicates that the plan recommended by the reporting officers is environmentally justified, technically sound, cost effective and socially acceptable. The plan conforms with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administration and legislative policies and guidelines. Also, the views of interested parties, including Federal, State and local agencies, have been considered.

6. I concur with the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend that the improvements allocated to navigation at Bayou Sorrel Lock be authorized subject to cost sharing, financing, and other applicable requirements of Section 102 of WRDA 1986, as amended. The modification of Bayou Sorrel Lock to safely pass the project flood in the Atchafalaya Basin Floodway is a feature of the authorized MR&T project, and as such, no additional implementing authority is required.

7. The recommendation contained herein reflects the information available at this time and current departmental policies governing the 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 Congress, the State, interested Federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.



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