


S-13 Nov 70

LMNED-PR (9 Sep 70) 2d Ind

SUBJECT: Lake Pontchartrain - Jefferson Parish, Louisiana

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, La.
70160 25 Nov 70

TO: Division Engineer, Lower Mississippi Valley, ATTN: LMVPD-F

1. Reference is made to letter file ENGOW-PD dated 30 Apr 70 subject, "Lake Pontchartrain and Vicinity Hurricane Protection," 1st Ind LMNED-PR dated 8 May 70 furnishing information on the proposed study, and 2d Ind LMVPD-F dated 14 May 70.
2. Information requested in the basic by paragraphs therein is contained in subsequent paragraphs.
3. Par 5. There is no outstanding study with which the subject study could be combined to advantage.
4. Par 6. Under the Flood Control, Mississippi River and Tributaries project, the Corps of Engineers has constructed a levee along the shoreline of Lake Pontchartrain in Jefferson Parish to a net grade of 10.0 feet mean sea level with tie-in levees to high ground at the east and west limits of the parish. The authorization for this project required that local interests rehabilitate the existing facilities as required and maintain all works in accordance with regulations prescribed by the Secretary of the Army. Under this item of local cooperation the non-Federal interests are responsible for rehabilitation of the drainage facilities, including the pumping stations, to make them adequate links in the levee protection. This project has been completed and turned over to local interests for maintenance.
5. The Lake Pontchartrain and Vicinity, Louisiana, project, authorized by Public Law 89-298, approved 27 Oct 65, will provide additional hurricane protection for Jefferson Parish. The studies for this project, published as H.D. No. 231, 89th Congress, showed that it was more economical to construct a controlled barrier across the entrances from Lake Borgne to Lake Pontchartrain (Chef Menteur Pass and The Rigolets) and keep stages in the lake low by preventing hurricane tides from entering the lake than to construct the additional heights of levees required to provide the same degree of hurricane protection for areas on the south shore of the lake. This study showed that the levee grade required for the Jefferson Parish levee would be reduced from approximately 17.0 to 10.0 feet in Jefferson Parish. The existing levee, which has a 50-foot crown at a net grade of 10.0 feet, is considered adequate or can be made adequate by minor adjustments in the shape of the wide crown.
6. Subsequent to Hurricane Betsy (Sep 65) Jefferson Parish officials and residents became alarmed at the possible damages to the parish from a larger and more critical hurricane than Betsy. They requested raising the existing levee as the first step or as an interim step in the hurricane protection by the Corps of Engineers. The work requested for

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Jefferson Parish was beyond the authorized plan. The authorized hurricane barrier would provide additional protection for all areas around the lake. Therefore, our efforts have been directed to constructing and placing the hurricane barrier in operation at the earliest practicable date consistent with the funds available. Architect-engineer contracts have been used for planning and design of the major structures. It is estimated that the barrier will be operable by the end of 1978.

7. Since the Jefferson Parish interests could not secure the construction of additional hurricane protection for the parish by the Federal Government, they prevailed on the Pontchartrain Levee District to finance the raising of the levee to a grade of 14.0 feet. The New Orleans District reviewed the plans and granted permission for the construction at non-Federal expense. The work was completed in June 70. Grade deficiencies exist in this interim protection at three of the four pumping stations in the levee which discharge rainfall from the parish.

8. Under the assurance provided for the present lakefront levee, referred to in par 4, above, the parish obligated itself to provide all drainage facilities necessary to remove storm waters. Of the four lakefront pumping stations only one has been rebuilt to modern standards. The other three have been modified to increase capacity but the basic stations are old and the foundations are in uncertain condition and may constitute a weak link in the line of protection. The increased protection at stations 1, 3, and 4, as requested in the parish letter of 20 Oct, is to remedy this situation by a gated wall across the front of each station. We consider this to be a part of the drainage requirements, a responsibility of local interests.

9. Under existing law (Sec 215 of PL 90-483) reimbursement of non-Federal interests may be approved only if it is a part of an authorized improvement and an agreement has been entered into for the reimbursement prior to the accomplishment of the work for which reimbursement is desired. In the instant case the work accomplished is not a part of an authorized improvement and no agreement has been entered into for its accomplishment by non-Federal interests. These facts were pointed out in the 1st Ind to the referenced letter (par 1 above) and a specific recommendation made that the study not be authorized (par 10).

10. Normally in any study all authorized improvements are considered in place for cost and benefit estimates. If this procedure is to be followed in the subject study the benefits will be very low and obviously insufficient to justify the cost of the work accomplished by non-Federal interests. It is our position that neither funds nor manpower required for completion of authorized work under the Lake Pontchartrain and Vicinity, Louisiana, project should be diverted to design and construct permanent type closures at the three pumping stations. Such diversions would delay completion of work and early realization of benefits by residents of areas other than Jefferson Parish.

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11. In view of the above, it is readily apparent that to provide reimbursement or credit toward a required non-Federal participation for the work accomplished to raise the protection for Jefferson Parish would be a major reversal of existing policy and law. Additional instructions and guidance on procedures to be followed in arriving at a recommendation in the report will be necessary after the study has been funded.

12. The cost of a study to determine the benefits provided during the interim period, the costs for work accomplished, and the extent of work required to make the 14.0-foot protection fully effective can be accomplished in 2 fiscal years at an estimated cost of \$50,000. About \$15,000 could be used in the first fiscal year with the remainder, \$35,000, in the second fiscal year.

4 Incl
Added 2 incl
3. Preliminary plan of survey
(8 cys)
4. PB-6 (7 cys)



HERBERT R. HAAR, JR.
Colonel, CE
District Engineer

25 November 1970

PRELIMINARY PLAN OF SURVEY
FOR
LAKE PONTCHARTRAIN - JEFFERSON PARISH, LOUISIANA

1. Authorization. This study is authorized by a resolution adopted 14 July 1970 by the Committee on Public Works of the House of Representatives, United States which reads as follows:

"Resolved by the Committee on Public Works of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors is hereby requested to review the reports of the Chief of Engineers on Lake Pontchartrain and vicinity, Louisiana, published as House Document Numbered 231, 89th Congress, 1st Session, and other pertinent reports, with a view to determining the advisability of modifying the recommendations contained therein, with particular reference to raising the existing levee along Lake Pontchartrain in Jefferson Parish, Louisiana, and to provide interim hurricane protection until the authorized Lake Pontchartrain Hurricane Barrier has been completed."

2. Résumé of existing conditions.

a. Existing projects.

(1) Lake Pontchartrain (Jefferson Parish), Louisiana. This improvement, authorized by the Flood Control Act of 1946 and modified by the Flood Control Act of 1950, is a feature of the Flood Control, Mississippi River and Tributaries project. It provides for 10.4 miles of levee with erosion protection works along the shoreline of Lake Pontchartrain in Jefferson Parish; the enlargement of 4.8 miles of levee along the Jefferson-St. Charles Parish line; and the enlargement of 2.3

miles of the Metairie relief outfall canal levee along the Jefferson-Orleans Parish line. The levee was completed in 1965. The location and dimensions of the levees are shown on the attached project map 3-13. One of the requirements of local cooperation for this project is that local interests rehabilitate the existing facilities as required and maintain all works after completion.

(2) Lake Pontchartrain and Vicinity, Louisiana. This project was authorized by Public Law 89-298, approved 27 October 1965. It provides for the closure of the eastern approaches to Lake Pontchartrain (Chef Menteur Pass and The Rigolets) and levees to a grade of 9 feet m.s.l. where the existing highway is less than 9.0 feet to prevent hurricane tidal surges from entering the lake on the approach of a hurricane; raising and strengthening of existing levees and new levees along the south shore of Lake Pontchartrain, Gulf Intracoastal Waterway, and Inner Harbor Navigation Canal; a ring levee for the Chalmette area; a new levee along the St. Charles Parish shoreline; and other minor improvements. The only improvement contemplated specifically for Jefferson Parish was additional wave-wash protection for the existing levee. With the barrier in place and structures operated to hold the lake level to about 2.0 feet m.s.l., the existing Jefferson Parish levee would have adequate height. The structures in Chef Menteur and The Rigolets are in the design stage. Some of the levees are under construction. The location of the improvements and their status as of 30 June 1970 are shown on project map 2-35. The non-Federal participation in this project is 30 percent of total costs including relocations and rights-of-way.

b. Non-Federal improvement. Subsequent to hurricane "Betsy" (Sept 1965), Jefferson Parish authorities, the Pontchartrain Levee

District, and the Louisiana Department of Public Works requested that the protection for Jefferson Parish be increased. When the request was denied, these agencies constructed additional works (earth levees and sheet pile floodwall in the levee) to raise the existing levee to a grade of 14.0 feet m.s.l. The plans for their work were reviewed by the New Orleans District and permission granted for the modification to the Federal project. The work was initiated in May 1967 and completed in June 1970. This protection is deficient at three of four pumping stations in the lakefront levee where emergency type tie-ins have been made.

3. Improvements desired.

a. The resolution did not disclose the exact intent of the sponsors. Therefore, letters were sent to Jefferson Parish, Pontchartrain Levee District, and Department of Public Works requesting information on the improvements they desire considered in the study. The replies of the Jefferson Parish President and the Louisiana Department of Public Works are attached. A reply has not been received from the Pontchartrain Levee District.

b. The studies for the Lake Pontchartrain and Vicinity, Louisiana, project (H. Doc. 231/89th Congress) indicated that a levee to a grade of about 17 feet would be required along the lakefront of Jefferson Parish until the barrier is operable. The existing levee would be adequate after the barrier is in place. The local agencies desire credit for the cost of the improvements they have constructed for additional protection of Jefferson Parish during the period required to construct the Lake Pontchartrain Hurricane Barrier. They state that these costs total

\$2,892,492. They also desire permanent type improvements at three pumping stations discharging drainage waters from Jefferson Parish into Lake Pontchartrain. This work, estimated to cost about \$750,000, would consist of a wall with gates across the outlet channel to provide closure during hurricane tides in the lake. (See attachment 2).

4. Objectives of the investigation will be to determine the benefits from interim protection, the additional costs for any additional improvements deemed necessary to make the interim protection effective, and whether or not credit for the work accomplished is an appropriate recommendation under existing laws, policies, and procedures.

5. Available pertinent data include reports on the Lake Pontchartrain and Vicinity, Louisiana project including design memoranda on several features; plans and construction data on the existing Federal levee along the Jefferson Parish shoreline and tie-in levees; plans for work accomplished to raise the protection from 10 to 14 feet (by Louisiana Department of Public Works); schedules for additional studies and investigations under the existing project to complete the design and construction of the existing project including the barrier; cost estimates for the work accomplished by the Louisiana Department of Public Works; aerial mosaics of the study area and area benefited; and letters expressing desires of sponsors of the resolution.

6. Economic studies required. The reevaluation of benefits to be provided by the Lake Pontchartrain and Vicinity, Louisiana project is necessary for that project. This study will provide the basic data necessary to evaluate the benefits during the interim period for which the improvements will be effective. The studies required will be those to determine the average annual benefits during the interim period.

7. Engineering studies required. Most of the improvements to be involved in the study have been constructed. The New Orleans District has approved their construction at non-Federal expense. Additional investigations will be necessary to determine the extent of the deficiencies at the pumping stations and the cost of corrective measures. Some of this work may be a requirement under local cooperation for the existing levee or required under the authorized hurricane protection project. Hydraulic studies beyond those required for the presently authorized project will be required to develop data for the protection to 14.0 feet.

8. Applicable constraints and controls. A determination should be made at the outset of the study on the appropriateness of considering giving credit to non-Federal interests for work they have done beyond the authorized plan for the Federal project for their protection during the construction period for the authorized project. If the studies are to be made assuming all authorized improvements in place, the benefits will be zero and the work will not be economically justified. The plans for the work were reviewed by the New Orleans District for safety of the existing levee only and did not involve determination of the adequacy of the designs under Federal criteria.

9. Cooperation and coordination. The study will be coordinated by letter and copies of the notice of initial public meeting to other Federal, state, and local agencies, civic organizations, and others known to be interested. The principal agencies involved will be the Louisiana Department of Public Works, Jefferson Parish Council (Drainage Department) and Pontchartrain Levee District. The construction has been

accomplished except for permanent type work at three pumping stations.

Environmental studies will be minor.

10. Public meetings. A public meeting will be held at the initiation of the study. Informal meetings and discussions will be held as necessary with involved agencies to develop data and keep them informed of the progress of the study. A final public meeting to publicly disclose the results of the study will be necessary under existing regulations.

11. Schedule for assistance by OCE and/or BERH. The only need for assistance in the study is one of policy determination as outlined in par. 8 above.

12. Estimated cost. The preliminary estimate of the cost of the study is \$50,000. Details of the cost estimate are given in attached PB-6.

13. Maps. Project maps 3-13 and 2-35, showing the locations and status of construction of the existing projects, are attached.

Attachments

1. Ltr. DPW dated 5 Nov 70
2. Ltr. President, Jefferson Parish
dated 20 Oct 70
3. PB-6
4. Proj map 3-13
5. Proj map 2-35